### Recognizing Fake News using Machine Learning and Natural Language Processing

**Abstract:** Fake news is a real menace as it can quickly spread panic among the public. On individuals and society, massive spread of fake news makes negative impact. In this internet era we spend more time in online and for more exact in social sites, over the internet, more over with excessive use of social sites, people are habituated of getting news from random social platform and online resource, news agency homepages, search engines. The most terrifying thing is some people and organization make rumurs and fake news for their own interest, and social platform make it easy to spread. Top established social sites like twitter, Facebook have huge amount of users worldwide, and using these channel fake news note only spread, it’s laterally blowout. And users of these sites mostly believe this news since they have no prior knowledge about that topic. To tackle this problem of quick and accurate classification of news as fake or authentic, we provide a computational tool. The proposed system is to develop a model using machine learning and NLP techniques to determine the news fake is or real.

**Keyword:** Fake news Recognition, Machine Learning, Deep Learning, Natural Language processing, Long Short Time Memory (LSTM), Support Vector machine(SVM).

### References:
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10. Data Sciences and Analytics Group, National Security Directorate Pacific Northwest National Laboratory 902 Battelle Blvd, Richland, WA.

### Fiber Waste From Cotton Process Technological Processes

**Abstract:** This article shows the changes in fiber waste from cotton processing and how it is gradual. The dust emitted in the dry-cleaning shop is only 5–7 mg/m3 of dust, less than the air in the building where the drying machines are located. This is due to the fact that high moisture is absorbed into the dryers, which prevents the separation of fine dust from the mass. The large dispersed dust, even at high humidity, was separated and was unable to disperse in the building. In the drying units, dust that comes with an atmospheric drying agent causes trouble. This dust, even with a rough dispersion, sits in the dryer along with the gas flow to the roof of the building and the ground near the drying shop. The amount of dust released is 500-600 kg/day.

In the drying units, dust that comes with an atmospheric drying agent causes trouble. This dust, even with a rough dispersion, sits in the dryer along with the gas flow to the roof of the building and the ground near the drying shop. The amount of dust released is 500-600 kg/day.

In the compartment, the dust emits from the air pneumatic system, which is an indispensable dust in the air drying shop, as well as the dust generated by cleaning machines. This is a powdery fiber, which contains less mineral fractions. The small fractions are composed of mostly dirty particles. Powdered air is also isolated from aspire systems of gin suppliers, which absorb absorbed air or polluted air from pollutants. Such suction system can be included in the aspiration of the cotton distribution screw.

It is established that only one cotton gin industry produces 150-350 tons of fiber per year, industry-wide waste is 5-6 tons, and 70-90% of organic waste is non-toxic. This will serve as a feedstock for the use of animal feed in the agricultural sector. Researches have been carried out to identify the amount of emissions from the ginneries at the Karasu, Mustaqillik and Ginnery factories in the Tashkent region and the Metan cotton gin enterprises in Samarkand region.
Keywords: powder holders, dust, mineral waste, organic waste, technological process, cotton, cleaning plant.

References:

Authors: M. H. M. Zin, M. Jamil, N. L. N. Ibrahim, A. S. M. Tazilan

Paper Title: Passive Double Skin Facade (DSF) Basic Components and Functions

Abstract: Efficient building design is not impossible to be achieved in construction industry. Due to the various environmental issues that related to the building design, architects and people in the construction industry try to create an environmental friendly building design. Function as the main transition building element, building facade plays a major role to control and prevent the unnecessary elements from outside to enter the interior building space. Double Skin Facade (DSF) possessed a high potential to provide multifunction benefits to the building design, human and environment. There are various definitions that being applied to defined each of the DSF design functions. This paper reveals some of the definitions and functions that related to the basic components for DSF such as cavity, inner and outer skin glazed facade and shading device. Each of the DSF's components has its own functions to provide a better building design. Information regarding on each of the DSF's components are highlighted that base on the literature review. All of the information is tabulates to identify the percentage of each basic component for DSF. This research reveals the definitions and functions regarding on the basic component for passive DSF as a source to increase the understanding and knowledge especially for those who are involved in the construction industry.

Keywords: Passive, Double Skin Facade, Basic Component, Functions.

References:


Authors: C. Talukdar, A. Hazarika, A. Singh, N. Das, M. Bhuyan
Paper Title: A Biofeedback Based Auto-Controlled Neurostimulator Design for Proper NCS Signal Acquisition and Measurement

Abstract: This paper presents the design of a biofeedback based auto-controlled neurostimulator for acquiring nerve response. Nerve conduction study (NCS) employs an electrical stimulator that generates a stimulus to be applied over the skin of an underlying nerve. Conventional neurostimulator uses manual control of voltage or current to generate the nerve responses. It is observed that the stimulation for supramaximal response varies with subjects due to different skin resistances of the subjects. Such measurement needs repeated trials which is time consuming.
Keywords: Biofeedback, Neurostimulator, Skin resistance, supramaximal stimulation, Nerve conduction study (NCS)

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Authors: Poornima G. Naik, Kawita S. Oza  

Paper Title: Role of SPARQL in Leveraging Semantic Web Technology  

Abstract: Semantic web is not just a matter of translation from HTML to RDF/OWL languages. It is a matter of understanding the content of the web through knowledge graphs. Entities need to be related with relationships. This content is composed of resources (web pages) that contain, for example, text, images and audio. Thus, there is the need of extracting entities from these resources. Currently, most of the web content is in HTML5 format which is a W3C recommendation which enables describing the structure marginally with the help of annotations. The main challenge here is to transform unstructured data from plain HTML files to structured data (e.g RDF or OWL). The current work provides the first hand information for dealing with unstructured heterogeneous data residing on web using Twinkle, a Java tool for SPARQL query execution on FOAF (Friend Of A Friend) document.

Keywords: Filter, FOAF, Twinkle, RDF, Projection, Ontology, SPARQL.

References:
4. Muhugeta Mammo “Distributed SPARQL over Big RDF Data, A Comparative Analysis Using Presto and MapReduce.” Arizona State University, December 2014. Available at: https://repository.asu.edu/attachments/143388/content/Mammo_asu_0010N_14524.pdf

Authors: Sandeep Yadav, Rituraj Raghuvanshi  

Paper Title: Mechanical Designing of Acoustic Chamber Based Muffler for Sound Reduction  

Abstract: Sound of exhaust system makes a substantial contribution to the interior as well as exterior noise of automobiles. Accurate prediction and control of noise from automobiles is of significant importance in automotive exhaust system design. When it comes into the term of acoustic performance there are several parameters that describe the performance of a muffler, the Transmission Loss (TL) being the most popular one for validating an analytical model. Acoustic characteristics of silencers filled with fibrous material are also studied.

Keywords: Transmission Loss (TL), Reactive Muffler, Central Inlet and Side Outlet, Multi Expansion Chamber, Dissipative Muffler, Hybrid Muffler, Sound Quality.

References:

Authors: Rakesh Kumar, Yogesh Kumar  

Paper Title: Characterization of Convective Transfer of Heat by Air Impingement using Single Swirling Jet with Insertion of Twisted Tapes by Computational Fluid Dynamics
Abstract: This study showed the analysis of heat transfer by computational fluid dynamics (CFD) from a heated target surface by the use of jet of single swirl and impingement by air at various Reynolds numbers. The half-length downstream with insertion of twisted tape is applied in a nozzle body to get the swirl. The distance between twist ratio and nozzle to plate of twisted tape is found to be same as γ = 2.93 and 21mm (H/D = 1). The characteristics of transfer of heat on heated surface are determined with varied Reynolds numbers like 12000, 17000, 22000 and 27000.

Keyword: Computational Fluid Dynamics, Heat transfer, Swirling jet, Reynolds number.

References:

Authors: Veeranana Kalkori, Santosh Kori, Shweta C, R. Rawat

Paper Title: Resistivity of Fe/Al Multilayered Thin Films from Low Temperature to Room Temperature

Abstract: By using electron beam gun and thermal deposition techniques in the vacuum range 6 x10^-5mbar. The pure materials of 99.99% purity of iron and aluminium multilayers films grown on glass substrates at 300K in the following viz. The resistivity was measured using four probe method at UGC-DAE Consortium Indore (4.2K to 300K) later resistivity, conductivity, temperature co-efficient of resistance (TCR), residual resistivity ratio (RRR) , and activation energy(Ea) were calculated. The resistivity behavior shown that the resistivity is increased with increasing the n value, resistivity is increased with increasing temperature. The data belonging to metallic region has been analyzed using the conventional power law’s and it is first time this set of films have explore resistivity at low temperature.

8.
8. Keyword: thin films, multilayers, RRR, TCR, Power laws

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Authors: Adil Kadyrov, Sabit Amanbayev, Aleksandr Ganyukov, Kyrmyz Gulybekova, Bahyt Kurmasheva

Paper Title: Solving Traffic Congestion Problems and Definition Stress-Strain State of Curvilinear Overpass Module Sector-Ring Slab

Abstract: In the article we discuss the construction of curvilinear overpass module sector – ring slab. Calculation of constructive elements and studied the stress-strain state of a sector-ring. The purpose is the development of the technique and calculation for the new construction of a curvilinear overpass for reduction of traffic jams. The methods uses are mathematical analysis, method of finite elements, method of finite differences, and analytical method of relocation. The purpose of the study is calculate constructive elements of module sector – ring slab and decrease of traffic jams. Researched the bending state of the sector-ring structurally orthotropic slab of the roadway of the curvilinear module of the combined bridge crossing. The method finite difference is used to determine the bending stiffness. There were selected cross sections of the supporting elements from the condition of their strength; the rigidity of the slab with the thickness.
Keyword: analytical method of relocation, curvilinear overpass, method finite difference, traffic jam.

References:


Paper Title: An Improved Discrete Patch Based Reversible Data Hiding For Encoded Color Images

Abstract: This paper proposes a system for encrypting images which is performed by patch wise separable reversible data. In the beginning, with the help of encryption key, a content writer prepares the unique uncompressed image. Then, the data-hider abridge encrypted images with least significant using data smacking key therefore to construct a sparse path that can incorporate with some additional data. The encrypted image data consisting of additional data, will aid the receiver to use only one encryption key to recall both additional data and image after decryption. The proposed system enables the receiver, to bring out the data and retrieving the actual content without an error by using both data-hiding key and encryption keys. The key generated is stored and the log is maintained. Data transmission through public communication system is insecure due to be inaccuracy and improper exploitation by eavesdropper. The specific problem can be resolved by the technique Steganography, where the hidden messages are written in a way where it is only understood by the sender and intend recipient which gives the complete security for the messages. This proposed method includes Advanced Encryption Standard algorithm for encrypting both the image and the data. In order to achieve efficient working of encryption process, Separable Patch wise Reversible Data Hiding (SPRDH) algorithm is used in resisible manner. The performance are analyzed using available Classical database images with the metrics Bits per Pixel (BPP), Peak Signal Noise Ratio (PSNR) and Mean Square Error (MSE).

Keyword: Separable Patch-wise Reversible Data Hiding (SPRDH), Reversible data hiding (RDH), Patch Wise Embedding (PWE), Advanced Encryption Standards (AES)

References:

Authors: Roni Bhowmik, B.C.M. Patnaik, Gouranga Chandra Deb Nath, Ipsita Satpathy
Impact of Carbon Tax Scheme and CO2 Control Technologies on Bangladesh Aviation Industry

Abstract: Aviation transport action group reported that carbon dioxide (CO2) emission of airlines in 2017 was 859 million tons which is 2% of global emissions, (Akcña, Z. 2018). It adds that the bank has calculated that “under the worst case ‘carbon intensive’ scenario, living standards will fall by 6.7% for Bangladesh by 2050”. This paper investigates how Bangladesh can respond to best optimize to the EU’s Aviation Carbon Tax Scheme proposed by the Stackelberg game model. The analytic result shows that the strategy “refusal of pay” is the best one which Bangladesh is taking step of. Numerical simulations specify a quantitative visual of the consequences found. The policy is found to be effectively not flying as much would reduce the CO2 emission and consequently, purchase of new aircraft, retrofitting and upgrade improvements on existing aircraft, latest designs in aircraft/engines, fuel efficiency standards and alternative fuels etc. reducing the overall emissions. The main contribution of this paper is to study a new international issue for developing country on aviation carbon tax and CO2 emissions policy suggestions for the aviation technology.

Keyword: aviation technology; Stackelberg game; Carbon tax; CO2 policy

References:

Authors: Farida Smolnikova, Nadezhda Kenijz, Igor Nikitin, Valentina Feshchenko, Yulia Zubtsova

Using of Dried Fruits and Wheat Gluten in the Production of Bread

Abstract: This article describes the development technology and nutritional value of functional bread with...
the addition of wheat gluten and dried fruits. The use of these ingredients allows to improve the quality of the finished product by increasing the protein content (9.0 g/100 g), fiber (7.0 g/100 g), enrichment with minerals (2.5 g/100 g) and to ensure the prophylactic orientation and functional purpose of the product. The moisture content in fruit bread does not exceed 43%, acidity varies from 3.5 to 4.0, bread porosity is not less than 68%.

Keyword: bread, dried apple, gluten, fiber, wheat, nutritional value

References:
An Efficient Buffer Overflow Control Scheme to Mitigate Packet Loss in Manets

Abstract: MANET (Mobile Ad hoc Network) is self-configuring, self-organizing, infrastructure-less network of mobile devices connected without wires. Because of the dynamic changes in the network topology, there is no centralized control in ad hoc networks. So, mobile nodes can communicate with each other via intermediate nodes. The buffer size of intermediate nodes plays a significant role to hold packets in the buffer before dropping the newly arrived packets. In MANET, buffer overflow (congestion) occurs in any intermediary nodes when data packets pass through source to destination and incurs packet loss, which causes the performance degradations of a network. Congestion can be reduced by using several Active Queue Management [AQM] techniques. Queue Management Node or “QMN” is an active queue management strategy to control packet drops by assigning space of a buffer node to all its neighbouring nodes dynamically depending upon the total number of packets received from its neighbours. In this scheme, authors did not take into account the impact of collaboration between neighbors of a central node. They only consider the characteristics of nodes, while ignoring the message properties in MANET. And also a new node has to be waiting until it will get enough equal space from the QMN along with other neighbor nodes. During this waiting period, high packet loss can be occurred. So, an efficient buffer overflow control scheme is required to make sure every node has adequate storage space to hold the data once the buffer of the node is near to congestion. In this paper, we proposed a scheme that integrates QMN technique with combinational buffer management (CBM) strategy, which includes both the features of messages and nodes, and transfer the duplicated messages to neighbour node for total utility optimization, rather than deleting them. By using this scheme packet loss can be mitigated in MANETs efficiently. Our simulation results here reveal that, the proposed scheme achieves better performance than other existing schemes in terms of packet delivery ratio, throughput, overhead ratio and end to end delay.

Keyword: Buffer Overflow, Mobile Ad hoc Networks, Packet Loss, Queue Management

References:

Authors: Hosam F. El-Sofany

Paper Title: Assessment of Implementing Cloud-based Career and Educational Guidance System using Fuzzy Logic Modelling

Abstract: The career guidance process for graduates and students is affected by many factors; this, in turn, ...
has motivated researchers to use a variety of scientific methodologies and techniques for proposing career guidance systems and solving related problems. The choice of right career not only positively affects the professional life of graduates, but also the academic life of students. As a result, the significance of developing career and educational guidance systems has increased. In this paper, the researcher discusses the effectiveness of using the proposed cloud-based career and educational guidance system to help students and graduates move to the professional world. The main objectives of the system include helping students choose their majors; helping students choose a career that is appropriate to their educational skills, practical experiences, and scientific ability; providing graduates and students with training courses required for specific careers. The proposed system is presented as a “Career-as-a-Service” cloud model. In this paper, the use of Fuzzy Logic for defining system inputs, processes, and outputs as a new representation for career and educational guidance system parameters is introduced. Cronbach’s alpha tests are used for measuring the validity and reliability of the study questionnaires’ content. In this study, several analysis methods such as Spearman correlation, stepwise multiple linear regression, skewness, mean, and standard deviation have been used to determine the effect and performance of the proposed system through dominating factors such as gender, age, class standing, enrolment status, specialization, and city.

**Keyword:** Career guidance, Educational guidance, Cloud computing, Fuzzy Logic.

**References:**


**Authors:** Dhananjaya B., Satyendra Kumar

**Paper Title:** Determination of Characteristics of Dc Motors used in Light Motor Electric Vehicles using Inter-Operable Cad & Femm

**Abstract:** Electric vehicles (EV’s) were invented and had been a part of transportation industry before 1900’s. Being popular, they had good turn outs in the market till 1918. As the inventions of internal combustion engines grew in the transportation industry, EV’s usage started to die. The usage of EV’s was totally zero by 1933, due to slow response and high expenses. The shortcomings faced by EV’s then, are not overcome totally till date. Advancement in the field of Microelectronics and power electronics have made EV power trains competitive with ICE power trains. The developments in the materials and manufacturing technologies provide optimistic battery. The vital factors that revive EV’s: cost of energy, energy independency, pollution free operation. The upcoming shortage of fossil fuels, shortage of supply, growing demands and their cost have made people look around for an alternative mode of transportation. As electricity production can be made from various different energy resources, EV’s promise to be a future of vehicles. However the recharging can be done when there is excess energy in power utilities. The biggest reason of interest towards EV’s is environmental factors such as reduction in air pollution in congested traffic thereby meeting national energy strategy policies
Keywords: EV, ICEV, PMBLDC Motor, FEM.

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Authors: Partha Chakraborty, Chowdhury Shahriar Muzammel, Mahmuda Khatun, Sk. Fahmida Islam, Saifur Rahman

Paper Title: Automatic Student Attendance System using Face Recognition

Abstract: The most common difficulty that every teacher faces in class room is to take the attendance of the students one by one in each and every class. For the time being many automated systems has been proposed for taking student attendance. In this paper, I introduced an automated student attendance system based on the use of unique techniques for face detection and recognition. This system automatically detects the student when he or she enters the classroom and recognizes that specific student and marks the student's attendance. This method also focuses on the specific features of different attributes such as the face, eye and nose of humans. In order to evaluate the performance of different face recognition system, different real-time situations are considered. This paper also suggests the technique for handling the technique such as spoofing and avoiding student proxy. This system helps track students compared to traditional or current systems and thereby saves.
Abstract: In this proposed method, MR Brain image segmentation technique based on K-means clustering combined with Discrete Wavelet Transform (DWT) based feature extraction and Gray Level Co-Occurrence Matrix (GLCM) based feature selection approach has been presented. A Perfect Radial Basis Function (RBF) - Support Vector Machine (SVM) Classifier has been selected for this process. The Performance of the classifier was estimated through accuracy based on the fractions selectivity and sensitivity. Accuracy of the proposed classifier was found to be 93%. Moreover, in this proposed method, instead of selecting the cluster centres in a random manner, a Perfect Radial Basis Function (RBF) - Support Vector Machine (SVM) based Classification of Brain MRI with K-Means Clusters was found to be 93%. Accuracy of the proposed classifier was found to be 93%. Moreover, in this proposed method, instead of selecting the cluster centres in a random manner, Histogram technique was used.


References:

Authors: B.Thamaraichelvi

Paper Title: GLCM – SVM based Classification of Brain MRI with K-Means Clusters

Keyword: Face detection, Feature Extraction, Face recognition, Eigenface, Haar Cascade Classifier, Principal Component Analysis (PCA)

References:

Authors: Tulasi,B,Suchithra,R

Paper Title: Blended Learning Effectiveness in Higher Education

Abstract: Blended learning is one of the most evolving teaching learning pedagogy. Educational institutions across disciplines are adopting the blended learning environment. The new generation of students also known as millennials are digital natives. They are tech competent and prefer to use technology in all areas. So it is very natural for teaching learning to be more technology oriented. But it is still essential to identify the willingness of the students to adopt the digital transformation in teaching learning.. Blended learning brings in the advantages of both traditional class room teaching and online or virtual learning. The current study tries to understand students’ willingness for a blended learning model approach and also tries to finds the
effectiveness of blended learning model.

**Keyword:** Blended Learning, Inclination instrument, effectiveness of blended learning, Learning Management System.

**References:**


Authors: **Hiba Jasim Hadi, Nafishah Othman, Wan Rozaini Sheikh Osman**

**Paper Title:** Developing a Conceptual Model for the Intention to Adopt CC-Saas

**Abstract:** Cloud Computing (CC) is an evolving information technology paradigm providing on-demand IT resources on a pay-as-you-go basis. A cloud computing service model called Software as a Service (SaaS) emerged to offers IT services, effectively utilise computing and power consumption while achieving performance, decreasing cost, and increasing revenue. However, the adoption rates of CC-Saas among the organisations are inadequate, and its diffusion is not fully explored due to issues related to data security, privacy concerns and trust which affects the adoption of CC-Saas. There is a lack of empirical studies investigating factors affecting the adoption of CC-SaaS from the organisational perspectives specifically in Iraq. Therefore, the primary aim of this study is to identify the most influencing factors for the intention to adopt CC-SaaS in Iraqi organisations. In order to meet the primary aim, such factors are reviewed and selected from the literature on a high frequency of occurrence and developed the proposed model. The result of the factors is validated by expert and the values of assessment are statistically analysed using SPSS for t-test analysis. The proposed model can give a guide for the decision makers to plan the successful adoption of CC-SaaS in the organisation.

**Keyword:** Cloud computing, DOI, HOT, Intention to adopt, software as a services.

**References:**


J. K. Adjei, “The role of social media in national discourse and mobilization of citizens,” in 2016 International Conference on
Abstract: The image captured by a camera is degraded by various atmospheric parameters for example rain, storm, wind, haze, snow. The removing haze is called dehazing, is naturally done in the physical degradation model that requires a resolution of an ill-posed inverse problem. In this paper discussion and e relative study of Adaptive Histogram Equalization (AHE) as well as Contrast limited adaptive histogram equalization (CLAHE) and dark channel prior (DCP). This article suggests image and video dehazing techniques working on DCP method. The DCP is resulted from the characteristics of images taken in outdoor that the value of intensity inside the local window is nearly equal to zero. The DCP system has good haze elimination and color managing potential for the images with various angles of haze. The dehazing is done using following four major steps: atmospheric light estimation, transmission map estimation, transmission map refinement, and image reconstruction. This solution of four step DCP will give solution to ill-posed inverse problem. This dehazing techniques can be used in advanced driverless assisted systems in autonomous cars, satellite imaging, underwater imaging etc.

Keywords: Computer vision, image processing, image restoration, image enhancement, dehazing, histogram equalization, dark channel prior.

References:

Authors: Maheesh Manik Kumbhar, Bhalchandra B. Godbole
The present research is about the reduction of harmful gases from the exhaust of a diesel fuel operated diesel engine. A kirloskar single cylinder diesel engine (model – TV–1) is selected for the numerical simulation using commercially available software AVL FIRE. The operating and boundary condition of single cylinder diesel engine is referenced in the published articles. The hemispherical bowl piston geometry is generated and meshed in the software the research is further processed with the selection of three different spray parameters four nozzle depth values are included in the research. The four nozzle depths are 0.5mm, 1mm, 1.5mm and 2mm. whereas 1mm nozzle depth is the standard spray angle. Additionally to analyze the effect of nozzle depth on the emission, combustion and performance parameters four nozzle depth values are also included in the research. The four nozzle depths are 0.5mm, 1mm, 1.5mm and 2mm. whereas 1mm nozzle depth is standard nozzle depth. All four nozzle depths are examined under 120o, 140o, and 160o spray angle. The need of petroleum fuels is increasing everyday despite of their speculation regarding the depletion of petroleum fuels. The petroleum fuels are categorized as suspicious element for human being due to its well known major harmful effects on the environment. The concern is that the need of petroleum fuel is increasing simultaneously with its price in the market. The researchers around the world are focusing either on the reduction of harmful effects which produced from the petroleum fuel or finding another a better substitute of the petroleum fuel.

**Keywords:** spray angle, nozzle depth, numerical simulation, emission parameters, combustion parameters, and performance parameters.

**References:**

Authors: Todupunoori Shiva Sai, G.A.V.S. Sandeep Kumar, N. Kiran Kumar, Cyril Thomas A

Paper Title: Behaviour of Reinforced Concrete Beams Bonded with Glass Fibre Reinforced Polymer and Carbon Fibre Reinforced Polymer Sheets

Abstract: Concrete, a mixture of different aggregates bonded with cement, first developed around 1500BC in Rome has been bedrock to the modern Infrastructure. It is used to build everything from roads, bridges, dams to skyscrapers. Strengthening concrete is traditionally done by using steels but the developments in technology in recent decades allowed to use fiber reinforced plastics which are externally bonded to concrete. Such composite materials offer high strength, low weight, corrosion resistance, high fatigue resistance, easy and rapid installation and minimal change in structural geometry. This study investigates the behavior of reinforced concrete beams bonded with fiber composites. A numerical study is conducted to study the behavior of RC beam under Static third point loading. Concrete beam specimens with dimensions of 150 mm width, 300 mm height, and 2600 mm length are modelled. These beams are externally bonded with Glass Fiber Reinforced Polymer (GFRP) sheets and Carbon Fibre Reinforced Polymer (CFRP) sheets. In present study, we examine the performance of reinforced concrete beams which are bonded with GFRP and CFRP sheets with various thicknesses (1, 2 & 3 mm) using ABAQUS in terms of failure modes, enhancement of load capacity, load-deflection analysis and flexural behaviour.

Keyword: CFRP, Flexural Strengthening, GFRP, load vs deflection.

References:

Authors: Kunal S Khadke

Paper Title: Development of Deep Learning Algorithm using Convolutional Neural Network for Medical Imaging

Abstract: Medical imaging is the procedure and approach of formulating graphic models of the peculiarity of a body system for medical investigation and treatment, and also graphical illustration of the function of several internal organs or structures. To identify the affected tissues of the brain in a case of brain tumors, it is important to get high precision and accuracy to locate exact pixels. Manual analysis may be erroneous and so it is important to use deep learning image segmentation technique. Segmentation of graphic is the technique of dividing a graphic in to several group of pixels. The earlier objective of the segmentation is actually to produce details much easier and enhance the manifestation of clinical images into significant content. Segmentation is a complicated activity due to the excessive variability in the graphics. The computational intelligence is modern way for application automation. Existing studies shows need of deep learning research for fast and accurate medical image solutions. Hence, this paper presents the CNN framework (for an analysis of brain tumors) as a base for further research methodology development. The paper also provides a pilot research analysis that can further be used to develop improved precision and visibility.

Keyword: deep learning, CNN, brain tumor, U-cnet, feature extraction, segmentation, augmentation, machine learning.

References:
Abstract: Since the global financial crisis of 2008, all construction related activities are now subject to cost control of each project. An important component of the optimal choice is the implementation cost. The evaluation of construction activities can be conducted by estimating their environmental as well as their cost footprint, which is also the demand and consumption measure for the societies’ needs. Water and sewerage projects have a key role in the standard of living, Public Health and environment. Therefore, water supply network replacements are important to upgrade the quality and quantity of water, through cost-effective choices.

The purpose of this study is to present and comment on the uniform cost footprint through the complete replacement of the old water supply network along with complete reconstruction of pavement compared to local repair activities. Usual practices in repair works of old networks and flexible pavement rehabilitations are presented, assessing the benefits of total reconstruction by carrying out life cycle cost analysis in terms of uniform cost per year. The project of replacing the water supply network in the municipality of Larissa, Greece for the period 2015-2019 is analyzed, linking water savings with simultaneous total pavement rehabilitation, calculating average cost per inhabitant and hydrometer, comparing cost and pavement surface area between total and localized rehabilitation activities for a twenty-year rollback period.

The fruitful findings of this research study, indicate that full-width pavement rehabilitation along with new water supply network establishment is economically advantageous compared to local rehabilitation treatments, according to the time period considered. Thus, competent authorities can use the proposed methodology as a useful tool to conclude to the optimal choice for maintaining water supply networks in a cost-effective way.

Keyword: cost footprint, local repair environmental footprint, pavement reconstruction, water supply network supply

References:

Authors: Rajveer Singh, Saurabh Kumar Kesarwani, Neelsh Kumar Gupta, Haroon Ashfaq
Paper Title: Design of 2-Dof PID Controller for Load Frequency Control of Two Area Power System using Mfo Algorithm
Abstract: The paper endeavours to analyse the load frequency control for two area system. In this paper, two areas have been considered in which non-reheated type of turbine in both area are used and whose secondary loop consists a latest controller called 2 degree-of-freedom PID (2-DOF-PID) controller. The parameter of the this controller has been optimized by the latest meta heuristic algorithm also called Moth flamme optimization.
algorithm (MFO) to minimize the deviation in frequency of area and tie-line power respectively. The same processes are repeated with PID controller and Integral controller whose parameters are also optimized by MFO. A comparison is made among the result of these and 2-DOF-PID controller prove its superiority over the other controller for minimizing the deviation which occurs in frequency of the area as well as the tie-line power.

**Keyword:** Load frequency control, 2-area power system, 2-DOF PID Controller, PID controller, Moth–Flame Optimization (MFO) algorithm, Genetic Algorithm (GA), PSO (Particle Swarm Optimization) algorithm

**References:**


**Authors:** Boniface Onyemaechi Anyaka, Uche Chinweoke Ogbugeli, Munbwe Muncho Josephine, Kenneth Chiijoke Chike, Prince Anthony Okoro

**Paper Title:** Biomass Stand-Alone System for Power Supply Option to Remote/Isolated Locations

**Abstract:** Reliability and continuity of electricity supply generated by the use of fossil fuels cannot be guaranteed absolutely because of the present decline in oil and gas. Because of this, it becomes necessary to consider another form of energy generation such as biomass. In this work, the potential of electricity generation for a small household rural/isolated location using combustion technique was done. Due to the availability of sufficient biomass (agricultural waste) in rural/isolated locations, rice husk combustion technique for bio-power generation was investigated in this work. The experiment was conducted at Uburu in Ohaozara Local Government Area of Ebonyi State. A 12V permanent magnet DC motor was used as the alternator while rice husk was used as biomass fuel. The bio-power was achieved by heating water to steam which was used to turn the turbine attached to the permanent DC motor and a maximum of 155Whr was generated. From the result, it can be seen that the typical load of a household in a rural/isolated location is 55W and the peak experimental power is 154.96W. This peak experimental power is sufficient to carry the household load in a rural/isolated location. The peak experimental energy value is 1549.6Whr in a 10 minutes interval which is far more than the energy demand of 260Whr in a typical household in rural/isolated location. The result shows that biomass can be used to generate power for lighting point and power outlet for small households in rural/isolated locations.

**Keyword:** Rice husk, power generation, rural/isolated locations, permanent magnet DC motor.  

28. **References:**

29.

Abstract: Script Segmentation of running hand scripts is a complicated job because of different hand writing styles and complex formation quality. Segmentation of moving hand script in Indian language is a difficult assignment. The incident of a title, crossway nature in the mid section & half nature makes the segmentation process is more difficult.

Sometimes, the import space and noises make line shatter a hard task. Without disconnecting the nudge characters, it will be complicated to recognize the character; hence shatter is needed for the moving texts in a word. So, the technique, according to that first step will be pre-processing of a term, then we can identify the joint points, form the bounding boxes around all perpendicular & parallel lines of the script, finally splint the nudge nature based on their height and width. For non-touching printed scripts and running hand scripts, it gives us 95% and 90%result respectively.

This technique fails for some hand written characters because of obligation that means cause will not match always to a lot of variation in the different handwriting scripts i.e., character like occurs problem as space in the middle of parts in scripts that can be resolve by identification system because of this system considers initial part as non-bar character and cut after that, as the future exertion is a concern, in this go these different characters as input to the character identification system. In this method have resolute control of a word which will once more helpful for the identification system to perceive bottom modifiers and higher modifiers. This running hand scripts technique can be applicable to other Indic languages hand written scripts.
Keyword: OCR, Preprocessing, Segmentation, Mat lab code, Image processing;

References:
5. Muhammad M. Mehdi, Aqsa Riaz “Optimized Word Segmentation for the Word Based Cursive Handwriting Recognition” 2013 European Modelling Symposium

Authors: V. V. Shukla, P. V. Sawalakhe, J. A. Shaikh, M. G. Trivedi, N. P. Gudadhe

Paper Title: Data Analytics in Master Cam Setup Sheet for Improved Manufacturing

Abstract: The paper focusses on providing the awareness of smart manufacturing utilizing simulation through modelling in order to facilitate data analytics. Data analytics related to manufacturing will prove its noteworthy benefits to processes involved in industry. Models simulated for manufacturing techniques can be utilized to facilitate data analytics in numerous ways. The provision offered in Mastercam offer programmers to support models simulated to various sectors like logistics, management, transportation, health systems and manufacturing making simulation tool a popular one. It provides three types of stages of process knowledge namely a machine level, a shop level and a universal level. The universal level is related to the knowledge of a process independent of machine or individual shop which facilitates the process. Furthermore, analogous process knowledge like shape capabilities of machining and manufacturing processes offers to progress processes involved in manufacturing through Mastercam.

Keyword: CAM, Customization of setup sheet, Data Analytics, Mastercam, , process & energy optimization;

References:

Authors: Wael Ibrahim, Rana Ahmed

Paper Title: Performance of Tension Lap-Splice in Lightweight Concrete

Abstract: The use of Light-Weight Concrete (LWC) in modern construction has resulted in efficient designs and considerable cost savings by reducing structural own weight and supporting footings sections. The
The purpose of this paper is to investigate the Lap-Splice behavior between LWC and steel reinforcement (RFT). The tested specimens were divided into four groups to study the effect of main variables: steel reinforcement bar size, internal confinement (stirrups), splice length and concrete cover thickness. Four-point bending tests were carried out on test specimens to evaluate the performance of lap splices under pure bending. Bond behavior and failure modes were noted to be similar in the normal concrete and in the LWC. In tested beams, it was observed that the bar size has a significant influence on the mean bond stress in the splice. Improving radial tensile strength by using increasing stirrups number improves the bond behavior. The splice length up to 35 times bar diameter decreased the moment capacity of beam. The splice length of 55 times bar diameter results in the same capacity of the beam without any splice.

**Keyword:** LWC, RC Beams, Splice length, Bond Behavior.

**References:**
1. ACI Building Code Requirements for Structural Concrete (ACI 318-14).
2. ACI Committee (213 R-87), Guide for Structural Lightweight Aggregate Concrete, ACI Manual of Concrete Practice, Part 1, American Concrete Institute, Farmington Hills, 1987.

**Authors:** M.Sumitha, R.Sujatha, A.Jamna

**Paper Title:** Power Factor Improvement by Harmonic Reduction in Power System

**Abstract:** The load with a poor power factor speeds up the flow of electrons when compared to the load with high power factor in the electrical power systems. The current extracted from the system is distorted by non-linear loads. In this paper, to achieve active power factor correction Boost converter topology is utilized. The boost converter topology must meet two concurrent conditions:1) the boost converter’s input value must be set lesser than the output voltage value and 2) the voltage at any point of time must be set in such a way that it is always proportional to the current. This scheme utilizes a positive output luo converter which is connected to rectifier circuit to offset the harmonic current from the rectifier. This paper presents a new control scheme to accomplish a power factor closer to unity.

**Keyword:** Non-Linear Loads, Power Factor Correction, Positive output luo converter.

**References:**

**Authors:** Anoop Kiran A., Seshachalam D.

**Paper Title:** Data Transmission using Visible Light Communication

**Abstract:** The demand placed on wireless technology which uses Radio Frequency (RF) in the present society is growing exponentially. In the near future, due to the limited bandwidth of RF spectrum, these resources will reach an overload point. A technique of contradicting the radio frequency spectrum issue is the use of Visible
Light Spectrum. Light-Fidelity (Li-Fi) is a research field which uses the visible light band within the Visible Light Communication (VLC). This paper describes the research about VLC, the design method and testing of a VLC prototype using UART (Universal Asynchronous Receiver/Transmitter) module. The design method consists of serial communication module written in python called pySerial to convert the file data to stream of bits to be sent via LED. The designed prototype is simple, cheap and provides a concrete base for fellow researchers to work further in this field. The principle of VLC is effectively exhibited in this prototype. Also, the feasibility of writing the codes in Python language, proper electronic components used to process bit wise data and advantages of serial communication for data transfer are successfully displayed. VLC has major application in indoor communication, underwater communication and in hospitals where radio waves causes Electromagnetic Interference.

Keyword: Bit Error Ratio (BER), Graphical User Interface (GUI), Li-Fi, Transimpedance Amplifier (TIA), UART.

References:
1. Paul Ferguson, “Light Fidelity (Li-Fi) Prototype with Raspberry Pi”, University of Southern Queensland, Faculty of Health, Engineering and Sciences, October 2016.

Authors: Pavan Mehta, Subhanarayan Sahoo

Paper Title: A Cost Effective Fault Diagnosis Technique for Cascaded H-Bridge Multilevel Inverter

Abstract: Multilevel Inverters are universally accepted due to their wide range of applications and numerous advantages. In spite of this the reliability of the multilevel inverters are still questionable due to the repeatedly failures of power semiconductor switches. The industries need a cost effective and reliable solution of switch failures, which can be implemented without making major changes in the existing system. If the fault cannot be located within few seconds then fault may cause for multiple switch faults or malfunction of entire system. In this contrast, a cost effective solution to detect open circuit fault of a power semiconductor switch in five level cascaded H-Bridge multilevel inverter has been presented in this paper. The detection method is based on output pole voltage analysis of inverter. The principle of this technique can be implemented on existing system with little modifications. It requires only one voltage sensor per phase, which is already available with the main control system. The output of the multilevel inverter and fault detection results are validated through simulation results.


References:
Authors: M. Mohamed Iqbal, K.Latha

Paper Title: Empirical Performance Determination on Community Detection Techniques in Social Networks

Abstract: Community identification is a high common and extending field of interest in social and real-time network applications. In recent years, many community detection methods have been developed. This paper describes various community discovery methods such as InfoMap, Clique Guided, Louvain, Newman and Eigen Vector that have already been developed and also compares the experimental results of those proposed techniques. The proposed work in this paper experiments these community mining algorithms on the two real-world datasets Twitter and DBLP (Computer Science Bibliography) networks. The identified communities by all the community mining algorithms for these two data sets are described in this proposed work. The quality of the derived communities is evaluated by using standard Extended Modularity metric. The experiment results show that the InfoMap algorithm produces a good modularity score than other community mining algorithms for different sizes of communities on both data sets.

Keywords: Community Detection, InfoMap, Real time network, community structure, social network.

References:
6. “Twitter Social Network Dataset” http://konect.uni-koblenz.de/

Authors: Rik Das, Mohammad Arshad, Pankaj Kumar Manjhi

Paper Title: Assorted Techniques for Defining Image Descriptors to Augment Content Based Classification Accuracy

Abstract: Image data has turned out to be a significant means of expression with the advancements of digital image processing technologies. Image capturing devices has now transformed to commodities due to smart integration with cell phones and other useful devices. Huge amount of images are getting accumulated daily in gigantic databases which requires categorization for prompt retrieval in real time. Content based image classification (CBIC) thus gained its popularity in classifying images to their corresponding categories. Feature extraction techniques are the foundation of CBIC to represent the image data in the form of feature vectors. This work has implemented three different feature extraction techniques from spatial domain, transform domain and deep learning domain. The three different feature vectors feature vector are contrasted to investigate the robustness of descriptor definition for content based image classification

Keywords: binarization, image transform, pretrained CNN, feature extraction, image classification

References:
Deriving Frequent Itemsets from Lossless Condensed Representation

Abstract: In data mining, major research topic is frequent itemset mining (FIM). Frequent Itemsets (FIs) usually generating a large amount of Itemsets from database it causing from high memory and long execution time usage. Frequent Closed Itemsets(FCI) and Frequent Maximal Itemsets(FMI) are a reduced lossless representation of frequent itemsets. The FCI allows to decreasing the memory usage and execution time while comparing to FMs. The whole data of frequent Itemsets(FIs) may be derived from FCIs and FMs with correct methods. While various study has presented several efficient approach for FCIs and FMs mining. In sight of this, that we proposed an algorithm called DCFI-Mine for capably derive FIs from Closed FIs and RFMI algorithm derive FMs to FIs. The advantages of DCFI-Mine algorithm has two features: First, efficiency, different existing algorithm that tends to develop an enormous quantity of Itemsets all through process, DCFI-Mine process the Itemsets straight without candidate generation. But in proposed RFMI multiple scan occurs due to search of item support so efficiency is less than proposed algorithm DCFI-Mine. Second, in terms of losslessness DCFI-Mine and RFMI can discover complete frequent itemset without lapse. Experimental result shows That DCFI-Mine is best deriving FIs in term of memory usage and executions time.

Keywords: Deriving algorithm, Frequent itemset mining, maximal itemset, closed, itemset mining, Lossless condensed representation.

References:
Data mining techniques are used to predict grades of the students. The information includes details on whom the attention and the amendments are required. This increases the accuracy of the algorithm.

**Abstract:**

To meet the change in world in terms of digitalization and progress, the need and importance of education is known to everyone. The increasing awareness towards and digitization has given rise to increase in size of education field’s database. Such database contains information about students. The information includes students behavior, their family background, the facility they have, the society environment which surrounds them, their academic records etc. The increasing technology in data sciences can help utilize this huge education field database in a productive way by applying data mining on it. When the techniques of Data mining are applied on the database relating education records, then this process is called as education data mining. This process helps us understand the area and the students on whom the attention and the amendments are required. This increases the level of education system and also affects the success rate and understanding of the students in academics in positive direction.

In this paper four different classification algorithms are used to predict grades of the students, by referring student’s previous academic records. Out of the four algorithms, the one which gave the most positive direction. In this paper four different classification algorithms are used to predict grades of the students, by referring student’s previous academic records. Out of the four algorithms, the one which gave the most positive direction. The performance accuracy of different algorithm is compared through accuracy performance percentage.

**Keyword:**

Accuracy performance percentage, Data mining, Algorithm, Classification, Education data mining, Data sciences.

**References:**


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**Authors:** Surbhi Agrawal, Santosh K. Vishwakarma

**Paper Title:** Predicting Student’s Academic Performance using Data Mining Techniques

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**Authors:** P. Sinhamani

**Paper Title:** Microscopic Examinations of the Elements on the Behaviour of Group of Fellow Men using Fuzzy Graph

**Abstract:**

In this work, the behavior of an individual of a group to his fellow men. In a group, if we consider the relationship between people, we note the following possibilities. Any two of them may like each other or dislikes each other or indifferent to each other. It can be also checked originally to describe the way psychological consistency is obtained. And signed degree vertex evolves interesting results in new parameters of Balanced signed fuzzy graph and unbalanced signed fuzzy graph also we obtained some properties over it.

**Keyword:**

Signed graph, Balanced Signed Graph.

**References:**

Keywords: Aggrandized Kernel based Support Vector Machine, Credit Card Fraud detection, Fuzzy Particle Swarm Optimization, K-Means.

References:
Authors: Wisam Hazim Gwd Gwad, Imad Mahmood Ismael Ismael, Yasein Gültepe

Paper Title: Twitter Sentiment Analysis Classification in the Arabic Language using Long Short-Term Memory Neural Networks

Abstract: The increasing use of social media and the idea of extracting meaningful expressions from renewable and usable data which is one of the basic principles of data mining has increased the popularity of Sentiment Analysis which is an important working area recently and has expanded its usage areas. Compiled messages shared from social media can be meaningfully labeled with sentiment analysis technique. Sentiment analysis objectively indicates whether the expression in a text is positive, neutral, or negative. Detecting Arabic tweets will help for politicians in estimating universal incident-based popular reports and people’s comments. In this paper, classification was conducted on sentiments twitted in the Arabic language. The fact that Arabic has twisted language features enabled it to have a morphologically rich structure. In this paper we have used the Long Short Term Memory (LSTM), a widely used type of the Recurrent Neural Networks (RNNs), to analyze Arabic twitter user comments. Compared to conventional pattern recognition techniques, LSTM has more effective results in terms of having less parameter calculation, shorter working time and higher accuracy.

Keyword: Semantic analysis, Arabic language, classification, deep learning.

References:
for this experimental work. Six types of elements are excerpted from EEG signals by using WPT method and which is then classified by using CFS method. Then, all the features are combinely inputted to the rule based twin- support vector machines (TSVMs) to detect normal, ictal and pre-ictal EEG segments. The developed seizure detection WPT-KWMTSVM method achieved excellent performance with the average Accuracy, specificity, sensitivity, G-mean, positive predictive value, and Mathews correlation coefficients are 97.14%, 97.33%, 97.08%, 97.31%, 96.85%, 95.96% respectively The average area under curve (AUC) is approximately 1.

The proposed method is able to enhance the seizure detection outcomes for proper clinical diagnosis in medical applications.

Keyword: EEG Signal, Epileptic Seizure, WPT, CFS, Rule based TSVMs.

References:


Authors: Pooja Chaturvedi, A. K. Daniel

Paper Title: Energy Efficient Communication Framework for Target Coverage using Trust Concepts

Abstract: Target coverage is a challenging task in the field of wireless sensor networks aiming to observe a set of critical targets while considering the limited resources and the network lifetime is improved. The paper proposes an approach to: i) determine the strategy according to which the critical targets can be monitored while satisfying a certain confidence level, ii) determine the maximum and minimum number of nodes which can guarantee the coverage, iii) determine the optimal number of active nodes for various deployment strategies, iv) to determine a routing mechanism using either single hop/multi hop communication based on the reachability of the node to the base station and iv) to develop an aggregation protocol which can reduce the redundancy and number of packet transmissions. The proposed protocol is based on the two level aggregation at the set cover level and at the cluster level using the concept of Locality Sensitive Hashing (LSH) and Jaccard Similarity measure. The efficiency of the proposed aggregation mechanism is determined for various data sets of multiple dimensions. The results obtained through the simulations show the improvement in the network performance with respect to the network longevity, coverage, reliability and of the data transmission as compared to the Boolean coverage model

Keyword: Clustering, Network Lifetime, Target Coverage, Fuzzy Inference, Aggregation, Routing, Deployment

References:
A wide range of malicious activities are increasing with the usage of internet and network technologies. Identifying novel threats and finding mechanisms to efficiently thwart malicious attacks or to identify the intruders is significant to continuously look out the network activities. Designing an effective intrusion detection system is important to prevent from these threats are important. A wide range of malicious activities are increasing with the usage of internet and network technologies. Identifying novel threats and finding mechanisms to efficiently thwart malicious attacks or to identify the intruders is significant to continuously look out the network activities. Designing an effective intrusion detection system is important to prevent from these threats are important.
Suspicious activity detection from surveillance video is the main objective of the work presented in this paper. The method developed consists of various stages of suspicious frame detection, and verifying the frame for suspicious activity related analysis of human movements within obtained set of suspicious frames. The method consist of GLCM feature extraction which constitutes the features such as energy, prominence, contrast, entropy, homogeneity type of features and matching using Euclidian distance along with descriptor features obtained by using Harris corner features and cosine similarity index estimation. The successful suspicious activity detection rate is analyzed which shows better performance and time saving method while analyzing large surveillance video dataset.

References:

Authors: S. S. Gurav, B. B. Godbole, M. S. Sonale

Paper Title: Improved Accuracy of Suspicious Activity Detection in Surveillance Video

Abstract: Suspicious activity detection from surveillance video is the main objective of the work presented in this paper. The method developed consists of various stages of suspicious frame detection, and verifying the frame for suspicious activity related analysis of human movements within obtained set of suspicious frames. The method consist of GLCM feature extraction which constitutes the features such as energy, prominence, contrast, entropy, homogeneity type of features and matching using Euclidian distance along with descriptor features obtained by using Harris corner features and cosine similarity index estimation. The successful suspicious activity detection rate is analyzed which shows better performance and time saving method while analyzing large surveillance video dataset.
Abstract: This paper proposes CAF algorithm to estimate localisation accuracy of a stationary emitter which is being monitored by a pair of sensors mounted on high altitudes. It computes joint Time Difference of Arrival (TDOA) and Frequency Difference of Arrival (FDOA) using Cross Ambiguity Function (CAF) and measures geolocation accuracy in presence of biasing in sensor position and velocity. Previous work in this area utilizes TDOA and FDOA measurements with known sensor kinematics which is fed to Maximum Likelihood or Least Squares algorithm for post processing. However it is computationally demanding. In the present work, surface peaks of TDOA and FDOA values are directly mapped to geographic coordinates. This method is computationally efficient. As sensor and emitter geometry keeps changing over time due to moving sensors, multiple CAF snapshots are taken for emitter geolocation. Simulations are carried out using MATLAB. It is observed that at 30 dB SNR, location accuracy of stationary emitter is 100 m at known sensor kinematics and by introducing bias in the receiver position and velocity, it is 200 meters. These measurements are well within and in accordance with theoretical developments.


References:
Abstract: The digital communication technologies have gained immense significance as it provides secure and error free services. One of the major advantages of digital communication is that they are much resistant to transmitted as well as interpreted errors. For ensuring the security of data, the most suitable method is to use spread spectrum technique. The spread spectrum technique has gained immense popularity for use in various systems as the spreading of the spectral bandwidth offer many advantages, including the establishment of secure communications, increasing resistance to interference, noise rejection, and so on. The signals which are modulated by using these techniques cannot be jammed and are very hard to interfere. This paper presents the results of investigation of BPSK based direct sequence spread spectrum systems for Additive White Gaussian Noise (AWGN) and undersea channels. The bit error rate performance of BPSK based direct sequence spread spectrum systems has been simulated for the AWGN channel and the results have been plotted.

Keyword: Spread spectrum, AWGN, BPSK, Bellhop

References:

Authors: Md. Farid Shah, Aheibam Dinamani Singh

Paper Title: Design and Analysis of Microstrip Patch Antenna Arrays for Millimeter Wave Wireless Communication

Abstract: In present 4G the enormously growing of cellular user and the shortage of bandwidth which results in difficulty to provide a high data rate to each end user. To achieve wider bandwidth millimeter wave technology is considered to solve the problem of bandwidth shortage. This paper presents a 4x1 element circular phase array of inset fed rectangular patch antenna operating in the millimeter wave band (24.81GHz 33GHz). To achieve large impedance bandwidth the array is designed with edge coupled parasitic patch arrangement which provides dual resonance. The designed array used the ring-shaped sequential rotation feeding line to reduce the unwanted side lobe radiation. The design antenna array achieved good return loss – 10dB ≤ S11 ≤ – 18.64dB and maintaining 26% (24.81GHz 33GHz) bandwidth. The antenna array has achieved good return loss S11, -18.64dB at 29.09GHz and VSWR ≤ 1.85 (24.81GHz-33GHz). In millimeter wave wireless communication require high gain antenna to overcome the problem of path loss. The designed array has achieved 10.14db gain. So the designed will be suitable for the future millimeter-wave wireless communication system.

Keyword: 5G, Millimeter Wave (mmWave) antenna, Long Term Evolution (LTE), Microstrip Patch Antenna (MPA), Coplanar Waveguide (CPW)

References:
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7. Razavi B 2008 Gadgets Gab at GHz Spectrum143 477–85
15. Sharma S K and Nagarkoti D S 2017 Meet the Challenge of Designing Electrically Small Antennas Microwaves&RF 6–9
<table>
<thead>
<tr>
<th>Authors:</th>
<th>Ranjitha V.</th>
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<tbody>
<tr>
<td>Paper Title:</td>
<td>RRR Concept and unknown Facts of Ransomware</td>
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<tr>
<td>Abstract:</td>
<td>Ransomware is the word which is very popular nowadays. Ransomware is a malicious program that infects the device once it gets into and cannot decrypt the data until the key is provided by the hacker. Ransomware not only forbids the access but also infect the network, where it is communicating with, by encrypting the content that is located on mapped and unmapped network drives where the whole organization networks falls down. In Ransomware various families exist like Cryptoworm, Raas, and many. This Ransomware Target is mainly on corporates for beneficial profits. Cryptocurrency is one of the enabling factors of Ransomware. In 2019 according to research work Ransomware raised because of phishing emails and smshing to 109 percent over 2017. Ransomware detections in the first half of the year were up 77% compared to the latter half of 2018. Around 851 million Ransomware contagious activities happened in 2018. 34% of corporates came across with this malware and took months or more to recover back and to access their own data. The algorithms that are used by the Ransomware are very complex which cannot be understood by the normal users. This article is to share research findings about Ransomware, some unknown facts where exactly how Ransomware is growing, and also Restrict Recognize React concept (RRR concept) of Ransomware which is mainly for avoiding Ransomware. Restricting is the measures that as to be carried out for avoiding the Ransomware, Recognize is for identifying the Ransomware if device is infected with it, React is mainly responding to the attack to get rid of Ransomware.</td>
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<tr>
<td>Keyword:</td>
<td>Cryptoworm, Raas, Cryptocurrency, Ransomware, phishing, smshing, RRR concept.</td>
</tr>
<tr>
<td>Authors:</td>
<td>Saheel Arshad, Abhay Kumar Chaubey</td>
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<tr>
<td>Paper Title:</td>
<td>Buckling Behavior of Sandwich Panel with Isotropic Core and Orthotropic Faces</td>
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<tr>
<td>Abstract:</td>
<td>A sandwich panel is a lightweight structure, economical and having low thermal conductivity. It is made up of three layers in which the middle layer is called core which is bounded with thin layers at top and bottom called faces. Generally, the core has relatively low-density which makes it lightweight. The buckling load analysis of sandwich panel having isotropic core and orthotropic faces is studied for different support conditions using the FE based software ABAQUS. The FE model is validated with suitable published results. It is used to find critical buckling load of sandwich panel with isotropic core and orthotropic faces. Many new results have been presented for different thickness, end conditions, aspect ratio, etc.</td>
</tr>
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</table>
Keyword: Terms: sandwich panel, buckling behavior, ABAQUS

References:

Authors: K. Thyagarajan, K. Mohan Kumar

Paper Title: Patient Monitoring System for Smart Multi Speciality Healthcare Centre using Internet of Things (IoT)

Abstract: A healthcare centre is an organization in which effective treatment is given to patient for their health problems using specialized staff and equipments. Here patient’s information is stored in computer databases and retrieved when the further treatment is needed. At present all the information are stored into database and retrieved with human intervention. The human part of this system is error prone and often leads to inconsistencies in treatment. It may create severe problems in patient’s health related problems. With the advent of technology in the modern era these problems can be eradicated and improvements can be made in patient care by eliminating the unnecessary burden. Even though modern technology is often used in hospitals for many purposes, it is not concentrated in the reduction of patients waiting time. The waiting time cannot be taken lightly as it leads to increase in their blood pressure and mismanage their valuable time, also increasing healthcare centre’s expenses in an indirect manner by providing water facility, air conditioning facility etc. The manual token issuing system maintained in many healthcare centres is obsolete due to the improper handling of the queue by hospital staff. If it is automated through IoT, these problems will be sorted out completely. If a system is designed to reduce the patient’s unnecessary waiting time, it will be of immense importance for both the healthcare centre management and the public. So, this paper provides a solution to eradicate this problem a

Keyword: Internet of Things (IoT), Hospital Management System, Waiting Time, Cost Analysis, Patient Queue Management, Cloud Based Medical History (CBMH)

References:
Effectiveness of IoT with Reference To Patient Waiting Time”, International Journal of Computer Sciences and Engineering, Vol.6, Issue.8, pp.68-76, 2018


8. India's per capita income grows by 8.6% to Rs 43.4 lakh in FY18 - Times of India”. The Times of India. Retrieved 8 January 2019.


**Authors:** Hermawan, Eddy Prianto, Erni Setyowati

**Paper Title:** The Relation between Effective Temperature and Thermal Sensation Vote in Tropical Vernacular Houses

**Abstract:** One of the factors to enable energy efficiency in buildings is creating thermal comfort for the occupants of buildings so that the artificial vaporization is not required. The thermal sensation vote (TSV) is an indicator in analyzing the occupants’ satisfaction on the thermal comfort of their buildings. Some climate variables that relate to the TSV include air temperature, humidity, and wind speed. The three variables can be combined into a variable using a psychrometric chart. The combined variable is known as an effective temperature. The present research aims at analyzing the connection between effective temperature and TSV in vernacular houses in the tropical mountain and beach locations and comparing the results of the analysis. The quantitative method was employed in the research by measuring the variables of climate using a thermal measuring instrument. The TSV was measured with ASHRAE (American Standard of Heating, Refrigerating, Air-Conditioning Engineer)’s seven-point sensation scale. The measurement was carried out in transitional periods from the dry season to the wet season. Interpretation of graphs and charts was made for analysis based on the variable of effective temperature with no HVAC systems. The results of the research indicated that there was a connection between effective temperature and TSV. The effective temperature in vernacular houses in tropical mountain locations tended to be lower, and therefore the cool thermal sensation had the greatest percentage of TSV. Meanwhile, the effective temperature in tropical beach locations tended to be high, and therefore the warm thermal sensation had the greatest percentage. In a neutral scale, the percentage of TSV in tropical mountain locations was greater than that of TSV in tropical beach locations. Therefore, it is concluded that the occupants of vernacular houses in tropical mountain location felt more comfortable than those of vernacular houses in tropical beach locations.

**Keyword:** thermal comfort, field measurement, vernacular house

**References:**


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**Authors:** Jung-sub Ahn, Tae-ho Cho

**Paper Title:** FBCFFS-Based Authentication Method for Node Privacy Message in WSN

**Abstract:** In wireless sensor networks (WSNs), the design of the energy management of the nodes and report security are important. In particular, many studies have focused on maintaining report in applications
where an Internet of Things (IoT) system is connected with a WSN, with the IoT actuator operated based on measured data of WSNs. A Fuzzy-based Cluster-based False Data Filtering Scheme (FBCFFS), which can dynamically adjust security in a vulnerable network situation, maintains security using the cluster state information of the network. This scheme uses fuzzy logic, a type of rule-based expert system. The fuzzy logic system of the FBCFFS determines security strength based on network monitoring information. However, previous work with the FBCFFS has not addressed the security of the cluster information. Thus, there exists risk of data transformation at the middle transmission step in the previous approach. In addition, the node periodically transmits state information to the base station, which is inefficient in terms of network lifetime management. In this paper, we provide a method to secure the state information message and to reduce the communication cost by controlling the number of messages.

**Keyword:** fuzzy system, node energy efficiency management system, wireless sensor networks, node state data security, node privacy message, message authentication.

**References:**


**Authors:** Yaman Hooda, Haobam Derit Singh

**Paper Title:** Rheodynamic Concrete as a Progressive Viability in the field of Concrete Technology

**Abstract:** The most important material which is used for the construction of any concrete structure is concrete itself. It is considered to be as a versatile construction material as its properties can be changed by various means, with the help of different elements and as and when required. Rheodynamic Concrete or Self-Compacting Concrete is a special form of concrete which can easily flow into any kind of formwork uniformly, without facing the problem of bleeding and segregation, gives a better finish, has a great characteristic of placement, requires no vibration, and thus gives a safe working environment. Due to a number of merits, this type of concrete had becoming popular in the construction work. Simultaneously, the big industries across the world are producing the by products such as fly ash, rice husk ash, etc. Thus, this paper represents a review, which is done to incorporate these wastes by – products in Self-Compacting Concrete and observe, how the different properties of the same has been modified effectively and efficiently.

**Keyword:** Fibres, Fly Ash, Rice Husk Ash, Self – Compacting Concrete.

**References:**

Authors: K. Veeranjaneyulu, T. Venkateswara Rao

Paper Title: Effect of Nozzle Hole Diameter on Performance, Combustion and Emission in a Diesel Engine

Abstract: This research work carried out to understand the performance and emission characteristics of direct injection diesel engine by four different nozzles of fuel injectors of orifice diameters 0.2, 0.25, 0.28 and 0.3 mm. This experiment is carried for a CR of 18 and an IP of 250 bar wherein the engine was running at 1500 rpm water cooled engine. The comparisons of all injectors have been carried out. For two hole injector NO was observed 250ppm at full load. Four hole injector is emitting less pollution levels than five hole injector. CO and smoke were observed zero in all the injectors but two hole injector have shown 3%. Maximum cycle peak pressure was observed for five hole injector at 365CA. For four hole injector highest brake power was observed compared to other injectors. Heat release was more in five hole injector as 280J/° compared to all other injectors.

Keyword: Nozzle hole, Direct injection (DI), Compression ratio (CR), Injection Pressure (IP).

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Authors: Pavita V. Bhosle, Vijaya Musande

Paper Title: Agricultural Stress Monitoring using Remote Sensing Data

Abstract: This study consists of experiments on Hyperspectral remote sensing data for monitoring field stress using remote sensing tools. We have segmented Hyperspectral image and then calculated stress level using ENVI tool. EO-I hyperspectral remote sensing data from hyperion space born sensor has been used as the key input. QUACK (Quick Atmospheric Correction) algorithm has been used for atmospheric correction of hyperspectral data. EO-1, hyperion sensors data It has been observed that stress level depends on chlorophyll contents of a leaf. It has been observed that green field is with less stress and rock where no chlorophyll contents have most stress. We have also shown stress level in the scale of 1 to 9.

Keyword: Atmospheric correction, Hyperspectral remote sensing data, Field Stress.
References:


Authors:

Prafulla B. Bafna, Jatinder kumar, R. Saini

Paper Title: Marathi Text Analysis using Unsupervised Learning and Word Cloud

Abstract: Managing a large number of textual documents is a critical and significant task and supports many applications ranging from information retrieval to clustering search engine results. Marathi is one of the oldest of the regional languages in the Indo-Aryan language family, dating from about AD 1000. Abundance of Marathi literature has generated a big corpus and need of summarization of information. The objective of this study is to overcome the scalability problem while managing the documents and summarize the Marathi corpus by extracting tokens. The work is better in terms of scalability and supports the consistent quality of cluster for incremental data set. Most of the past and contemporary research works have targeted English corpus document management. Marathi corpus has been mostly exploited by the researchers for exploring stemming, single-document summarization and classifier design on Marathi corpus. Implementing unsupervised learning on the Marathi corpus for summarization of multiple documents through Word Cloud is still an untouched area. Technically speaking, the current work is an application of TF-IDF, cosine-based document similarity measures and cluster dendrograms, in addition to various other Natural Language Processing (NLP) activities. Entropy and precision are used to evaluate the experiments carried on different datasets and results prove the robustness of the proposed approach for Marathi Corpus.

Keyword: Classification, Clustering, Document Management, Marathi, Summarization, Word Cloud.

References:

10. Md Shad Akhtar, Asif Ebkal, Pushpak Bhattacharyya, Aspect Based Sentiment Analysis in Marathi: Resource Creation and Engineering; In proceedings of the 10th International Conference on Language Resource and Evaluation (LREC 2016); 23-28; Portoroz, Slovenia.
Feature selection in multispectral high dimensional information is a hard labour machine learning problem because of the imbalanced classes present in the data. The existing Most of the feature selection schemes in the literature ignore the problem of class imbalance by choosing the features from the classes having more instances and avoiding the features of the classes having less instances. In this paper, SMOTE concept is exploited to produce the required samples form minority classes. Feature selection model is formulated with the objective of reducing number of features with improved classification performance. This model is based on dimensionality reduction by opt for a subset of relevant spectral, textural and spatial features while eliminating the redundant features for the purpose of improved classification performance. Binary ALO is engaged to solve the feature selection model for optimal selection of features. The proposed ALO-SVM with wrapper concept is applied to each potential solution obtained during optimization step. The working of this methodology is tested on LANDSAT multispectral image.

**References:**


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**Abstract:** Rolling element bearing health condition is monitored by analysing its vibration signature. Raw vibration signal picked up through suitably placed accelerometers is difficult to analyse hence many signal processing techniques have been proposed and developed by researchers to process the data for suitably extracting an effective signal feature set. Various machine learning techniques have been used for interpretation and accurate fault diagnosis using this extracted feature set. In this study “Empirical mode decomposition” is used for pre-processing the raw vibration data. Six “Statistical features” are extracted from the best Intrinsic mode function obtained through EMD and “Ensemble machine learning classifiers” are used for bearing fault diagnosis. A stacked ensemble of five classifiers is proposed for accurate fault diagnosis and results are compared with conventional ensemble classifiers to prove its effectiveness.

**References:**


Authors: K. Ramanjaneyulu, K. Veera Swamy, Ch. Srinivasa Rao

Paper Title: A Novel Multi Hidden Layer Convolutional Neural Network for Content Based Image Retrieval

Abstract: The applications of a content-based image retrieval system in fields such as multimedia, security, medicine, and entertainment, have been implemented on a huge real-time database by using a convolutional neural network architecture. In general, thus far, content-based image retrieval systems have been implemented with machine learning algorithms. A machine learning algorithm is applicable to a limited database because of the few feature extraction hidden layers between the input and the output layers. The proposed convolutional neural network architecture was successfully implemented using 128 convolutional layers, pooling layers, rectifier linear unit (ReLU), and fully connected layers. A convolutional neural network architecture yields better results of its ability to extract features from an image. The Euclidean distance metric is used for calculating the similarity between the query image and the database images. It is implemented using the COREL database. The proposed system is successfully evaluated using precision, recall, and F-score. The performance of the proposed method is evaluated using the precision and recall.

61. Keywords: Convolutional neural network, Euclidean distance and performance measures

References:

There are so many methods for the process of cryptography in literature. In this paper we present encryption and decryption method by using Laplace transform & Sumudu transform and their inverses. The purpose of using this method is for more security in communication as compared to other methods because cipher text obtained by this method could not be cracked by other persons easily. In the first part we apply Laplace transform to trigonometric cosine function for Sumudu transform for the same purpose. Finally we conclude by comparing these two methods.

**Keyword:** Laplace transform, Sumudu transform, Inverse Laplace transform, Inverse Sumudu transform, Cryptography, Encryption, Decryption.

**References:**

Inadequate or feeble preliminary work prior beginning of development of any structure may become the root for difficult issues during the development time span. Therefore, the expense of development increments digressively, the development length of the task expands and the standard of development is influenced unfavorably. This examination harps on the significance of development plans in accomplishing the point of creating great quality development work inside the predefined span. Checking constantly the interrelated connection regarding delays in development plans and contractor orders is an entangled procedure. Here the easiest and fundamental methodology is that, both for proprietor and contractor, time is cash and consequently development plan deferrals ought to be broke down and remedial measures ought to be taken in a convenient way. The principle motivation behind this examination is to research the reasons for development plan deferrals and the techniques for plan delay investigations. In this examination, the completion development works of a “Raw water Reservoir and Raw water Pumping Station” at Bommakal village in Karimnagar District was chosen as a contextual investigation for examining task planning and the delay analysis. The fundamental reason for this examination is to recognize the defer aspects and the impact on the undertaken work fulfillment. This investigation adopts a coordinated strategy and tries to examine the influence of consequence. A survey was led to distinguish the circumstances and end results delay from contractor and customer. From the examination, it is distinguished that the most significant deferrals from a list 20 distinct causes and 4 distinct impacts of postponements and the suggestions to diminish the postponement. The actual arranged schedule is 713 days and updated proposed schedule is 683 days the total delay was 30 days.

**Keyword:** Construction Delays, Construction activities, Project Analysis, Project schedule, Resource analysis.

**References:**

**Authors:** Samyadip Chakraborty, Vaidik Bhatt, Tulika Chakravorty

**Paper Title:** Big-Data, IoT Wearable and mHealth Cloud Platform Integration Triads - a Logical Way to Patient-Health Monitoring

**Abstract:** IoT along with big data capabilities is useful in fall detection, medical fridges, sportsman care, patient surveillance, chronic disease management, sleep control and monitoring, etc. Every year a large number of patients are identified with diabetes or cardiac disorders. There is a greater need to handle many patients with the existing medical staff and doctors like cardiologists and diabetologists. This chapter aims at establishing the logical conceptualization and linkages of IoT enabled system linkages with wearable, big-data platforms and cloud-based m-health delivery. The study subsequently aims at qualitatively and quantitatively validating and putting forth a feasible nuanced understanding framework linking the major contemporary technology triads/automated care delivery process platforms in the healthcare context with prime focus on patient health monitoring and care-delivery.

**Keyword:** detection, medical fridges, sportsman care, patient surveillance, chronic disease management, sleeps control, monitoring.

**References:**
with healthcare big data clouds. IEEE Communications Magazine, 56(4), 16-23.


Authors: Nisha A. Auti, Avnish R. Verma, Biplab K. Sarkar

Paper Title: Secure Mobile Agents Based Clustering Protocol Using using Modified PSO Algorithm

Abstract: As per the studies on Wireless Sensor Network (WSN), the major concern of WSN is network lifespan and Quality of Service (QoS) improvement as the sensor nodes are having limited processing and battery capabilities. The clustering based methods delivered improved performance compared to non-clustering methods, but cluster heads (CHs) suffered from the excessive load which leads more energy consumption of sensor nodes that becomes the CH in each interval. The mobile agent’s technology solves such problems. But using mobile agent’s leads problems of data security and unreliable communications in WSN. In this paper, we proposed novel mobile specialists based clustering protocol utilizing the adjusted particle swarm optimization (PSO) algorithm called Secure Mobile Agent based Clustering using modified PSO (SMACP). To optimize the clustering performance we design modified PSO based in CH selection and cluster formation performed efficiently. To secure data communications using the mobile agents, we applied the trust evaluation scheme to evaluate each mobile agents and sensors using parameters such as residual energy, distance, and packet forwarding probability. The simulation results computed for different WSNs in terms of energy efficiency, average throughput, packet delivery ratio (PDR), also, start to finish delay. The exhibition demonstrates that SMACP outperformed the previous methods effectively.

Keyword: Data aggregation, Clustering, Mobile agents, Security, Particle Swarm Optimization.

References:


Marble Powder and Lime Powder

Abstract: Investigation practicing waste marble powder and lime powder as cement supplements in Self-compacting concrete (SCC) has obtained positive outcomes newly. In this research, waste marble powder (MW) and waste lime powder (LW) with the different combinations used in the design of SCC by replacement of cement 0, 10, 15 and 20%. In addition, 5% H2SO4 and 5% MgSO4 practiced for durability study and evaluate the effect of Sulfate attack and acid attack on filler content of mix after 28, 56, and 90 days curing of SCC sample. The results of the visual assessment and weight loss revealed that the increase in the amount of LW would enhance the performance of concrete, while the inclusion of LW and MW in SCC has shown positive results in terms of resistance against acid and sulfate attack. The mixtures with ternary binders of OPC, MW, and LW experienced the lowest strength loss after exposure to high concentrations of sulfate attack compared to unblended SCC.

Keyword: Limestone powder waste (LW), Marble powder waste (MW), Sulfate resistance, Acid attack.

References:
Authors: Sesa Sai Sandeep V, A. Deepak

Paper Title: Smart Phone Powered Electrochemical Biosensing Dongle for Emergency Module Iot

Abstract: As the growth in the online communication system it can helps the people in many ways. This communication can play a vital role in the medical application system using the IOT technology. The IOT is the one of the data gathering system which can provides the required data to the patients at anywhere and anytime in the world. The medial IOT can collects all the medical details of the patient for example blood pressure, heart rate etc. This can provides the required information to the doctor. To faster communication of the data in the upcoming period the 5G network is going to implemented which can communicate the data at high speed. In this paper they proposes the use of the medical dongle powered by the smart phone which can sense the all the bio medical details of the patients such as the uric acid and the blood glucose level etc. This data can be sends to the doctor in high speed with reduce loss of data. This system more effective and reliable compared to the previous medical methods. This system can connects the bio sensor, online communication and the doctor which is more useful and convenient to the patient.

Keyword: Wi-Fi, Transceiver, Internet of Things, Throughput.


Authors: Kannan Muthuvelu, S. Ramamoorthy

Paper Title: Preventive Path To Control Fire Accident in Firework Industry using Iot

Abstract: The Surveillance and the ongoing examination on Fire work mishaps are just arrangements with the manual prevented, mindfulness and how to keep away from the mishaps during the assembling procedure of wellbeing matches and fireworks. Dangerous mishaps happen frequently, resulting in overwhelming misfortunes of human lives and wounds to laborers. The fundamental driver of Fire mishaps is from Gun Powder. In this Gunpowder not just explosives at the time of higher temperature which additionally obliterated the whole things underneath the referenced temperature. The preventive measure on this surveillance bargains and suggested that the temperature, smoke caution sensor is bolstered to the laborers keep away from heavier harms. The proposed work enhances the preventive system through, advanced IOT based sensors which is deployed on the field to monitor and prevent the real time mishaps. The framework clearly identifies the Automated Chemical Manager (ACM) to balance chemical control activities and threshold limits to avoid the possibility of accidents in the firework industries. The timely alarm through this smart preventive system will avoid the loss of human life and frequent accidents in the firework industry.


Abstract: Attendance Connect aims in simplifying the task of registering attendance in the class by teachers, managing attendance records and letting students access those up-to-date attendance records anytime. These fundamental goals of simplifying workflow of teachers and students is made possible through the use of advanced technologies like state-of-the-art group based face recognition and attendance code right from the mobile device. Moreover, Attendance Connect also features additional functionalities like Schedules to make it easier for marking attendance of sessions, prior knowledge of sessions to attend or miss and Announcement Posts which lets teachers post announcements about changes in class schedules, homework or pretty much anything to stay in touch with the students. This is achieved with incredibly easy-to-use user interface developed for iOS devices using Swift and Objective-C with a modern backend of Firebase. In addition to that, the hardware requirement of Attendance connect is limited only to compatible mobile devices like smartphones or tablets. Meaning, it is easy to install, easy to start using and is significantly affordable.

Keywords: attendance governing system, iOS Application, group face recognition, mobile application.

References:

Authors: Neel Makhecha

Paper Title: Attendance Connect — A Complete Mobile Attendance Governing using Face Recognition

Abstract: If we look back few years into the past, we come to know that with the rapid development of human societies, day to day modern life and smart industries, etc. becomes so hungry and greedy for electrical energy. Today, Electrical energy is being consumed by every single machine used in almost each and every application. Conventional and nonrenewable sources like coal, oil, gas, etc. have been depleting very fast, and the world should now shift more towards renewable sources like solar, wind, tidal, etc. for harnessing electricity. Electricity consumption is increased in the industrial and domestic sectors due to the increased comfort (air conditioning) requirements, increment in the usage of power-consuming devices and the sudden increment in building occupancy area. This paper shows the current status of demand and supply scenario of electrical energy in the world and India. Generation capacities as per the renewable and nonrenewable sources in India have been discussed in detail. Almost 45% share of the electrical energy consumed in the industrial or commercialized and domestic buildings is consumed for air conditioning purposes. The brief discussion is presented in this paper on the sales and distribution of the air conditioning units and future possibilities in the same field as per the sustainable development scenario.

Keywords: Air-conditioner, buildings, electricity, renewable energy

References:
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Authors: B. Swetha, N. Shilpa

Paper Title: An ARM based Network of Wireless Sensors for Plant Health Monitoring

Abstract: In the present age, the Internet of Things (IoT) is turning into an essential part of our day by day existence with the new innovative improvements. The objective of this project is to utilize the IoT with a smart system of wireless sensors to observe plant healthiness and watch larva populace in a remote yield field. A wireless sensor network is proposed in this setting to recognize larvae and calculate certain gadget parameters, namely, the Acoustic Complexity Index (ACI), temperature, humidity and soil moisture. The information of the sensors is gathered through a serial port through the front end sensing node built with a STM32F407VG board. The leading group of STM32F407VG depends on the processor of Advanced RISC Machine (ARM). Utilizing a remote ZigBee protocol, the node information is transmitted to a base station. Information from a gathering of sensor nodes is obtained by the base station. This information is transmitted by means of the Universal Serial Bus (USB) association between the base station and the Central Processing Unit (CPU). On the CPU, this information is examined utilizing the clearly planned application dependent on MATLAB. The discoveries will be shown and put away on the CPU and logged by means of Thingspeak liaison on the cloud too. At any moment, it requires access to this data globally. An auspicious contact and healing of the arranged yield field is accomplished. To accomplish the effective combination and execution of the modules, the unit parameters are changed. An experimental setup is used to test the proposed system operation. The results confirms the proper functionality of the system.


Authors: Alahari Radhika, K. Satya Prasad, K. Kishan Rao

Paper Title: Low Complexity FFT Factorization for CS Reconstruction

Abstract: In this paper is presented a novel area efficient Fast Fourier transform (FFT) for real-time compressive sensing (CS) reconstruction. Among various methodologies used for CS reconstruction algorithms, Greedy-based orthogonal matching pursuit (OMP) approach provides better solution in terms of accurate implementation with complex computations overhead. Several computationally intensive arithmetic operations like complex matrix multiplication are required to formulate correlative vectors making this algorithm highly complex and power consuming hardware implementation. Computational complexity becomes very important especially in complex FFT models to meet different operational standards and system requirements. In general, for real time applications, FFT transforms are required for high speed computations as well as with least possible complexity overhead in order to support wide range of applications. This paper presents an hardware efficient
FFT computation technique with twiddle factor normalization for correlation optimization in orthogonal matching pursuit (OMP). Experimental results are provided to validate the performance metrics of the proposed normalization techniques against complexity and energy related issues. The proposed method is verified by FPGA synthesizer, and validated with appropriate currently available comparative analyzes.

**Keyword:** Compressive sensing, Fast Fourier transform, Orthogonal matching pursuit, FPGA, etc.

**References:**

**Authors:** R.Krishnasamy, G.Shyamala, S.Christian Johnson, K.Sabarimuthu, S.M.Sakthivel, K.Rajesh Kumar

**Paper Title:** Performance Management of Transmission Line Tower Foundations against Corrosion by Non Destructive Testing

**Abstract:** In this paper, corrosion in overhead line foundations in different field environmental conditions (plain, agricultural and coastal/industrial region) have been detected by non-destructive test methods such as Half-cell potential test, Ultrasonic pulse velocity test, Rebound hammer test, chemical analysis of soil and Transmission Line Tower (TLT) footing concrete samples and scanning electron microscope (SEM) analysis of deteriorated tower footing concrete. The collected soil samples have been analyzed for chemicals and the TLT coping concrete samples have been tested using scanning electron microscope. The correlation between the test values, mineralogical composition of soil and concrete samples at tower footing level is presented.

**Keyword:** Corrosion, Non Destructive Testing, SEM, TLT

**References:**
Numerical Simulation of Combined Pile-Raft Foundation under Horizontal Loading

Abstract:
Raft foundations generally have the ability to reduce differential settlement, contrarily causing excessive settlement. In order to overcome this, piles are used along with the raft termed as combined pile-raft foundation system. Due to the lack of availability of simplified tools and intricacy of work, the combined pile-raft foundation remains as an untouched area in research. This paper explores the performance of 2x2 numerically simulated combined pile-raft foundation embedded in sand exposed to pure horizontal load using ABAQUS 3D. The effect of horizontal loading in terms of displacement is studied by varying the raft thickness, length and spacing to diameter ratios respectively for the combined pile-raft foundation having a pile diameter of 500mm. Based on this study, it is inferred that the raft thickness effect remains inconsequential whereas the length to diameter ratio and spacing to diameter ratio has an impact on the static response of the combined pile-raft foundation system.

Keyword: Combined pile-raft foundation • Sand • Horizontal loading • ABAQUS 3D

References:
This paper based on generation of power using wearable technologies from sustainable resources to establish Mobile Adhoc Network communication between multiple nodes using Raspberry pi-3 microprocessor. It mainly focuses on aiding in the search and rescue operations of explorers or mountaineers in case of avalanches or in case of some unfortunate disasters. An advanced routing mechanism called Better Approach to Mobile Adhoc Networking is used to establish communication between the explorers to transfer user location information to the base station.

**Keyword:** Power generation, sustainable resources, transducers, Mobile Adhoc Network and BATMAN.

**References:**

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**Authors:** Rhubenthiraan Kelundapayan, Lee Yee Yong, Mohd Azuan Zakaria, Sasitharan Nagapan, Vikneshwar Chandira Segaran

**Paper Title:** The Suitability of Porous Material to Simulate Evaporation in Human Sweating Mechanisms

**Abstract:** This study aims to determine the suitable porous material that can simulate human sweat evaporation rate for preliminary thermal comfort assessment. The objective of the study was to identify the relationship of human sweat evaporation rate with porous material evaporation rate. Field research has been conducted to measure the evaporation rate of porous material such as red clay, white clay, plaster and human sweat. Then, the correlation analysis was conducted between porous material evaporation rate and human sweat evaporation rate. The collected data were analyzed by using SPSS 20 and Microsoft Excel 2016 tools. Pearson correlation were used as statistical analysis to find the relationship between both variable. The statistical significance level was set at P< 0.01. Based on the findings, human sweat evaporation rate had a moderate correlation with red clay (r = 0.583) and white clay (r = 0.503) with statistically significant but very weak correlation with plaster (r = 0.020). The porous characteristics of red clay and white clay has the capillary effect which is almost like human skin by showing a good correlation between human sweat and porous material evaporation rate. As this is preliminary study, in future more research to be done to obtain higher correlation between porous material and the human body by modifying the material. To minimize heat stress, it would be a step forward in evaluating outdoor thermal comfort and raising awareness of society and government.

**Keyword:** Human Sweat Loss, Porous Material, Thermal Comfort, Thermal Manikin

**References:**
This paper emphasizes on the free vibration (FV) responses of functionally graded thick spherical shell in rectangular form using traditional mathematical formulation on finite element method and governed by Higher order shear deformation theory (HOSDT). A functionally graded spherical shell made up of metal-rich on the top surface and in contrast, base surface of the model is ceramic-rich. The FG volume fraction of four-parameter power-law material constituents assumed in the thickness direction. To highlight the potential for the current method, convergence studies, and validation tests performed to establish the stability and accuracy attained by the current approach. The parametric studies presented to scrutinize the influence of choice of four parameters employed through power-law distribution. The eminence effect of spherical shell geometrical properties, and different types of support conditions, skew angle on the FV behavior of non-dimensional frequency responses examined in detail.

**Keywords:** Free vibration, HSĐT, Finite element method, Spherical shell.

**References:**

Paper Title: Edu-APCCM: Automatic Programming Code Constructs Mining from Learning Content

Abstract: The current education ecosystem is moving towards centralized online blended learning. Online learning repositories have replaced traditional libraries. Learning repositories contain learning materials, which can be located with the help of associated metadata. Associating metadata to the content (definition, program, example, figure, and table) of individual learning concept (topic) from the learning material also leads to a better search. If a student knows the prerequisites of the topic s/he wants to learn then the study of current topic would be more fruitful. The prerequisites of a computer science topic can be obtained from its explanation and the programming code snippet used for its implementation. This paper proposes a metadata “code construct as a prerequisite of a code snippet”. For example “recursion and function call are prerequisite to understand recursive module of binary tree traversal”. It also proposes the framework to automatically identify, extract and present the code constructs used in code snippets included in a computer science learning material. Thus obtained list of code constructs act as prerequisites for understanding the corresponding code snippet. Rule-based pattern mining approach is used for the identification of code snippet in the learning material and identification of code constructs in the code snippet. A pattern set is designed for the same. Natural language tool kit of python is used to identify the code snippet. The algorithms are tested on the programs of C, C++ and Java. Accuracy and efficiency of the developed algorithms is checked against the manual results given by subject experts. An average F1 score of 92% is obtained.

Keyword: prerequisites, rule based mining, code constructs, learning material, text extraction and analysis

References:


Abstract: All the bank marketing campaigns mostly deals with large amount of data. when they need to deal with huge electronic data of customers, then it is very difficult to analyze the data manually or by human analyst. Here comes the picture of data mining techniques to deal with the large amount of data and to come up with useful data which helps in decision making process. All the data mining techniques helps in analyzing the data. some of the techniques that can be used for this bank marketing campaigns are naive bayes, logistics regression technique and Decision tree model technique etc. among all these techniques decision Tree model gives the best solution in analyzing the human decisions. Artificial neural networks is a learning algorithm which learns from multiple individual decisions and their judgements, thus aggregates and generalizes the customers decision making knowledge.

Keyword: Decision Tree Model Technique, Artificial Neural Network, logistics regression.

References:
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Abstract: Composting can be one of the solutions to tackle the issue of handling solid waste. In the present research work, a bench-scale vertical in-vessel aerobic composter was designed to stabilize the Devaraja market vegetable waste, Mysore using horse dung and plantain leaves as seeding material and bulking agent respectively. On average, Devaraja market generate 4.8-5.6 ton per day. Mix proportion of organic waste, bulking and seeding materials fed into composter was in the ratio of 5: 1: 0.5. Initial and variation in physico-chemical characteristics of waste were monitored during the composting period. The initial concentration of total nitrogen, phosphorous, total organic carbon and C/N ratio which was found to be 1.67%, 0.78%, 1.93%, 43.5% and 26 showed a variation of 2.4%, 1.1%, 2% 29% and 15 respectively at the end of 21 days of composting.

Keyword: In-vessel composter, TOC, MSW, Stabilization, C/N ratio

References:
Abstract: Demand of wireless communication system is increasing rapidly. Wireless Sensor Networks (WSNs) have gained huge attraction due to various real-time applications such as health monitoring, sensitive area monitoring, catastrophe supervision, etc. These networks are not so high in power resource so energy conservation is very crucial aspect here. Moreover, such networks are deployed in unattended and harsh atmosphere where power sources cannot be replaced. Hence, prolonging the network lifetime is a tedious task for these networks. Recently, energy aware routing and efficient cluster head (CH) selection techniques have been introduced to mitigate these challenges. In this work, we have focused on energy aware CH selection and routing to enhance the lifetime of network. To achieve this, we present a combined model using PSO i.e. particle swarm optimization and GSA i.e. gravitational search algorithm for CH selection. We compare the performance of proposed approach with existing techniques. The experimental study demonstrates that the presented scheme improves the efficiency of network with respect to energy utilization, life of the network, and packet delivery ratio.

Keywords: energy management, wireless sensor networks, cluster head

References:
Page 84.

Abstract: Nowadays, internet has become the easiest way to obtain more information from the web and millions of users search internet to find out the information. The continuous growth of web pages and users interest to search more information about various topics increases the complexity of recommendation. The user's behavior is extracted by using the web mining techniques, which are used in web server log. The main aim of this research study is to identify the navigation pattern of users from the log files. There are three major steps in the web mining process namely pre-processing the data, classification of pattern and users discovery. In recent periods, the web page articles are classified by the researchers before recommending the requested page to users. However, every category size is too large or manual labors are often needed for classification tasks. A high time complexity issues are faced by some existing clustering methods or according to the initial parameters, these techniques provides the iterative computing that leads to insufficient results. To address the above issues, a recommendation for web page is developed by initializing the margin parameters of classification techniques which considers both effectiveness and efficiency. This research work initializes the Random Forest's (RF) margin parameters by using the FireFly Algorithm (FFA) for reducing the processing time to speed up the process. A large volume of user's interest data is processed by these margin parameters, which provides a better recommendation than existing techniques. The experimental results show that RF-FFA method achieved 41.89% accuracy and recall values, when compared with other heuristic algorithms.

Keyword: Clustering, FireFly Algorithm, Margin Parameters, Random Forest, Weblog, Web Usage Mining.

References:
accomplish the consistent electrical yield. The Model of the structure is formulated in Matlab/Simulink to look at the work analysis of the techniques.

**Keyword:** MPPT technique, PV Array, P&O, I&C, O.C.V, PID, Buck, PWM Technique, VSI, MATLAB/Simulink.

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9. A Maximum Power Point Tracking Technique For Single-Phase Photovoltaic Systems With Reduced De-Link Capacitor

**Authors:** B V A N S S Prabhakar Rao, Kadupukota Satish Kumar, P Rabindra Kumar Singh, P Sundeeep

**Paper Title:** Intelligent System for Smart Cultivation - to Integrate Technology in Rural Economic Development

**Abstract:** Since all living organisms require food and farming is the best key division of any country’s economy development. In many developing countries the price of agriculture commodity is very low due to many issues. From a billionaire who has bread and jam for breakfast to the poor who eats rice porridge everyone who needs food for living on this earth has a relation to agriculture. The farmer, even if he is or isn’t profited for years together with the crop that he has sown he keeps searching for his life in every seed he sows in hope of succeeding. Hence, along with the price hikes in the market, adulteration is also on the rise, if this continues similarly, the wealth you’d give your children in the future won’t be enough even for their hospital expenses. Price of land is growing day by day and the value of farmer is coming down, if we start constructing everything on this land then there would be no place for cultivating food. This work is based on gaining good returns for farmers by farmers meeting their own customers, but no relation to dealers this helps in farmers getting their price for the work they do. This helps in good food without adulterant products that leads in good health, hence good business returns in good benefits of returns to the economic growth of the country. Major contribution is required to implement minimum support price. Lots of researchers reported the need of MSPs but no implementation strategies so far in many products. The main focus of this work is to provide food for our growing population; we need to adopt certain agricultural practices with the help of technology in terms of machine intelligence with smart cultivation for crop production and management.

**Keyword:** Crop, Fertilizer, Harvesting, Insurance, Intelligent, Irrigation, Kharif, MSP, Plough, Rabi, Smart, Sowing, & Weeds.

**References:**

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Authors: Kashif Ishaq, Nor Azan Mat Zin, Fadhilah Rosdi, Adnan Abid, Qasim Ali

Paper Title: Usefulness of Mobile Assisted Language Learning Application

Abstract: The focus of this article to examining the District Monitoring Officer (DMO) and Assistant Commissioner (AC)’s perception for Literacy & Numeracy Drive (LND) a mobile-based application that is used in primary schools of public sector in Punjab province, Pakistan to teach student of Grade 03 on a tablet for learning languages and Mathematics. This study aims to gauge the efficacy of LND for its usefulness, usability, accessibility, content, and assessments. Semi-Structured interviews conducted for the purpose of study from the DMO and AC of District Sheikhpura, to measure the effectiveness of LND and evaluate the effectiveness. The result reveals, in its current form, the LND application is not effective and need improvements in usability, design, content, accessibility, infrastructure, and assessment. Furthermore, DMO and AC recommended that game-based learning consists of an interactive interface, phonics, animations to be developed and adopted. As a more interactive and attractive presentation of the content and variations in the assessment may increase students’ involvement and will make this application more effective and will produce good results.

Keyword: Assessment, Usability, Content, Design, Mobile Application, Language Learning

References:
Abstract: Aluminum amalgam MMCs are ahead of time abundant acknowledgment for vehicle, modern, and aviation industry, due to their low thickness, high and great basic quality inflexibility. In the present work, an exertion is made to plan and assess the mechanical properties of Al6061-SiC/graphite half breed composites. The composites were primed by means of stir casting process in which amount of fortification is varied from 2-10% in steps of 3, 5, 7 wt%. The primed composites are characterized as per standards. The scattered Graphite particles (Zrsio4) particles and rice husk (RHA) particles are synthesized by the stir 2casting method. The scattered Graphite particles are synthesized by the stir 2casting method.

Keywords: MMC, Al6061, SiC/graphite, fortification

Authors: G. Srinivas Kumar, Y. Venkata Mohana Reddy, B. Chandra Mohan Reddy

Paper Title: Mechanical and Metallurgical Characterization of Al/Ceramic MMC

References:
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Keywords: Finite Impulse Response (FIR), Array Multiplier, Booth Multiplier.

References:

Keywords: Information Security awareness, ISA Success Factors, ISA Predictors, ISA Constructs, Weight Analysis.

References:
Abstract: Hardly a facet of human life is not influenced by the Internet due to the continuous proliferation in the Internet facilities, usage, speed, user friendly browsing, global access, etc. At flip side, hackers are also attacking this digital world with new tactics and techniques through exploiting the web application vulnerabilities. The analysis of these vulnerabilities is of paramount importance in direction to secure social digital world. It can be carried out in two ways. First, manual analysis which is error prone due to the human nature of forgiveness, dynamic change in technology and fraudulence attack techniques. Second, through the existing web application vulnerability scanners that sometime may suffer from generating false alarm rate. Hence, there is a need to develop a framework that can detect different levels of vulnerabilities, ranging from client side vulnerabilities, communication side vulnerabilities to server side vulnerabilities. This paper has carried out the literature survey in direction of identifying the new attack vectors, vulnerabilities, detection mechanism, research gaps and new working areas in same field. Continuous improvement in framework is easy. Hence, a framework is proposed to overcome the identified research gap.

Keyword: Web Vulnerability, Web Malwares, Vulnerability Databases, Web Vulnerability Scanners,
Webb Application Analysis

References:

Authors: Hojin Yoon

Paper Title: xUnit-like TT4V: Text-based Testing Environment for Voice-based Services

Abstract: Like traditional software products, voice-based services should be tested. However, during testing, the service is activated and executed by a spoken command. Speaking the command for every test case would be very time consuming. TT4V saves testing time by enabling text form test cases instead of voice-form test cases. It implements an xUnit-style interface. xUnit has been a de facto standard framework for testing tools for many years. Without TT4V, we roughly measured the time to speak 55 commands, listen to 55 responses, and then verify the correctness of the responses. First, we ran five of the 55 test cases without TT4V, and it took 28.03 seconds. For 55 test cases, it would be multiplied by 11 roughly. We ran 55 test cases using TT4V. It took only 0.61 seconds from executing the test cases to showing the analysis of the testing results.

Keyword: Voice-based services, unit testing, xUnit framework, test automation

References:
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Authors: Shalini Jindal, Tarun Kumar Garg, Ajeet Singh

Paper Title: A New Perceptive of E-Voting with Blockchain
Abstract: Electronic voting is most growing field in the area of voting system. Digital users are growing with the expo-national growth in every country. In the country like India where mobile or internet user are 391 million, e-voting system reduce a huge amount of current voting methods. But in this current scenario e-voting system are vulnerable and not threat proof. Blockchain is new emerging field in security and for distributed systems. Only few methods are applied in the past where E-Voting system used the blockchain technology. So, the objective of this research is to review the different algorithms applied in e-voting using blockchain through various parameters to help researchers working to provide more security using blockchain.

Keyword: E-voting, Blockchain, Security, attacks, SHA algorithm, distributed system.

References:

Authors: Harsha S Anantwar, Anirudh Suresh Ramachandran

Paper Title: PID Controller Tuning using ACO Algorithm for AVR Systems

Abstract: This paper features an effective technique to devise the parameters of PID controllers for utilization together with an Automatic Voltage Regulator System (AVR). The quintessential goal is to acquire a good load disturbance response by minimizing the performance index/(Integral time square error). Simultaneously, the transient response is assured by limiting maximum overshoot, settling time and rise time of the step response to minimal values. For achieving these goals, optimum and quick tuning of the parameters (Kp, Ki, and Kd) is essential. In an effort to accomplish the aforementioned, the paper put forth an algorithm developed based on the Ant Colony Optimization technique (ACO) to decide optimal gains of PID controller and for getting optimal performance within an AVR system. Simulation results establish superior control response may be accomplished in comparison with methods like conventional tuning method (trial and error) and built-in genetic algorithm (GA) took-kit-e.

Keyword: ACO, AVR and PID

References:
4. Comparison between optimally-tuned PID with self-tuning PID for steam temperature regulation Mazidah Tajjudin ; Mohd Hezri Fazalul Rahman ; Norlela Ishak ; Ramli Adnan ; Hashim Hashim Year: 2012 | Volume: 2 | Conference Paper | Publisher: IEEE.
5. Self-tuning PID control structures P.J. Gawthrop IEE Colloquium on Getting the Best Out of PID in Machine Control Year: 1996 | Conference Paper | Publisher: IET.
The community detection is an interesting and highly focused area in the analysis of complex networks (CNA). It identifies closely connected clusters of nodes. In recent years, several approaches have been proposed for community detection and validation of the result. Community detection approaches that use modularity as a measure have given much weight-age by the research community. Various modularity based community detection approaches are given for different domains. The network in the real-world may be weighted, heterogeneous or dynamic. So, it is inappropriate to apply the same algorithm for all types of networks because it may generate incorrect result. Here, literature in the area of community detection and the result evaluation has been extended with an aim to identify various shortcomings. We think that the contribution of facts given in this paper can be very useful for further research.

Keyword: Community detection, Networks, Modularity, NMI

References:
29. Z. Zhang, P. Pu, D. Han, and M. Tang, “Self-adaptive louvain algorithm: Fast and stable community detection algorithm based on the

Authors: Satyam Parashar, Arun Pachori

Paper Title: “Stress Control Optimization using Particle Swarm Optimization Algorithm”

Abstract: Confined field upgrade, particularly in the zone near the high voltage potential and ground potential will quicken the corruption and in this way causing pre-developed disappointment of the protecting material. Other than electrical field upgrade, mechanical stresses and natural impacts additionally influence the presentation of the high voltage overhead spacers. Therefore, multi-feature approaches are required to improve the HV spacers execution and unwavering quality over their administration life. In the subsequent segment, the current pressure control techniques that incorporate crown ring, consolidated protection get together and end-fitting plan are checked on.

Keyword: high voltage insulator; Stress control; Polymeric insulator; Field grading material;

References:

Authors: G L Aruna Kumari, Padmaja P, Jaya Suma G

Paper Title: ENN-Ensemble based Neural Network method for Diabetes Classification

Abstract: Diabetes is considered as one of the most chronic disease which has serious impact on human health and leading cause of mortality worldwide. The early prediction of diabetes can help clinicians to provide a better diagnosis to the patients. Recently, computed aided diagnosis systems have gained attention due to significant growth in data mining, and machine learning. Several approaches are present based on the machine
learning techniques but due to poor classification performance and computational complexity, it becomes difficult to utilize for real-time applications. Ensemble classification approaches have reported a noteworthy improvement in diabetes classification but desired accuracy is still a challenging task. Hence, in this work we introduce a combined hybrid approach called as ENN-Ensemble based neural network approach for diabetes classification. In this approach, a feature selection process is presented using neighboring search technique; the selected features are processed through the feature ranking model to generate the efficient feature subset for better classification accuracy. Finally, these features are learned and classified using neural network classifier.

The experimental study shows that the proposed approach achieves better accuracy when compared with the existing techniques.

**Keyword:** Diabetes classification, diabetes mellitus, neural network, ensemble learning.

**References:**

The present study emphasizes the numerical investigation of the change in the overall indoor environment of a mechanically heated room, due to alteration in direction of the cold air stream at the inlet. This study is important to find the correlation between the configuration of altered geometry on the indoor environment quality and human comfort. Different case studies have been studied by altering the direction of the flow of the unidirectional velocity vector (U) by turning clockwise around the Z-axis and keeping other geometry parameters unaltered. Numerically simulated observations have been analyzed to study the effect of changed airflow direction at the inlet on indoor environmental quality. Slight variations in the indoor environment were observed due to changed inlet angle set from 0°-60°, but for the largest angle setting (80°), considerable changes were observed in temperature and flow patterns. When the inlet vent angle increased from 0°-80°, the airflow and thermal pattern in room changes. More swirls and circulation observed in the case of higher inlet angles. PPD values for subsequent cases were found under control for all the set of inlet angles. The lowest PPD and PMV values observed for an 80° inlet angle setting. The outcomes of the research would be valuable for the design and optimization of local buildings and more energy can be hoarded by proper installations of equipment and inlet vent location.

**Keyword:** Computational fluid dynamics; Comfort temperature; velocity vector; inlet angle; radiator; PPD;

**References:**
98.

Authors:

Baidaa M. Madlol, Ahmad T. Abdulssadda, Ali A. Al Bakry

Paper Title:

Expert system for Robotic Path Planning

Abstract:

Robotic planning to find the target our goal point/s is most important subject with the minimum distance and the fastest speed with obstacle avoidance expert system has been proposed. In this paper we try to compare and consider different scenarios by taking two or more moving robot figure out the short path from the initial and the final point automatically through the map of many regular and irregular obstacles. Firstly, the adaptive fuzzy expert system is present where the fuzzy rule has been adaptive recursively through the robot moving, and then the potential field algorithm has been compared with the adaptive fuzzy system, the results demonstrated that the adaptive fuzzy is faster than the potential field but the accuracy moving of the potential field robotic path planning is much better. All the algorithms were failed when two robots moving from two different initial points to one final target point the why we have proposed particle swarm optimization (PSO) algorithm to solve such problem.

Keyword:

robot, path planning, optimization, fuzzy, PSO.

References:

In this experiment, work was carried out to infer the thermal characteristics of a heat pipe containing nano fluid inside in it. Various Parameters were considered in this experiment, some of them are inlet temperature at one end, mass flow rate (mfr) to evaporator section and inclination angle of heat pipe. In this work three types of heat pipes were used and hybrid nanofluid of Al2O3 – TiO2 has been used as cooling fluid in all three heat pipes. The thermal efficiency of the usage of hybrid nanofluidic working system is found to be highest and also this makes the system to get worse in terms of thermal resistance. The flow rate of condenser was modified to the various ratios from 1:1 to 1:3 as that of evaporator section. To find the thermal characteristics of the heat pipe, many experiments have been carried out by considering many operating conditions. Evaluation on the heat pipe effectiveness was made on basis of gravity assistance to the condenser. The better productiveness of heat pipe when using the hybrid nanofluid has attained when Ch/Cc = 2 and 100 LPH for all operating conditions.

Keywords: Effectiveness, Heat pipe, hybrid nanofluid, Heat pipe, Inclination angle, NTU, Thermal Resistance.

References:

Paper Title: Compact Reconfigurable Architecture for Sosemanuk Stream Cipher

Abstract: Sosemanuk is word oriented synchronous stream cipher capable to produce 32 bit ciphertext. It uses variable key from 128 bit to 256 bit and publically known Initialization Vector (IV) of 128 bit. Sosemanuk is one of the finalists in Profile 1 of the eSTREAM Portfolio. This cipher targets to avoid structural properties of SNOW2.0 to improve its efficiency by reducing the internal state size. It also uses reduced round Serpent24 block cipher to provide secure and efficient key loading process. This paper presents compact architecture for Sosemanuk stream cipher. The proposed architecture uses compact S-box architecture and compact moduloadders designed using CLA. The proposed compact S-box minimizes resources utilized without affecting performance. Proposed modulo adder architecture minimizes resources used as compared to conventional CLA implementation. The algorithm was designed by using VHDL language with CAD tool Xilinx ISE design suite 13.2 and implemented on Xilinx Virtex XC5VFX100E FPGA device. The proposed architecture achieved throughput of 4.281 Gbps at clock frequency of 133.788 MHz.

Keywords: Compact, FPGA, modulo adders, Stream Cipher, Sosemanuk.

References:
Abstract: This work is to overcome the data confidentiality issue and lack of security due to possibility of unstable connections, inflexibility in transmission rate in a distributed environment. This work is carried in three stages. Firstly, the secure path is identified based on energy, link quality, and delay towards the destination node. The quality of the link is considered due to the node mobility in the mobile network. Secondly, in the identified secured path, the next algorithm called Distributed Caching and Fault-tolerant Communication (DCFC) protocol is employed to monitor the failure occurring on routing tree and initiates failure recovery technique which is suitable for increasing the data transmission rate with very less failure Thirdly, Trusted Security Policy based Routing Algorithm (TSPRA) is implemented to overcome the packet drops and increased overhead due to lack of security which proves that data are well secured due to specific access control policies and increasing the high secured data size. Henceforth the level of security is increased with respect to reliability, recovery, confidentiality, and integrity. Reliability is proved based on the linking of all the possible positive secured data size. Henceforth the level of security is increased with respect to reliability, recovery, confidentiality, and integrity. Reliability is proved based on the linking of all the possible positive factors of the distributed mobile communication in a single system. This performance leads to enhancement of productivity, personal safety and ability to protect their way to public service in terms of communication through wireless networks in a distributed environment.

Keywords: Mobile Distributed Networks, Trusted Security, Distributed Caching, Routing Algorithm, Overhead Ratio, Mobile Host, Reliable Paths, Bloom Filter, Mobile Agent.

References:
Video Frame Illumination Inconsistency Reduction using CLAHE with Kekre’s LUV Color Space

Abstract: Visual frame quality is of utmost significance and is relevant in numerous computer vision applications such as object detection, video surveillance, optical motion capture, multimedia and human computer interface. Under controlled or uncontrolled environment, the video visual frame quality gets affected due to illumination variations. This may further hamper the interpretability and may lead to significant loss of information for background modeling. An excellent background model can enhance good visual perception. In this work, local enhancement technique with improved background modeling, Clipped Adaptive Histogram Equalization (CLAHE) is explored with Kekre’s LUV color space to reduce the illumination inconsistency especially with darker set of video frames and a significant improved average entropy of 7.7225 has been obtained, which is higher than the existing explored variations of CLAHE.

Keyword: Illumination Inconsistency, Background Modeling, Clipped Adaptive Histogram Equalization, Kekre’s LUV color space.

References:
Paper Title: Self-tuned Fuzzy-PD Control for QNET 2.0 Rotary Inverted Pendulum using lab-view

Abstract: An Inverted pendulum is a nonlinear system and broadly utilized as automated arm. The challenge is to balance the pendulum that can rotate in only two ways, either to the positive or to the negative direction ±180 Degree. This research work is aiming to design a controller based on self-tuned fuzzy logic and (Fuzzy-PD) for QNET-2.0 Rotary Inverted Pendulum using lab-view. This self-tuned fuzzy PD control is responsible to generate computer based signals for stable outputs and can works on errors. Rotary Inverted pendulum (RIP) is used as real time model where self- tuned fuzzy PD control is applied for stabilization. There are two aspects to the control objectives for the inverted pendulum: swing-up and balance in a typical PD system, the balancing controller is generated using a fuzzy logic controller, instead of the proportional term. the swing-up controller is generated in a standard proportional controller by using a fuzzy logic system, instead of the proportional term. To build Lab-VIEW approaches, a software development technique is used to help programmers produce code that has greater potential to solve a problem as opposed to writing code without a design. This approach also helps make coding more accessible, more flexible, and more changeable. Rotary Inverted pendulum systems were operated and managed by means of the PD module and the Fuzzy PD Module in Lab-VIEW. The fuzzy controllers are added into the system after the design of the standard PD and P controllers. The two types of controllers the fuzzy P and the fuzzy P-D, and the common proportional and standard PD, are finally implemented and evaluated on the actual inverted pendulum hardware, and also the Control system output is compared between two different control methods.


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Authors: M. A. Shaharuzaman, S. M. Sapuan, M. R. Mansor, M. Y. M. Zuhri

Paper Title: Conceptual Design of New Bio-inspired Automotive Side-Door Impact Beam

Abstract: Side-door impact beam has been introduced to the passenger vehicles to reduce the door intrusion into passenger compartment during side impact collision. This study aims to develop the new bio-inspired design concepts of composites side-door impact beam. The integrated Theory of Inventive Principle – Function Oriented Search (TRIZ-FOS) and Biomimetics method is the idea generation technique applied in this research to develop the design concepts while the analysis of the generated design concepts using impact test simulation in finite element analysis (FEA) is the method to compare their performances. TRIZ (FOS) – Biomimetics method helps to transfer the nature technology into engineering problems and shows that it can generates five design concepts based on three nature technology which is toucan beak, pomelo peel and hedgehog spine in this study. The FEA analysis method then compared their strength, deformation, energy absorption and weight. In a conclusion, the integrated method of TRIZ (FOS) – Biomimetics helps engineers in generating the nature technology ideas to solve engineering problems using a structured method as proposed in this study while the FEA method really helps engineers to obtain the performances data for the design generated before proceed to the next step of product development process.

Keyword: Biomimetics, Function Oriented Search (FOS), side-door impact beam, Theory of Inventive Problem Solving (TRIZ).

References:
Implementing System for Rating Generation by Analysis of Social Media

**Abstract:**

The increasing utilization of online content provides a large amount of data resources. People share their experiences, opinions, as well as day to day activities. This results in a large amount of online data which attracts developers to carry out data mining and data analysis. Thus, there is a necessity of social media screening so as to obtain results which can be used for analysis. This paper presents a system, that facilitates the generation of single rating which is obtained by analysis of social media platforms. This rating is generated by carrying out various process like Data extraction, pre-processing, Data analysis, Rating Generation. "ROCIAL" means "Rating Socially", where each enrolled user will be rated upon his social conduct. The idea behind this initiative came up because of the present requirement for online screening. So, basically what our system would do is connect the user's different social media accounts and analyze them using the criteria which are usually required during the screening process. The main application of our system is during visa allotment process where social media screening is used. So, rather than screening each and every platform individually, our system rocial can be used to generate a rating which will act as a criterion for visa allotment. Another significant application is during the recruitment process. Various companies check the candidate’s social media behavior as a secondary criterion for judging the person. Thus, using ROCIAL this can be obtained quickly and efficiently.

**Keywords:** Data extraction, pre-processing, Data analysis, Rating Generation

**References:**

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3. Sentiment analysis of Facebook statuses using Naive Bayes Classifier for Twitter Sentiment Analysis Author: Afroze Ibrahim Baqapuri (NUST)
4. Project Report Twitter Emotion Analysis Author: Dr. David Rossiter Year: 2015

Authors: Ashish Pancham, Dharmesh Sharma, Vivek Sharma, Harshali Patil
Steel structures are generally subjected to damages and defects due to different causes such as corrosion, fracture cracking, fire, buckling…etc. Damaged or defected parts may include girders, columns, welds, splices, base plates…etc. There is a wide range of techniques used for repair and strengthening starting with using protective coatings and ending up with full replacement of the damaged parts. Fiber Reinforced Plastic (FRP) laminates are widely used now in the field of repair and strengthening of different
types of structures (reinforced concrete structures, steel structures, masonry structures, timber structures….etc.). The main goal of this research is to investigate the effectiveness of using Carbon Fiber Reinforced Plastic (CFRP) laminates in repair and strengthening of steel beams (in both flexural and shear). A total of five box-section steel beams were tested in three point load flexure test to determine the stiffness and ultimate load carrying capacity of the strengthened and repaired beams using CFRP laminates and compare the obtained results for these beams with those of the fifth beam which used as a control beam (without CFRP laminates). Test results showed that the effectiveness of using CFRP laminates for repair and strengthening of steel beams depends mainly on the obtained modes of failure. Highest effectiveness was obtained in tension failure modes while almost no effectiveness obtained in compression failure modes.

**Keyword:** CFRP laminate; Steel beam; Box section; Repair; Strengthening.

**References:**

**Authors:** NurAzida CheLaH, Muhamad Hellmy Hussin

**Paper Title:** Weld Overlay Technique using Different Filler Rod Size to Overcome Internal Corrosion of Low Carbon Steel Base Metal

**Abstract:** Overlay welding is commonly used to repair and replace the affected corroded surface of the base metal of a component. In other words, it is used to restore the original dimensions of the component. Weld overlay usually applies a corrosion resistant or hard facing layer onto the base metal. This experiment is to
determine the suitable filler rod size in repairing corroded low carbon steel (LCS) base metal, respectively to the affected area and to identify the type of distortion occurring on the weldment. It is also to examine the microstructure of the joint between the overlay weld and corroded low carbon steel base metal using SEM/EDX. The overlay welding process was conducted on the corroded samples using SMAW process at defined attacked corroded areas. Filler electrode E-7018 with two diameter sizes of 3.2mm and 2.6mm were selected. It was found that the bigger electrode size produced higher degree of distortion angle compared to smaller electrode size. Resulting from the metallographic and SEM/EDX analysis, the joint between weld overlay and corroded LCS were fused well without any sign of oxides or other impurities present. Overlay welding also remove the sign of chloride ions that cause the LCS base metal to corrode. Thus, the repairing technique using overlay welding was found successful in repairing corroded LCS base metal. Therefore, the most suitable electrode size to do overlay welding on corroded low carbon steel base metal is 2.6 mm diameter electrode.

**Keyword:** filler electrode, overlay welding, low carbon steel, distortion, SEM/EDX.

**References:**

**Authors:** NurAzida CheLah, Muhamad Hellmy Hussin

**Paper Title:** Influence of Alloying Element in Filler Metal on Mechanical Properties of A6061 Al Alloy Welded Joints

**Abstract:** The current work is intended to study the influence of using ER4043 and ER5356 filler metals on mechanical properties of A6061 Al alloy welded joint made by gas metal arc welding process (GMAW). For this study, 12mm plates of these materials were joint using a type single V groove butt joints with four layers and five passes configuration of welded joints. The soundness of the quality of the weld joint was investigated by X-ray Ct-Scan technique. The joint made with the ER4043 presented an enhancement of mechanical properties in comparison with the joint made with ER5356. Al A6061 with ER4043 welded joint shows to have an advantage due to the formation of very fine grain and have uniformly distributed porosity in the weld region area.

**Keyword:** A6061 Al alloy, welded joint, filler metal, mechanical properties, porosity.

**References:**
Abstract: Corrosion is described as material’s destruction or deterioration because of reaction with its surrounding environment. This type of degradation represents a tremendous economic loss since so much value of loss being described. Mostly, in petroleum industry, mild steel are still the most commonly used metal to build structures. However, acid which is hydrochloric acid has been used as acidizing operation since its advantage over other mineral acid. This may cause mild steel structure susceptible to corrosion. This project is about the study of the rate of corrosion on SMAW and GMAW welded mild steel with different time of exposure. The comparison of these two type of welded joint were subjected for microstructure analysis using SEM/EDX. Welded mild steel were prepared using SMAW and GMAW process with dimension of 100mm x 50mm x 6mm. Then, samples were inspected using NDT technique using magnetic particle testing. After that, the samples were immersed in 6 mol of HCl acid. Then, the corroded samples were cross-sectioned and were examined using SEM/EDX. The results show that the rate of corrosion on SMAW welded mild steel is higher compared to the GMAW welded mild steel. As the duration of exposure increase, the weight loss also increased as well as the value of the corrosion rate. This results were supported by the MPT showing that the flaws and defects on the SMAW welded mild steel might be the cause that act as a stress raiser and thus, enhancing the corrosion degradation.

Keyword: SMAW, GMAW, hydrochloric acid, weight loss, corrosion rate

References:
worsen as more forests in the upper reaches of the Ulu Jelai and Ulu Tembeling areas are cleared for timber. Instead of that, due to the low water level and high water turbidity, the river water samples were taken out at specific time and subjected to heavy metal and water turbidity test. It was found that, the concentration of Cu and Fe and also water turbidity level that occur in water caused by fish pellet or fish food also contribute and increase the weight loss of the Y-bar.

**Keyword:** Corroded Y-bar, Water turbidity, Heavy metal, Weight loss, Fish Cage

**References:**

**Authors:** Ravindrakumar Yadav, R. P. Singh

**Paper Title:** Rural Electrification: Practical Exhibition of Hybrid Solar PV-Wind for Grid Integrated Power Systems in India

**Abstract:** Reliable electric power supply is still remained a major problem in rural India. Off grid renewable sources of energy have been applied in the last few years to increase reliability but not succeeding to be realistic because of too high energy costs compared to the national grid. Grid Integrated Mini-grids with Storage (Grid Integrated Mini Grids) have potential to provide reliable power supply at reasonably priced by combining Mini-Grids and National Grid services. This research paper analyzed different aspects of the GRID INTEGRATED MINI GRIDS practicability. The feasibility of the use of hybrid - solar Photovoltaic (PV) systems and wind in Grid Integrated Mini-grids

**Keyword:** grid integrated mini-grid, photovoltaic (PV), rural electrification, renewable energy, grids with storage.

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680-687
The study of magnet characteristic which includes the behaviour of molten pool toward magnetic field, the fusion in overhead position of welding in single V butt joint with the help of magnetic field on the workpiece. The study of magnet characteristic which includes the behaviour of molten pool toward magnetic field, the macrostructure and microstructure and its strength should be carried out. Each magnet strength has their own characteristics that affects toward weldment on base metal. As a result, it can be concluded that having a magnetic field effect on the molten pool.

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field applies on base metal A36 low carbon steel may reduce the molten pool from going downward. The selection of a correct magnit strength and welding process may produce good and quality weldment especially in terms of its weld properties and geometry.

**Keyword:** magnetic field, molten pool, low carbon steel, gravity, microstructure.

**References:**

**Authors:** Muhamad Hellmy Hussin, NurAzida CheLah

**Paper Title:** Distortion and Mechanical Characteristics of Single-V and Single Bevel Welded Low Carbon Steel

**Abstract:** Welding is a fabrication or sculptural process that joints the materials, usually metals or thermoplastics, by inducing fusion. It is as distinct process from lower temperature metal-joining techniques such as brazing and soldering, to high temperature welding process and this process keep the base metal from melted. In addition, to melt the base metal, a filler material is typically added to the joint to form a pool of molten material that cools at room temperature, forming a joint that is usually stronger than the base material. Pressure may also be used along with heat, or by itself, to produce a weldment. The current study presents the effects of distortion that occurred in single-V and single bevel welded mild steel. It also includes the macro and microstructure analysis, mechanical properties and also the consumable usage along the time needed to complete the bevel and welding process. As a result, single- V is way more safe and reliable to use to withhold large load compare to single bevel. In term of financial, single bevel way more ahead.

**Keyword:** single-V weld, single bevel, distortion, mechanical, microstructure.

**References:**

**Authors:** NurAzida CheLah, Muhamad Hellmy Hussin

**Paper Title:** Repeated Weld Repair and its Influence on Welded Carbon Steel

**Abstract:** Weld repair usually comprises of mechanical removal of weld part and redisposition of the filler wire using the same parameters. The defect may be removed by carbon arc gauging and grinding or machining. The strength and the microstructure of the material will changed when the repeated weld repair is applied to the

**References:**
material at the same area. The purpose of this study is to compare and identify the angle of distortion, hardness, and tensile strength and bend strength and to analyze the macro and microstructure between repairing method using carbon arc gouging and mechanical grinding process with the same number of repairing sequence. The result proved that repairing A36 steel increased the strength of the material itself but the ductility was decrease when the number of repair increases. It can be concluded that, the repair using carbon arc gouging can’t be applied to repair weld joint for material because it’s more significant to change the material process compared to mechanical grinding. Overall, the mechanical grinding technique is the most suitable practice which can serve as the suitable method for repairing the weld defect if the repaired focus area received high impact loads.

References:

Authors: Maha M. A. Lashin, Wafaa Shoukrk Saleh, Fadwa Alrowais

Paper Title: Determination of Different Structures’ Materials Natural Frequencies using Fuzzy Logic System

Abstract: The impact of structure’s material and dimensions on its natural frequency are lacking in recent literature. The main aim of that paper is investigating material’ characteristics effect on structures natural frequency. Five different types of materials (steel, concrete, wood, plastic and aluminum) which mostly used in engineering applications implemented in this study. A fuzzy system designed and structured for each type of materials. It used to optimize the natural frequency values related to height and area of structure. The results show that whilst the height of the structure is a very influential factor on its natural frequency, the type of material as well as area of the structure are also effective variables. For the same dimensions of the structure, wood shows the highest value of natural frequency, then steel followed by concrete. In addition, the natural frequencies of structures have been assessed against the wind, earthquakes and traffic vibrations. These results can have useful applications and recommendations for engineering and design purposes. Wood can complement natural properties of a range of materials. Implications from this investigation can be useful for heavy machines laboratories, building structures and other engineering applications.

Keywords: Natural frequency, Structure material, Structure dimensions, Fuzzy logic control system

References:
9. FL Zhang, CE Ventura, HB Xiong, WS Lu (2018) Evaluation of the dynamic characteristics of a super tall building using data from ambient vibration and shake table tests by a Bayesian approach Control and Health. Wiley Online Library
Improvising Weakly Supervised Object Detection (WSOD) using Deep Learning Technique

Abstract: Object detection is closely related with video and image analysis. Under computer vision technology, object detection model training with image-level labels only is challenging research area. Researchers have not yet discovered an accurate model for Weakly Supervised Object Detection (WSOD). WSOD is used for detecting and localizing the objects under the supervision of image level annotations only. The proposed work uses self-paced approach which is applied on region proposal network of Faster R-CNN architecture which gives better solution from previous weakly-supervised object detectors and it can be applied for computer vision applications in near future.

Keyword: MIL, Object Detection, Weakly Supervised Learning, WSOD.

References:

Multi-user Automated Pageant Tabulation System

Abstract: This study covered the design, development and evaluation of the pageant automated tabulation system for the local government unit of Can-avid Eastern Samar, Philippines. It aimed to provide tabulation system that can generate result faster and accurate. It used the developmental method of research where an automated tabulation system was developed based on client’s requirements. After the development, the application was subjected for quality evaluation for its usability through a questionnaire that was based on IBM Computer Usability Satisfaction metrics for both Alpha and Beta System Testing. During the evaluation, the researchers considered the responses of 8 identified IT experts for Alpha Testing and 88 direct end-users for Beta Testing whom were purposively selected from known local pageant judges and implementers, from the Local Government Unit staff, and the Sangguniang Kabataan Officials of Can-avid, Eastern Samar. The system evaluation results showed an overall rating of 4.60 and 4.39 for alpha and beta tests respectively, which indicates its highly usable software quality.


References:

Authors: Nettem Adithya Valli, Daniel Elizabeth Rani, Chandu Kavitha

Paper Title: Performance Analysis of NLFM Signals with Doppler Effect and Background Noise

Abstract: This paper focuses on the study of effect of background noise and Doppler Effect on various Nonlinear Frequency Modulation (NLFM) waveforms designed using two stage piece-wise and three stage piece-wise linear and non linear functions. The background noise investigated is Additive White Gaussian Noise (AWGN). Simulations are carried out for different target speeds ranging from 100 to 5000km/hour to study Doppler Effect. The simulations are carried out using Matlab software. Among the waveforms designed, the NLFM function designed using two piece-wise Linear Frequency Modulation (LFM) is observed to be Doppler tolerant and also not affected by noise, as the SNR changes from -20 to 20 dB the peak side-lobe level (PSL) of this signal is around -34.84 dB.

Keywords: Linear frequency modulation, Non-Linear frequency modulation, Piece-wise functions, Peak-sidelobe level, Doppler Tolerance.

References:

Authors: Sunil Chandolu, P. Sanyasi Naidu, S. Prasad Babu Vagolu

Paper Title: Packet Delivery Ratio and Overhead Reduction for À-GPS Mobile Ad-Hoc Networks

Abstract: Now a day’s mobile ad-hoc network (MANET) is engaged by numerous scientists and endeavoring to be conveyed by and by. To accomplish this objective, these two components are a significant issue that we need to consider. The first is “overhead”. As it were, messages that is not important to be sent when setting up a system association between versatile hubs. The following issue is the parcel sending rate from source to the goal hub that sufficiently high to ensure a successful system association. This paper is concentrating on improving the exhibition of the Location-Aided Routing Protocol (LAR) regarding overhead decrease by adjusting the calculation of the MANET course disclosure process. The consequence of the reproduction shows that the proposed convention can decrease overhead definitely, growing system lifetime and increment parcel sending rate while contrasting and other traditional conventions.

Keyword: Mobile Ad-hoc Networks, À- GPS routing protocol, Overhead reduction.

References:
Authors: Sunil B. Patil, Nita V. Patil, Ajay S. Patil

Paper Title: Speaker-Independent Isolated Word Recognition using HTK for Varhadi – a Dialect of Marathi

Abstract: Speech recognition is widely used in the computer science to make well-organized communication between humans and computers. This paper addresses the problem of speech recognition for Varhadi, the regional language of the state of Maharashtra in India. Varhadi is widely spoken in Maharashtra state especially in Vidharbh region. Viterbi algorithm is used to recognize unknown words using Hidden Markov Model (HMM). The dataset is developed to train the system consists of 83 isolated Varhadi words. A Mel frequency cepstral coefficient (MFCCs) is used as feature extraction to perform the acoustical analysis of speech signal. Word model is implemented in speaker independent mode for the proposed Varhadi automatic speech recognition system (V-ASR). The training and test dataset consist of isolated words uttered by 8 native speakers of Varhadi language. The V-ASR system has recognized the Varhadi words satisfactorily with 92.77% recognition performance.

Keyword: Speech Recognition (SP), Varhadi, HMM, HTK, Isolated Words, Mel Frequency Cepstral Coefficient (MFCCs), PLP, Speaker Independent, Interactive Voice Response (IVR).

References:
Proceeding of International Conference of Speech Music and Allied

Some features like personality traits can improve the efficiency of collaborative learning. The chat history with psycholinguistic databases. The main objectives of this study is to explore the patterns, learning styles etc. Grouping of students is one of the important factors. Generally the students can be randomly grouped or grouped themselves. But this method of grouping students based on certain features like personality traits can improve the efficiency of collaborative learning. The student’s data can be collected from social networking site like Facebook. The personality of each student can be identified by comparing the individual’s chat history with psycholinguistic databases. The main objectives of this paper are to identify the student’s personality. Based on that, the group of students can be formed using k-means clustering algorithm.

Keyword: Collaborative learning, Personality traits, K-Means, grouping.

References:


Authors: Mullangi Sandeep Reddy, Shri Vindhya

Paper Title: Cooperative Group Formation for Collaborative Learning

Abstract: Collaborative learning affects with lot of factors like student’s personality, their interaction patterns, learning styles etc. Grouping of students is one of the important factors. It is important to arrange groups by skills and/or backgrounds. Hence it is noteworthy to create groups based on specific skills of students. Generally the students can be randomly grouped or grouped themselves. But this method of grouping students based on certain features like personality traits can improve the efficiency of collaborative learning. The student’s data can be collected from social networking site like Facebook. The personality of each student can be identified by comparing the individual’s chat history with psycholinguistic databases. The main objectives of this paper are to identify the student’s personality. Based on that, the group of students can be formed using k-means clustering algorithm.

Keyword: Collaborative learning, Personality traits, K-Means, grouping.

References:

Authors: Kokate M. D., Abhay E. Wagh, Wankhede V. A.

Paper Title: QPSK Demodulator Based on Wideband Acquisition System

Abstract: The paper describes the design of the QPSK demodulator based satellite base station. The most important requirement of the design process is to have wide band acquisition range of 100 kHz under narrow Phase Lock Loop (PLL) bandwidth and low input Signal to Noise Ratio (SNR). The efficiency of the technique is verified with extensive simulations in MATLAB.

Keyword: About four key words or phrases in alphabetical order, separated by commas.

References:
Abstract: Many researchers have been working on bio-based lubricant which is complete or partial replacement for mineral-based lubricant. Mineral-based lubricant is highly pollutant and possesses environmental threat as it is not biodegradable, in the initial days of the industrial revolution bio-based lubricants were widely used, later it was replaced by more sustainable and easily available but environmental polluting mineral oils, currently due to environmental concerns and scarcity of mineral oils, bio-based lubricant has gained importance. Bio-based lubricants are now a day’s used for various applications such as transformer oil and processes where there is complete loss of lubricants. They possess very good properties in such applications, whereas bio-based lubricants are also used internal combustion engines, pure bio-based lubricant may not be suitable for long-duration, but genetically and chemically modified bio-based lubricants will be suitable for IC engine. Though bio-based lubricant possesses very good properties as a lubricant for IC engine and various other application, it is still at large to become commercial, more study is required for checking performance of such pure and modified bio-based lubricants oils. In this paper such study of cotton seed Trimethylolpropane (TMP) ester oil and its effects on performance of brake specific fuel consumption (BSFC), brake thermal efficiency (BTh) and emission of gases like hydrocarbon (HC), carbon monoxide (CO), carbon dioxide (CO2) nitrogen oxides (NOx) are studied, bio-based have poor cold flow properties and oxidation stability to improve these additives are added. The experimental study shows that Cottonseed Trimethylolpropane Ester (CSTE) displays similar characteristics of thermal efficiency, brake specific fuel consumption and emission of gases as compared to mineral-based lubricating oil hence can be used in the IC engine instead of mineral-based lubricants.

Keyword: Cottonseed Trimethylolpropane ester (CSTE), Brake thermal efficiency, BSFC, emissions hydrocarbon (HC), carbon monoxide (CO), carbon dioxide (CO2), nitrogen oxides (NOx).

References:
21. Siraskar Gulab, “Experimental investigation on usage of cottonseed oil and esterfies cottonseed oil as lubricant in IC engine.”

Authors: Gulab Siraskar, V. D. Wakchaure, R. S. Jahaigirdar, H. U. Tiwari

Paper Title: Cottonseed Trimethylolpropane (TMP) Ester as Lubricant and Performance Characteristics for Diesel Engine

126.
Abstract:

With tremendous growth in social media and digital technologies, generation, storing and transfer of huge amount of information over the internet is on the rise. Images or visual mode of communication have been prevailing and widely accepted as a mode of communication since ages. And with the growth of internet, the rate at which images are generated is growing exponentially. But the methods used to retrieve images are still very slow and inefficient, compared to the rate of increase in image databases. To cope up with this explosive increase in images, this information age has seen huge research advancement in Content Based Image Retrieval (CBIR). CBIR systems provide a way of utilizing the 3 major ways in which content is portrayed in images, those are shape, texture and color. In CBIR system, features are extracted from query image and similarity is found based on the features stored in database for retrieval. This provides an objective way of image retrieval, which is more efficient compared to subjective human annotation. Application specific CBIR systems have been developed and perform really well, but Generic CBIR systems are still under development.

Block Truncation Coding (BTC) has been chosen as a feature extractor. BTC applied directly on input image provides color content-based features of image and BTC applied after applying LBP on the image provide texture content-based features of image. Previous work consists of either color, shape or texture, but usage of more than one descriptor is still in research and might give better performance. The paper presents framework for color and texture feature fusion in content-based image retrieval using block truncation coding with color spaces.

Experiments are carried out on Wang Dataset of 1000 images consisting of 10 classes. Each class has 100 images in it. Obtained results have shown performance improvement using fusion of BTC extracted color features and texture features extracted with BTC applied on Local Binary Patterns (LBP). Conversion of color space from RGB to LUV is done using Kekre's LUV color space.

Keywords: BTC, CBIR, Kekre’s LUV, Wang Dataset.

References:

Abstract: Nowadays, data has been produced in a larger amount. So, it is important to have some recovery issues also related to it. Cloud computing refers to the interconnection of various systems for the purpose of sharing resources. Cloud is one of the largest platforms that is growing rapidly in the IT sector. There are many private data that are related to cloud. Therefore, the need for data recovery in the cloud is gaining more importance day by day. For this an efficient and effective data recovery techniques are to be developed. Recovery of data helps the users to keep information on any backup servers whenever the server is down. Many solutions have been developed for the disaster recovery. This research paper mainly discusses about some of the techniques and solutions that are needed to recover the data in cloud architectures. This work proposed snapshot based backup technique for the databases and implemented successfully.

Keyword: Cloud computing, Disaster recovery, Data recovery, Backup, Disaster recovery planning.

References:

Authors: Meher Madhu Dharmana, Aiswarya M. S.

Paper Title: A Low-Cost Solution for Automatic Plastic Segregation

Abstract: Solid waste management is a universal issue that matters to every single person in the world. The solid waste management system is fundamentally labor intensive with very little collection efficiency. The available automatic plastic segregation techniques are based on thermal imaging and electrostatic properties of materials- these methods are expensive for governments to invest upon, and also to maintain in landfills. In this paper, artificial intelligence techniques are exploited to recognize the sounds of plastics from that of other materials by designing suitable mechanism to produce sound from debris during segregation, the segregation process can be automated with relatively low-cost electronics like System on Chips and audio sensors. With 30,000 recorded samples of noisy plastic and non-plastic material sounds, ANN is trained and was able to successfully detect plastics with 93.5% accuracy in real time. Algorithms were developed in python and real time testing was done on SoC with a mic, which affirms that the proposed method is cost effective when compared to techniques involving image processing, thermal imaging and near infrared spectroscopy.

Keywords: Machine learning, features, classifier, audio signal.

References:
Clouds are the group of resources like data storage, processors, security tools, etc. that are shared by the big resource providers like Amazon, Google, Yahoo etc. and the users of these resources. There is the requirement of privacy policy when we work in such a shared, unknown, untrusted, and pay per use environment. Computing industry is now shifted their orientation from arranging first the resources to developing new applications or application of new ideas. Because in the cloud computing world, every resource required for developing and executing an idea or application is available or pay per use basis. But even though everything is available with scalability or these resources, the data of the business transaction with authenticity is prime for all either business organization or customer. As we know that user’s and transaction data is very important and unauthorized access is illegal and harmful for everyone. Because worldwide the use of online services is increasing exponentially and the use of cloud computing for these solutions is also increasing. We have considered this problem for our research work and in this paper, we are proposing a PDM privacy preserving model for more securing the cloud data.

**Keywords:** Perturbation, Data Security, encryption, decryption, cryptography.

**References:**


3. Gurevich, A., & Gudes, E., "Privacy preserving Data Mining Algorithms without the use of Secure Computation or Perturbation", 2006, 10th International Database Engineering and Applications Symposium (IDEAS06). doi:10.1109/ideas.2006.37


Control of 3-Axis Satellite Reaction Wheel using PID Control Optimized Genetic Algorithms

Abstract: Satellite Attitude Determination and Control System (ADCS) uses an active actuator with a Reaction wheel. This study uses PID and genetic algorithms to control the Reaction wheel. The initial population was 200, and the crossover rate was 0.8, the mutation constant was 0.01 with a stop generation criteria of 50 generations. Reaction Wheel Control in a closed ring with optimized PID control The Genetic Algorithm has transient response characteristics that are 1 seconds rise time, 9 seconds set time, 33.2% overshoot with an ITAE performance index of 481,9479. Use the Matlab program to conduct a Smart Nanosatellite Attitude Propagator (SNAP) simulator to create a 3-axis reaction wheel model as its actuator. The satellite is the object of control, simulating the satellite conditions in a tumbling state having the initial angular velocity [0.5 0.5 0.5] ° / second then stimulating which makes the satellite angular velocity to [0 0 0] ° / second. Roll and yaw axes have a significant enough error that is 1 rad / s and -1 rad / s while the pitch axis has a small error that is 1.5 x 10^-3 rad / s.

Keyword: Reaction Wheel, Genetic Algorithm, Satellite.

References:
12. S. Trajectory, P. Dan, F. Pada, and R. Obstacle, “Journal of Control and
13. Ajith Kumar, P. Madhavan
Paper Title: Exploration of Collaboration Filtering Techniques for Product Recommendation

Abstract: Today, recommendation system has been globally adopted as the most effective and reliable search engine for knowledge extraction in the field of education, economics and scientific research. Collaborative filtering is a proven techniques used in recommender system to make predictions or recommendations of the unknown preferences for users based on the known user preferences. In this paper, collaborative filtering task and their challenges are explored, study the different recommendation techniques and evaluate their performance using different metrics.

Keyword: Collaborative Filtering, Knowledge Extraction, Recommender System

References:
4. J. Han, M. Kamber, and J. Pei, Data mining: concepts and techniques. Amsterdam: Elsevier/Morgan Kaufmann, 2012.
Hardware Implementation of a Communication Link for 5G Communication in the Tropical Regions

Abstract:
The 5G communication system comprises various ingredients essential for the recent radio access network. The 5G wireless technology can open a greater scope for device manufactures and application developers. In this paper a communication link model has been designed and implemented for 5G communication for the tropical regions. Spatial Diversity Technique has been used to design the communication link model. This model has also been designed using Xilinx system generator and implemented utilizing FPGA kit. As a result, the bit error rate (BER) of the signal gets attenuated from the transmitter as well as from the receiver portion of the aforesaid model. This model relies on the samples per frame, M-Aray number and number of transmitting antennas for rate 3/4 at the transmitter section. It also depends on the computation delay; receive delay, number of receiving antennas for rate 3/4 at the receiver portion. The channel frequency is based on the 5G communication frequency ranging from 600MHz to 100 GHz.

Keywords:
Convolution coding technique, Viterbi decoding technique, Digital Modulation Technique, MIMO Technique, Rain Attenuation Channel.

References:
Durability and strength are two most important criteria for any concrete. filler cost, energy saving, and protecting the environment from possible pollution effects. Durability and strength are two most important criteria for any concrete structures. One of the main causes of deterioration in concrete structures is its exposure to temperature variations mainly due to solar radiation and harmful chemicals that may be found in nature such as in industrial effluents. The most aggressive chemicals that affect the long term durability of concrete structures are the magnesium, sulphates and chlorides. These chemicals in presence of water increases the porosity of concrete and leads to loss of weight and strength. Hence this paper investigates the effect of thermal cycles and chemical attack on M20 & M25 grade cement concrete in partial replacement of natural aggregates with recycled aggregates with proportion of 10%, 20% and 30%. The effect of temperature variations were studied by analyzing loss in compressive strength after applying various thermal cycles on concrete cubes at 60°C and 90°C. The chemical resistance of the concretes was studied through chemical attack by immersing concrete cubes in 5% MgSO4, H2SO4 and HCl solution and loss in strength and weight were measured at 7, 28, 60 and 90 days. The result shows possible use of RCA as 20% for both M20 & M25 grade concrete, and resistance to thermal cycles and chemical attack shows reduction in strength and weight with time.

**Keyword:** Compressive strength, thermal cycle, durability, NCA (Natural Coarse Aggregate), RCA (Recycled Coarse Aggregate).

**References:**
The Application of Data Mining by using K-Means Clustering Method in Determining New Students’ Admission Promotion Strategy

Abstract: This study aims to determine the promotion strategy on the admission of new students at the university. Universities need appropriate promotion strategies to increase the number of new students enrolled in subsequent years and to fulfill the equal distribution of new students in each region and study programs at the university. Classification of new student data reception at the Indo Global Mandiri University (IGM University) in 2018/2019 uses the CRISP-DM data mining application (the Cross-Industry Standard Process for Data Mining) using the K-Means grouping method. Research data using primary and secondary data. The population and sample of the study were 1011 students using 4 (four) attributes in this study, namely the name of the student, the age, Analysis (WEKA) 3.8 tool. The results of this study indicate that the direct visit strategy is the most appropriate in the admission of new students at IGM University, amounting to 492 students with 26%, with this strategy being able to absorb many new student candidates from various regions including Palembang, Regency / City, and regions in outside South Sumatra, there is also equality in various study programs at IGM University. Word of mouth promotion strategies and media are optimized to be included in the promotion team in determining the promotion strategies in the following year to increase the number of new student admissions.

Keywords: Promotion strategy, data mining, K-Means clustering, new students’ admission

References:
algorithms that use the software design environment to automate the creation of images that correspond to mosaic compositions based on raster images. However, they do not allow realizing the principles of the classical construction of mosaic works, which guide professional mosaics. In this case, the main task is the problem of optimizing the filling of space from a mathematical point of view. From the point of view of the artist, this is not the main problem, moreover, the distance between the parts of the mosaic can vary, act as an artistic element. Much more important is the organization of the structure of the mosaic surface. This article is dedicated to this problem. The sequence of actions is given - algorithms that allow the artist to achieve the desired effect and gain full control when filling mosaic surfaces. These algorithms allow you to create mosaic fillings based on linear patterns without color and tonal design, which is impossible for existing algorithms. The authors proposed the construction of the topology of classical mosaics using vector guides. When forming the algorithm, vector guide lines or “power lines” are taken as a basis, on which mosaic elements (tesserae) are subsequently placed. Variants of using existing algorithms at each stage of the solution of the problem are proposed. Algorithms and results of filling a mosaic panel with a line-by-line and equidistant method are presented. This technology will allow not only creating mosaic surfaces, but also using it as a tool for creating real art projects for implementation in design and art. The possibility of using existing technologies in this technique is commented.

Keyword: mosaic, tesserae, guiding lines of force, filling algorithms, contour areas.

References:

Authors: Guruprasad S, H Chandramouli

Paper Title: CNN based Stock Market Prediction

Abstract: Indian Stock market is highly dynamic and especially after globalization stock market modeling has become even more complex due to influence of multiple parameters. In presence of multiple parameters, some parameters have increased influence than others in prediction of stock market trends. This influence of individual parameters and their joint influence over time is better modeled with Convolutional Neural Network Classifiers. This work models the dynamics of stock market in terms of Convolutional Neural Networks and multiple parameters impacting the stock trend. The proposed solution is implemented for Indian stock market for stocks in different sectors to prove its prediction accuracy.

Keyword: multiple parameters, Convolutional Neural Network Classifiers

References:
7. R. Akita, K. Uehara et al., Deep learning for stock prediction using numerical and textual information. IEEE ICIS, Vol. 15, 16
Authors: Kusum, Supriya Panda

Paper Title: Prediction of Election by Twitter

Abstract: Nowadays social media like Twitter and Facebook etc. is one of the key players. Twitterers are micro blogging sites by which users sent their opinions and views in brief. The information generated by one user can be seen by everyone. Therefore to analyze twitter sentiment can be a crucial task. For this task, we have used various approaches like novel based approach and machine learning and many other rules like context awareness are used for the detection of public opinion and prediction of results. We are studying the user tweets during elections. Meaningful tweets are collected on a definite period. The feasibility of the developed classification model is identified by our proposed work to identify the political orientation on the tweets and other user-related features. The technique for the collection of tweets in time has played an important role. When the outcome of applied technique competes with survey agencies result was published before elections result.

Keyword: tweets, opinion mining, emotion detection, sentiment analysis, social media, classification.

References:
1. Fraser, M. and Dutta, S., Obama’s win means future elections must be fought online, nov 2008.

Authors: Naga Swetha R, V Shravani

Paper Title: Monitoring of Rice Plant for Disease Detection using Machine Learning

Abstract: Agriculture is an important source of income and much of an Indian economy depends on agricultural production. Early detection of plant leaf illnesses is essential to boost crop output and profit. Agricultural specialists diagnose most illnesses through the examination of external symptoms. Farmers, however, have restricted access to professionals. This article proposes a fresh method for diagnosing and classifying rice illnesses. Four diseases were detected and categorized as bacterial blight of rice, rice blast, tungro of rice and false smut. By developing an algorithm different features such as shape, color of the Diseased leaf part were extracted. Diseases have been classified using SVM (Support vector machine) and classifier k-Nearest Neighbor (k-NN) after extracting all features. Our suggested solution also provides farmers with Diagnosis of plant disease through a scalable cooperative platform based on the Cloud. This is available via a
mobile application allowing customers to send photos from various areas of the leaves that automatically diagnose real-time plant diseases.

**Keyword:** Artiﬁcial Intelligence, Cloud, CNN, Crop Diseases, Classifiers.

**References:**


**Authors:** Venkata Jeevitha Rongali, Sudhakar Jyothula

**Paper Title:** Sense Amplifier Half Buffer Based Ripple Carry Adder for IEEE 754 Standards

**Abstract:** Addition is a specifically used indispensable computation used for most of the applications including digital systems and control systems. Adder is a primitive constituent used in the construction of digital IC; also it is an essential part of signal processing applications like DSP. The speed of an adder circuit holds a considerable influence on the total performance of digital circuits. The prime objective of this research is to design ripple carry adder using different asynchronous logics like Multi-threshold null convention logic (MTNCL), Multi-threshold dual spacer dual delay insensitive logic (MTD3L) and proposed Sense Ampliﬁer half buffer logic (SAHB).

SAHB is an asynchronous Quasi-Delay -Insensitive (QDI) method used to achieve signiﬁcant functional speed of the circuit. The standard library cells (2-input AND/NAND, 2-input OR/NOR, 2-input XOR/XNOR) are designed using proposed SAHB logic to design an 8- bit Ripple Carry Adder circuit. The proposed SAHB logic design provides the solution of minimum delay with improved speed compared to the existing logic design techniques. The asynchronous logics are designed using mentor graphics tool with 130nm technology. Various performances attributes like power dissipation, delay and energy are tabulated and compared with existing logics.

**Keyword:** ripple carry adder, QDI, DSP, MTNCL, MTD3L and SAHB.

**References:**

Authors: A Madhu Sudhan, Sudhir Kumar. Sharma  

Paper Title: Webcam Based Computerized Attendance System using Face Recognition Algorithms  

Abstract: An automated executive participation process, which relies on face recognition and identification measurements, identifies the understudy as it joins the classes and marks the participation by marking it. Particular on going circumstances are considered for evaluating the performance of various face recognition systems. This paper provides other than the methods to be used to deal with hazards such as caricature. At the moment, which stands out from traditional engagement, this programs spares time and also Monitor the students.  

Keywords: Face Recognition, LBP, SVM.  

References:  

Authors: Murali Krishna M, Prasanth R. Mudimela, Pitcheri Praveen Kumar  

Paper Title: Performance Analysis of Ripv2, OSPF and EIGRP Protocols using Cisco Packet Tracer Simulator 7.2  

Abstract: Figured out in modern massive networks there are existing of many independent system, vibrant transmitting procedures implemented regularly than the different kinds of fixed routing protocol, by the application of various new sorts of directing procedures can efficiently services the contemporary large system in the networking. The contemporary design of different transmitting convention protocols must be taken into considerations of current and as well as services need to be applied in the future by considering this for today’s scenario witnessing a great development adjustment in the web traffic that is generated by utilization of the various applications. This study was conducted to test the performance analysis in between RIPV2, OSPF and also EIGRP with cisco packet tracer simulator 7.2.  

Keywords: DNS, EIGRP, HTTP, HTTPS, RTP, Routing protocols  

References:  

Authors: Amit Sagu, Nasib Singh Gill  

Paper Title: Securing IoT Environment using Machine Learning Techniques
Abstract: One of the most dynamic and invigorate advancement in information technology is advent of Internet of Things (IoT). IoT is territory of interrelated computational and digital devices with intelligence to transfer data. Along with swift expansion of IoT devices through the world security of things is not at expected height. As a consequence of ubiquitous nature of IoT environment most of the user do not have expertise or willingness to secure devices by themselves. Machine learning approach could be very effective to address security challenges in IoT environment. In recent related papers, the researcher have used machine learning techniques, approaches or methods for securing things in IoT environment. This paper attempts to review the related research on machine learning approaches to secure IoT devices.

Keyword: IoT, security challenges, machine learning.

References:

Authors: Ahmad Waleed Salehi, Preety Baglat, Gaurav Gupta

Paper Title: Alzheimer’s Disease Diagnosis using Deep Learning Techniques

Abstract: Deep learning is one of the machine learning approach which has shown promising results and performance as compare to traditional algorithms of machine learning in terms of high dimensional data of MRI brain image. In this article the application of deep learning in medical field is addressed. A thorough review of various algorithms of deep learning for diagnosis of Alzheimer’s disease is done, in which this disease is a progressive brain disorder that destroy the brain memory gradually, it is a common disease in older adults which is caused by dementia. It has been obtained in most research papers that the most widely used and represented algorithm is Convolutional Neural Networks (CNN) when it deals with brain image analysis. After study of various related papers for diagnosing of AD, we have come to this point and suggested that the AD prediction at earlier stages can be increased by using an advance deep learning techniques in different dataset (ADNI, OASIS) to one.


References:

Authors: M. H. M. Zin, M. Jamil, N. L. N. Ibrahim, A. S. M. Tazilan

Paper Title: Day Lighting Research on Double Skin Façade (DSF)

Abstract: Energy consumption and carbon dioxide (CO2) emission are issues that mostly been considered to be solved vitally. As the first layer of the building component, building’s façade function more than just a building’s barrier but it acts as to absorb the necessary natural elements from outside as well as function as an effective interventions. DSF possesses the efficient ability in enhancing the building performance especially on day light. Most of the research studies on DSF focus on the thermal and ventilation performance while study on the day light performance should be conducted since day light acts as the premier energy to the building’s performance. This paper used the literature review as the main source of this study and tabulated through series of tables and pie chart. Result shows that research on day light performance in DSF potentially create various efficient impacts to the building’s performances. This study also identifies the contribution among researchers and practitioners where each of them has their own intention that indicate the benefits on adapting DSF to a building design. Type of climates, cavity width, light shelves, glass characteristics and type of DSF are some of the important elements that need to be considering in producing an efficient daylight performance. This study reveals that more research needs to be conduct among researchers and practitioners on the daylight in DSF due to the various benefits to the buildings and occupants.

Keyword: Daylighting, façade, DSF, research

References:
Abstract: Electrical power generated and transmitted at a long distance away from the power stations is usually affected by inherent transmission line losses. The Ohmic and Corona losses which are predominantly common in power transmission lines are considered in this paper. These two losses are mathematically modeled with and without embedded bundled conductors. The resultant model which is a non-linear multivariable unconstrained optimized equation is minimized using the Hessian matrix determinant method for stability test purposes. The results obtained show that corona losses are minimized with embedded bundled conductors at a very low current value with large spacing distance between the bundled conductors. The decrease in the corona loss which is a consequence of spacing adjustment of the 2, 3, and 4 strands of bundled conductors was plotted using MATLAB 7.14. The plots obtained are in conformity with the inverse relation between corona loss and conductor spacing.


References:
Abstract: A new application called DM Educational Data Mining (EDM) involves data extraction and analysis from the classroom or area of education. In order for educators to deliver quality education to students, EDM integrates various educational information into its review. The EDM works by translating raw data from education systems invaluable information which could have a major effect on the study of education. The output of each student is measured from the database and must be sufficiently accurate to withstand changes in the academic record. Then we have transformed the overall arrangement into a modified relation for the adequacy of the Declat algorithm. The purpose of this work is to examine how prior researchers, as well as recent data mining trends in educational research, have dealt with data mining. In this paper, collected data comprised of 200 students. We define academic performance & impact of additional issues on the basis of these course’s last grades, indications of attendance, class tests, and term last answer substance add up to marks and so on. Here, we compare the FP-Growth and Eclat with Declat algorithm on the bases of confidence and support value in a relation of execution & no. of patterns generated. This paper uses a declat algorithm to create patterns or delete effective patterns. Such patterns help to illustrate a growing student's success.

Keyword: Data Mining (DM), Association Rule Mining, EDM, FP-Growth, Declat, Support, Confidence.

References:
and thermal properties such as deformation, strain, stress, factor of safety, number cycles under cyclic loading and heat flux. Simulation studies were done in Ansys 14.5 version. It is observed that the heat flow rate is high in carbon and low in carbon steel material of DBS model. Maximum stress is observed in steel in structural analysis.

**Keyword:** Cabon alloy, Carbon steel, DBS model, Steel, Thermal analysis.

**References:**

**Authors:** Suborna Afrin, Mohammad Arifuzzaman

**Paper Title:** e-Health in Developing Countries: Bangladeshi Perspective

**Abstract:** Currently, utilizing of Information and Communication technology (ICT) in medical sector has been gained a lot of interests in global community i.e. developed, developing and under developed countries. Now-a-days, ICT intervention in almost all arena of medical services is very evident in Bangladesh and stakeholders are getting its benefits with this IT-assisted medical services. As a matter of fact, the government of Bangladesh already has declared ICT as one of its priority sectors; hence a large amount of budget for enhancing ICT in medical sector have been allocated. This paper explains the present scenario of the use of ICT in medical sector of Bangladesh as well as this is an initiative to provide some guidelines and recommendation for possible socio-economic improvement of Bangladesh through exploiting the potential of IT in health sector. In addition to that, this work also gives a brief summery and comparative study about the scenario of health services in developing and developed countries. Finally, this research tries to comprehensively focus on ICT potentials in medical area in order to find future visionary direction for the ICT based medical services that match the socio-economic constraint of the people at Bangladesh.

**Keyword:** e- health, m-health, EHR (Electronic Health Record), EMR (Electronic Medical Record), telehealth

**References:**
The article presents a constructive scheme and the principle of operation of the developed belt drive, composite pulley, rubber bushing, tension roller, torque loading, cotton cleaning.

Composite Pulley and with Elastic Elements

Dilrabo Mamatova, Anvar Djuraev, Alisher Mamatov, Muhammad Ali Turgunov

Development of a Constructive Scheme to Justify the Parameters of a Belt Drive with a Driven Composite Pulley and with Elastic Elements

The article presents a constructive scheme and the principle of operation of the developed belt drive with a composite driven pulley with elastic elements. The technique and electrosenometric scheme of the experimental setup for changing the loading and driving conditions of the recommended belt drive with composite driven pulleys with a rubber shock absorber are presented. The results of experimental studies on the loading of the shafts and the rotational speed of the transmission pulleys for various rubber grades used in composite pulleys are presented. The results of full-factor experiments to optimize the parameters of a belt drive, as well as the results of production tests of a cleaning machine, in the drive of which the recommended belt drive is used, are presented. Full-factor experiments substantiated the values of the rotational speed of the drum, the tension roller eccentricity and the stiffness coefficient of the elastic element, which provides a high cleaning effect.

The keyword is: belt drive, composite pulley, rubber bushing, tension roller, torque loading, cotton cleaning efficiency.

References:
Robolution: Real Time Predictive Analytics for Industrial Robots

Abstract: Robots have been playing a very important role in our day-to-day lives and will be a necessity in the coming future. Whenever we hear automation, the first thing that strikes our mind is a robot performing the given task. But if a robot fails to do the task, it could cost an individual or corporate a huge financial loss. In this study, we have learned the working of various robots and drawbacks that hold them back. For this work, we did make a study of drives used in the robot and after that applied the machine learning algorithms to predict the classification of whether the robot will function properly or not, based on the data of drive(s).

Keyword: Machine Learning, Data Science, Robotics

References:

Fusion of Classification with Hybrid Optimization Technique to Predict Diabetes

Abstract: The main objective of this paper is to predict diabetes which is growing like an epidemic in India. The key focus is to envisage diabetic and normal patient using classification approach. Fusion of SVM enhanced with hybrid optimization of PSO-BAT algorithm is proposed. Classification techniques used namely Multilayer Perceptron (MLP), Sequential Minima Optimization (SMO), Random Forest (RF) are compared with our novel approach SVM enhanced with hybrid optimization of PSO-BAT algorithm. The accuracy is increased using the combination technique. The benchmark diabetic dataset, PIMA Indian Diabetes Dataset from UCI machine learning repository is utilized for the research. To improve the efficiency more, classifiers such as Precision, Recall and f-measure is used.

Keyword: BAT, Classification, Fusion, PSO, SVM

References:
Abstract: The kinetics of pyrolysis of ground date kernels was investigated using thermogravimetric analysis in order to provide the necessary information for proper biochar formation and bioreactor design. Pyrolysis was carried out at heating rates of 5, 10, 15 and 20°C min⁻¹ in a flow of nitrogen. One main DTG peak was obtained that corresponded to formation of bio-char. A second diffuse peak corresponds to constant rate cracking of the char formed and complete elimination of carbon leaving an ash residue. The composition of biochar was determined using EDX. Four different methods were used to follow up the kinetics of the three steps, namely, the Kissinger, the Flynn–Ozawa, the Coats-Redfern methods and multi-regression analysis. The activation energy of the main decomposition step was determined and the values obtained using different kinetic models compared. The decomposition step simply followed first order kinetics.

Keyword: date, kernels, pyrolysis

References:

Authors: T. Abinesh, Saravanan.M.S

Paper Title: Cloud Enabled Healthcare Services and Its Implications

Abstract: Ever since the very first cloud service introduced by Amazon Web Services in 2006 the term ‘Cloud computing’ became buzzing all over the field of Information Technology. Not only in IT field but in all technology related fields and even in business and marketing field began to utilize the Cloud Computing Technology. This technology is so versatile and powerful that apart from running softwares in cloud platform and storing data a whole Operating system can be run. In day-to-day life we are using more cloud based applications involving healthcare, banking, marketing, education and web search engines, etc. In this paper we are specific on healthcare services because it plays a major role in daily operations such as medication, regular health check-up and emergency based services. Especially cutting edge technology can be very useful in emergency situations.

Keyword: Cloud Computing, PaaS, No-Sql, cloud enabled, Online Blood services, No-Sql databases

References:
In future the many applications will use this range of frequency. The substrate thickness will be 1.6mm. Return loss of the given design is achieved less than 10db for almost 11GHz. In future the many applications will use this range of frequency. The value of VSWR is also achieved less than 1.6. Return loss of the given design is achieved less than 10db for almost 11GHz. In future the many applications will use this range of frequency. The value of VSWR is also achieved less than 1.6.

**References:**

Paper Title: **Search and Rescue Algorithm using a Cooperative Robot System**

**Abstract:** Cooperative robotics is very different from working on a single robot before. Cooperative robots can perform tasks that were previously impossible with a single robot. This robot research can be applied in computer science, artificial intelligence, and electrical engineering. This research aims to deal with tasks that are difficult or impossible to perform with a single robot. For this purpose, we propose a Se-Re (Search-and-Rescue) algorithm. In addition, the proposed algorithm is designed to allow multiple robots to collaborate in the area of work. Robots use wireless communication to collaborate and are organized in groups, which create environmental maps and share data with each other. The robot uses the shared area map to create a global map. Using this information, the robot does not revisit the previously visited area. The proposed algorithm can be applied in both indoors and outdoors. Indoors can be used in general buildings as well as livestock housing, and outdoors can be used for landmine removal, human search, and rescue.

**Keyword:** Cooperative Robot, IoT, Rescue, Search

**References:**


**Authors:** Deepak G Appaji, Chethan K

Paper Title: **Effect of Elevated Temperatures and Thermal Cycles on Self Compacting Concrete Reinforced with Polypropylene Fibers**

**Abstract:** SCC has been widely adopted in the various applications. Addition of fibers to SCC has shown to increase the strength and concrete durable. Concrete structures are subjected to intense solar radiations and alternating temperatures throughout their lifetime right from the time of casting. The variation in the properties of concrete due to this radiation exposure and thermal cycles of alternating hot and cold temperatures needs to be investigated. The current study presents an investigation on compressive and flexural strength as well as weight reduction in polypropylene fiber reinforced SCC at 100°C thermal cycles of 7, 14 and 28 days. Two mixes of concrete namely normal SCC and SCC with mineral admixture (10% silica fume) are considered. Strength is found to reduce.

**Keyword:** Self Compacting Concrete, Fibers Reinforced Concrete, Polypropylene Fibers

**References:**


Mobile robot sensors have appeared as techniques for tracking the environment, search and rescue, exploration and mapping, civil infrastructure analysis, and military operations. Discovery and tracking of polluted areas with sensor mobile multi-robots is now regarded the solution to environmental and human safety issues. This paper shows some algorithms intended to allow mobile multi robots with sensor to estimate and monitor for polluted an irregular area in a synchronized way. Changes in the behavior of dangerous environmental boundaries, such as fire spreads or oil spills, provide appropriate data to mitigate the issue or even support evacuation actions to save human or animal life. In this paper, we present a model using a two-robot called it Boundary Detection Robot (BDR) moving around an environmental boundary to predict its shape through a continuous analytical function based on the combination of polynomial approximation. These robots are composed of many sensors each with embedded processors, wireless communication, and movement capabilities. We explain that when we increase the sample frequency and the robot velocity, the strategy converges to the exact boundary. We conducted experiments with simulated and actual robots to assess the estimation quality. We analyze the reliability of the control unit and other component in a robot simulator and assess the efficiency of the all components in a realistic set-up and environment model. We implement a stable transmission range of robot control laws with sensors to track irregular area boundaries.

Keyword: Boundary detection, Environmental monitoring, robotics, control theory.

References:

Airborne Early Warning (AEW) systems are deployed for getting surveillance information on airborne enemy targets. Electromagnetic sensors such as Radomes are integrated on airborne platforms for collecting such information. Maritime Patrol Radar (MPR) is used for surveillance of sea surface for various types of ships and low flying aircraft. The antenna of MPR is belly mounted on typical turbo prop aircraft and protected from environment with a cover called Radome. Airborne radomes are electromagnetically transparent. The radome installation introduces additional drag which will reduce the range of the aircraft. To minimise the drag due to installation of radome, the profile has to be stream-lined or optimised with CFD analysis for certain operational points of aircraft flight. Design of radome is multidisciplinary effort involving Aerodynamics, Structures and Electromagnetic disciplines. In this study, aerodynamic optimization of a radome for a given antenna size is carried out using a combination Genetic Algorithm (GA) and traditional optimisation methods to find the Utopia point for further investigation on Multidisciplinary Design Optimization (MDO) of radome. This is necessary to progress on optimisation with other disciplines like Structures and Electromagnetics (EM).

Keyword: Airborne Radomes, Optimization, Aerodynamics, Sandwich Structure

References:
Authors: Panimalar Kathiroli, Kanmani. S

Paper Title: Retrospection on Localization Techniques for Positioning Nodes in Wireless Sensor Networks

Abstract: Wireless Sensor Networks have highly scattered, self-organized nodes that can detect, compute, and transmit the information collected at different nodes in the network. These nodes spread over a specific topographical zone. They enhance the instantaneous formation of the network. Knowing the current location of a node is a crucial and cardinal requirement for any application promulgated in WSN. Once the locations of the sensor nodes can be precisely positioned, there are ample of probabilities for the data transmission of the network to be excelling inefficiency. Location responsiveness enables essential network features such as coverage, routing, deployment, topology control, clustering, boundary discovery, target tracking, rescue, and other location services. Hence, WSN localization has become a breath and backbone arena that ostentatiously attracted significant research interest. Our work traces a compilation of all the dynamic research in sensor networks on localization techniques and emanates eminent understanding of it.


References:
The article investigates the dependence of the temperature of cotton fiber on the time spent on drying-cleaning equipment. The study also investigated the effect of hot air velocities on cotton. According to the study, the increase in hot air temperature for drying from 2.5 m/s to 7 m/s leads to an increase in the temperature of the fiber to 10 ÷ 12 °C. It was found that the increase in the temperature of the fiber can be achieved by increasing its velocity without increasing the air temperature.

**Keyword:** Cotton fiber, drying, cleaning, cotton moisture, cotton fiber temperature, drying agent temperature, air velocity.
Rainfall Runoff Modeling using Gene Expression Programming and Artificial Neural Network

Abstract: In water resource management and planning the Rainfall-Runoff models play a crucial role and depends mainly on the data available for planning activities. The rainfall-runoff relationship comes under the nonlinear and complex hydrological Event. In the present study two data driven modeling approaches, Artificial Neural Network (ANN) and Gene Expression Programming (GEP) has been used for modeling of rainfall-runoff process as these methods does not consider the physical nature of the process, which is complex to understand. GEP and ANN are used to model rainfall-runoff relationship for Dindori catchment in upper Narmada River Basin. Daily hydro-meteorological data of Dindori gauging station and precipitation of the catchment for a period of eighteen years were used as input in the model design. Various combinations of input variables for training and testing of models were selected based on statistical parameters. The performance of model was evaluated in term of coefficient determination (R^2), coefficient of determination (R^2), Root Mean Square Error (RMSE), Nash Sutcliffe Efficiency (NSE) and Willmott Index (WI). The results obtained after applying the two techniques were compared. Which indicates that GEP performed better in all performance evaluation parameters (R^2 is 0.92) then ANN (R^2 0.90) and is able to give mathematical relationship for rainfall-runoff modeling. 

Keyword: Gene Expression Programming, Artificial Neural Network, Rainfall-Runoff.

References:

Authors: Adinda Hadirah Mohd Zin, Shamsul Anuar Shamsudin, Mohd Nizam Sudin, Mohd Nazim Abdul Rahman, Zairulazha Zainal

Paper Title: Design and Analysis of a Cam-Actuated Wearable-Chair

Abstract: This work analyzes the feasibility of a design of a foldable chair that is strapped onto the user. It can be used anywhere as the user needs to sit. Many chairless chairs or wearable-chairs have been invented over the years. Here, the focus is on the findings from the simulations and analyses performed to investigate the critical stress area in the design assembly as well as its factor of safety. The simulations included in this paper are motion analysis and stress analysis. The outcome of this investigation is that this design is be able to deliver its purpose if it were to be manufactured for safe use by the masses.

Keyword: Cam-actuated, wearable-chair, development, analysis

References:


Authors: P. Lakshmi, D. Ramyaechitra, E. Pavithravishalini

Paper Title: Motif Discovery of Protein-Protein Interaction using Minimum Spanning Tree

Abstract: In protein Interaction Networks, counting subgraph is a tedious task. From the list of non induced occurrence of the subgraph, motif topology calculated by using Combi Motif and Slider techniques. But, this approach was taken more time to execute. To reduce the execution time, the minimum weight value between the nodes, the Minimum spanning tree concept proposed. Prim’s method implemented with the greedy technique (as Kruskal’s algorithm) to calculate the minimum path between the nodes in the Protein interaction network. This technique uses to compare the similarity of the minimum spanning tree approach. Initially, this algorithm has discovered the path then calculated the weight matrix and found the minimum weight value. From the computational experiments, the proposed approach of MST providing better results in terms of time consumption and accuracy to count the motif pattern in the network of the interacted proteins.

Keyword: Motif, Protein interaction Network, Minimum Spanning Tree, Graph, Sub tree

References:
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11. I. Xenarios, L. Saltwinski, X. Duan, P. Higney, S. Kim, D. Eisenberg, Dip, the database of interacting proteins: a research tool for

Authors: Vytarani Mathane, P V Lakshmi

Paper Title: Multi-layer Attestation for Internet of Things using Blockchain

Abstract: Internet of Things (IOT) by its nature comprises of heterogeneous devices with varying degree of resources and capabilities with common attributes that are connected and uniquely identifiable over the network. Given the always on always connected nature of IoT devices along with virtually limitless applications, the attack surface of constituent IoT device is very large. Hence ability to attest IoT devices for its trustworthiness is very important factor in determining trustworthiness of IoT network. In past significant amount of research has focused on possible attestation mechanisms for IoT but all those proposals invariably depend on specific hardware implementation like TrustZone, SGX, TPM, RTC, memory with OTP etc. Since all such security primitives are either architecture or manufacturer specific it is not possible to build common unified attestation scheme for all constituent IoT devices in a typical IoT network using any of those primitives. This research work proposes different pragmatic approach to define such common and scalable attestation scheme that all IoT devices within IoT network could deploy. The proposed scheme makes use of memory management which is one of most basic features of any processor or controller to build common and scalable attestation mechanism for all types of IoT devices. The approach is to understand threat model and then develop mitigations in pragmatic manner.

Keyword: IOT, attestation, security, distributed ledger, heterogeneous devices, network integrity, device integrity, data integrity, factory automation, low power devices, low resource devices.

References:

Authors: Trivedi Pratik, Zaveri Tanish

Paper Title: Enhanced CORDIC Based Rotator Design for Sinusoidal Transforms

Abstract: Transforms play an important role in conversion of information from one domain to the other. To be more specific transforms like Discrete Fourier transform (DFT) and Discrete Cosine transform (DCT) helps us to migrate from one time domain to frequency domain based on the basis function selected. The basis function of the every sinusoidal transform carries out a circular rotation to convert information from one domain to the other. There are applications related to communication which requires this rotation into the hyperbolic trajectory as well. Multiplierless algorithm like CORDIC improves the latency of the transforms by eliminating the number of
Keywords: CORDIC, DCT, DFT.

References:

Authors: Arshdeep Singh, Shimi Sudha Letha, Nikhil

Paper Title: Design and Analysis of off-board PV-Grid Adjustable Charger for Electric Vehicle Battery

Abstract: The electric vehicles (EVs) are emerging as general-purpose transportation, due to various shortcomings of traditional vehicles. The EVs will become ubiquitous only if its charging infrastructure is abundant and efficient. Typically, a module of Li-ion battery applied in EVs uses 4 – 6 cells. These modules are connected in series-parallel combination to obtain the threshold power output. The power for the charging battery is delivered by the PV – grid topology. The solar and grid circuit uses a boost converter to create a dc bus. As the system uses boost converter for both PV and grid circuit, therefore, charging profile can be adjusted by altering dc bus voltage. The battery used in different EVs has a different configuration. The charger for EVs should be adjustable, as the traditional charger with fixed output will not charge the battery efficiently and results in reduced battery life. Therefore, a charger providing a fixed output will not serve the public demand. Hence, an adjustable charger has been proposed in this paper. The voltage and current profile of the charger can be adjusted according to the requirements of the EV battery.

Keywords: Photovoltaic (PV) module, Maximum power point tracking, Li-ion Battery, Boost Converter, Battery Charger

References:
15. A. S. Mussa, M. Klett, M. Behm, G. Lindbergh, and R. W. Lindström, “Fast-charging to a Partial State of Charge in Lithium-ion multipliers in the basis function. In this paper we have designed and implemented enhanced version of CORDIC based Rotator algorithm. The Enhanced version is simulated for order 1 to order 36 to emphasize on the results of the proposed algorithm. Results shows that the enhanced CORDIC rotator design surpasses the Mean square error after the order 18 compared to standard CORDIC. Unified CORDIC also can be implemented using the said algorithm to implement different three trajectories.
Abstract: This work presents a non-conventional alternative for cleaning polluted agriculture drainage network within a certain watershed. In Egypt, a need for using marginal quality water in agriculture applications is becoming a great necessity due to water shortage. One important strategy to increase available water resources is to reuse agriculture drainage water for irrigation application. The water system, especially drainage network receives a remarkable amount of pollution (raw and partially treated wastewater). That results to an increase in organic load to an unacceptable level, accordingly, the water quality of the drainage water has been negatively affected and the "reuse" plan has been threatened. Fast-Track In-stream Action (FTIA) is an ongoing fast action suggested to control the pollution of drainage water within a certain watershed to make it more suitable for reuse practice. FTIA as a quick interfere will skip long-term processes of conventional water treatment stages to get satisfactory results in proper time. It presents a practical immediate solution to achieve acceptable level of water quality rather than waiting for full improvement through long-term and expensive conventional programs. In this study a biological maintenance solution was applied and tested in both bench and field scales to assess its efficiency in improving the water quality within selected watershed. An evaluation of this fast-track process was done by measuring a significant key water quality parameters (WQPs) at designed locations of the study area before, during and after application of material. For better explanation of overall water quality and proper comparison, a weighted arithmetic water quality index (AWQI) has been discussed based on eight selected WQPs. In addition to a bench-scale test, two other field investigations were adopted: the first one investigates the effects of fast-track resources when applying the bio-based material under high flow condition with intermediate shock flow (study area "1"), while the other one examine the application of material under low flow condition with intermediate shock pollution load (study area "2"). All indicators, including aesthetics showed improvements in selected WQPs and AWQI during the investigation period.

Keyword: Bio-based material, Drainage water reuse (DWR), Fast-track action, GIS, Point source of pollution (PSP), Water quality management, Watershed, Water Quality Index (WQI).

References:
study area is delineated in SWMM by the assistance of blueprint AutoCAD maps showing drainage network and Reference Level details. From this elaborated elevation data of drain networks, the flow direction has been evaluated to create the descriptive view of the area in SWMM. In this study area is 2016, 2017 and 2018 extreme rainfall events of 24 hrs interval is considered for runoff analysis. The focus of the current work is to model runoff conditions by applying Dynamic wave equation for routing floods and Green-Ampt equation for infiltration in SWMM. The model outputs guided in visualizing the runoff from extreme precipitation events and to analyze the accuracy of the storm water network system.

Keyword: AutoCAD, Flash Floods, Sub catchments, SWMM, Reduced levels, Green-Ampt infiltration model, Dynamic wave.

References:
4. Laddimath, R. S. (2016). Sustainable Development of Storm Water Management using SWMM for Bhayanganagar, Belagavi. 3(02), 488–493

Authors: Hatem H. Ibrahim, Ahmed Z. Saber, Hossam A. Hodhod

Paper Title: Abrasion Resistance, Flexural Toughness and Impact Resistance of Rubberized Concrete

Abstract: This study aimed to investigate abrasion resistance, flexural toughness and impact resistance of concrete mixes with incorporated particles of crumb rubber (CR) as a partial substitutent by volume to concrete natural aggregates. Seven concrete mixes were prepared with water to cement ratio 0.4 and cement content 450 kg/m3. One mix, with no rubber content, was considered as a reference mix to compare the designated mechanical properties of plain rubberized mixes, while the remaining six mixes contained crumb rubber as a partial replacer at levels of 10%, 20% and 30% by volume of each sand and crushed stone aggregates. Abrasion resistance was evaluated according to British standard BS 1338 and impact resistance was measured according to ACI 544.2R. It has been discovered that increasing CR replacement level led to a significant improvement in abrasion resistance, flexural toughness, and impact resistance (number of blows that cause failure cracking). Abrasion lengths decreased by 3.0% respectively, while flexural toughness and impact resistance increased by 8.2% – 39.4% and 18.7 – 365.4% respectively with increasing crumb rubber replacement level.

Keyword: Crumb rubber, rubberized concrete, abrasion resistance, impact resistance, flexural toughness.

References:
8. BS 1338 (2003). Concrete paving blocks. Requirements and test methods. BSI.
Abstract: Waleed Abdallah Ali, Eman Selemn MohamedFlat slab system is widely used because of its architectural flexibility. Punching is one of the major and critical problems in flat slab especially for the edge column. There are many traditional ways to increase the punching shear strength of concrete slabs like increasing the slab thickness or column dimensions which is against the architectural desire. Using FRP strengthening for the flat slabs against punching shear can be considered as a new application. Sometimes an opening is needed to be punched through existing slabs to install cables, elevators and ventilation systems, etc. This causes weakening due to the cutting of concrete and reinforcing steel and also increases the punching problems especially if the opening beside the edge columns. This research is aimed to evaluate the effects of strengthening with Glass Fiber Reinforced Polymer (GFRP) on the punching shear behaviour of flat slab with an opening varying in location with respect to the edge column. Bearing capacity, deflection, ductility, energy absorption and stiffness obtained from the tested slabs are compared to the control specimen, which was without opening and strengthening. It is observed that, the punching shear capacities of the strengthened specimens significantly increased compared to control specimen. Creating openings in flat slab beside the edge column should be approached with great caution and avoided if possible because of its bad effects. In case of openings are of extreme necessity, it is recommended to be created in the front of the edge column not in the side.

Keywords: Flat Slab, Punching Shear, Edge Column, Opening, Glass fiber.

References:
6. C. Duhde, M. Hassan, E.A. Ahmed, and B. Bennokrane, "Punching Shear Behaviour of Flat Slabs Reinforced with Glass Fibre-

Authors: Nakka.Mahesh Babu, Md.Aijaz

Paper Title: Performance of Powersystem to Enhance Power Quality using Fuzzy Logic Controller Based DVR

Abstract: This paper accord the Power Quality interpretation to make apparent for electricity consumers been made better power quality with application of DVR.Despite of advantages of DVR, it focuses full extent of the relatedness surrounded by loads, various power networks. DVR is most accepted power device which could be used for better solution for the disturbances of voltages in distribution systems for sensitive loads. For efficiency considerations, the DVR mostly hinge on an act of presenting the control modus, and can be harnessed to switching the inverters. Reliability of hysteresis voltage control with ease in operation under variable switching frequency can be trustworthy for a DVR can introduced and the proposed methods achieves good compensation of voltages under disturbances and can be seen by the simulation by using fuzzy logic controller.

Keyword: DVR, FLC , Hysteresis voltage controller, PI controller, phase modulation

References:
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Authors: Ozod Rajabov, Kurbonov Fazliddin, Shukhrat Salimov

Paper Title: Substantiation of Parameters of the Fibrous Material Cleaning Zone

Abstract: The article provides the scheme and principle of operation of the fiber material cleaning section when using multi-faceted cylinder spikes. Theoretically studied the movement of the fibrous mass on the surface of the edge of the cylinder splitting. The numerical solution of the problem substantiates the main recommended values of the parameters of the fibrous material cleaning zone. Full-factor experiments optimized the necessary system parameters. The article also investigates the influence of the annular cylinder parameters on the cleaning efficiency of the machine based on full factorial experiments. In this case, the following ring cylinder parameters are optimized: the number of revolutions is 455 rpm, the number of faces of the multifaceted spiky is 6, and the gap between the cylinder and the mesh surface is 16 mm.

Keyword: Cleaner, fibrous material, multifaceted spike, cylinder, moving, friction, speed, mass, optimization, cleaning effect.

References:
Authors: T. Jayachitra, Rashmi Priyadarshini

Paper Title: Structural Health Monitoring for Concrete Structure using Impedance Chip

Abstract: Structural Health monitoring plays a vital role in all generations for the safety of life and property. The method of Electromechanical Impedance (EMI) method and sensors are used in damage detection of civil and mechanical structures. The structure deteriorates due to ageing and environmental factors. This study represents the detection of damage in concrete structure using piezo electric transducer and EMI method. The piezo sensor is bonded to the concrete structure using epoxy resin and damage is created by using flexural testing machine. The force is applied using flexural testing machine at different KiloNewton. The output from the impedance chip is noted at undamaged state and at all levels of frequency. Root mean square deviation is also calculated for the detection of damage. The results conclude that Impedance chip is highly reliable and accurate in damage detection of concrete structure.

Keyword: Structural Health Monitoring; Electromechanical Impedance method; Impedance chip; Root mean square deviation; piezo sensors

References:

Authors: T.N.V.S.Praeen, S.Shanthi

Paper Title: Globally Controlled Robot using IoT

Abstract: Nowadays, robots in military have become an alternative to human soldiers. Theses robots are in a position to handle different types of operations. They should be able work in different situations and areas. This paper presents the development of a robot with sensors, surveillance camera and a microcontroller. The main purpose of the robot is to prevent the terrorist attack throughout the world by monitoring and controlling of mobile robot via internet. An Arduino microcontroller board has been used of for this. The control and monitoring
of robot is through an application, connected to web page. The Camera connected to the robot acts as the eye and the PIR sensor will detect the person or object that enters into the surveillance area. Whenever a suspicious person or object is found, an alarm would be generated and sent to defined authorities. These robot can be controlled from anywhere in the world by using IOT.

Keyword: Surveillance camera, PIR Sensor, Arduino microcontroller, Robot, IoT.

References:

Authors: M.Saravanan

Paper Title: Examination of Structural and Dynamic Properties for Vertical Axis Wind Turbine Blade Made of Stainless Steel using Ansys

Abstract: This paper studies the potential for installing savonius type Vertical Axis Wind Turbine systems with the goal of maximizing the efficiency and reducing the cost. The wind turbine efficiency depends on the material of the blade, angle of the blade and shape of the blade. So material of the wind turbine blade plays an important role in the design of wind turbine. In this paper, Stainless Steel is used to design savonius wind blades of 1 m height and 0.5 m chord length with 4 different arc radii. For this purpose, CAD modeling software Solid Works is used to model savonius wind blade and static structural and modal analysis of the Stainless Steel blade is done by using ANSYS Workbench software. Static structural analysis is used to determine stress, strain, deformation and displacement under static loading condition. The response of structure for dynamic loading is determined by modal analysis. It is used to determine the natural frequency and mode shape of vibration of any structure. This wind turbine is suitable to install in small houses in urban areas.

References:

Authors: Ajit Kumar, Preeti

Paper Title: Flow of Micropolar Fluid Between Two Parallel Plates with Different Periodic Suction and Injection

Abstract: The unsteady stokes flow of incompressible micropolar fluid between two porous plates is considered. The lower plate is subjected to periodic suction and different periodic injection is applied at the upper plate. Stream function for the flow is obtained and the variation of velocity function & g with is shown graphically. The effects of the dimensionless parameters , frequency parameter pt, micropolarity parameter pl and the microrotation parameter pj on the velocity functions and microrotation velocity function g are discussed and shown through the graphs.
Abstract: Biodiesel is a promising future fuel. In the recent times lots of research has been done to make the waste product as a valuable product. The option which best suits is the biodiesel which can be obtained from Waste cooking oil using Various methods. The prominent technique is the one which gives best results with the addition of less parameters involved in it. Biodiesel is acquired from edible, non-edible vegetable oils and animal fats as well. Well, a known route to manufacture biodiesel is trans-esterification of acylglycerol that undergo catalyzed esterification with methanol. With an aid of a suitable experimental design, it is vital to optimize various parameters that affect product yield and quality. A novelty of our work lies in implementing Taguchi Design for process optimization. The analysis gives an optimized set of process parameters namely oil to alcohol molar ratio as 1:7, catalyst congregation as 1%, latency as 20 min as well as intense heat as 5ºC. Using these optimum conditions, the biodiesel prepared is found to have the highest yield of 75.18%, moreover diesel quality meets as per ASTM criteria. Its environmental benefits and renewability attract both industry and academia for further research.


Authors: Kolipaka Pranith Kumar, Sumit Kumar, Amruta S. Dixit

Paper Title: Design of Miniaturized and Enhanced Gain Antipodal Vivaldi Antenna for 5G Applications

Abstract: In this project, method of designing of high gain and mutual coupling reduction is proposed, which can be done by antipodal Vivaldi antenna (AVA) for 5G applications. For the reduction of isolation between the antenna elements, the antennas are not placed adjacent to each other because they have a chance of absorbing the energy which is to be transmitted. The proposed AVA comprises of 2 x 1 multiple input multiple output (MIMO) antenna elements. The antenna parameter enhancement techniques used in this design are corrugation and circular slots. The antenna dimensions are 50mm x 48mm x 0.8mm. Here, we use corrugation and circular slots method, as to increase the gain than previously designed antenna. The maximum isolation of antenna is achieved is 37dB and gain is improved in the desired range. The simulated gain is in the range of 7.1-14.4 dB in the frequency band of 20-30GHz.

Keyword: Antipodal Vivaldi Antenna (AVA), 5G, multiple input multiple output (MIMO), corrugation etc.

References:


Authors: Ihouma Q. Onu-Okpara, Solomon U. Oranusi, Hilary I. Okagbue

Paper Title: Weight Test of Broiler Chicks Placed on Probiotic-fortified Composite Feed, Standard Commercial Starter Mash and Cornmeal

Abstract: The study was carried out to compare growth performance results among broiler chicks placed on probiotic-fortified animal feed (G3), Feed Mill of Nigeria starter mash (G1) (conventional feed) and cornmeal (G2) diets. A total of thirty 1-day-old mixed-sex Agricol broiler chicks were randomized into three groups of 10 chicks each and placed on 600g (300g morning, 300g evening) of the respective diets. Feeding test was carried out for the duration of four weeks. The chicks were weighed weekly and data collected was statistically analyzed using a one-way Analysis of variance to check for significant differences in weight among groups. From data analyzed, chicks in groups G3 – probiotic-fortified feed and G1 – Feed Mill of Nigeria starter mash, showed no significant difference in parameters (weight) analyzed (p<0.05) and performed better in comparison to chicks placed on cornmeal diet (G2). This study shows that probiotic-fortified feed can be used as a substitute to conventionally-produced feed and yield similar growth performance without the use of feed additives which have adverse effects on animals being fed.


References:


Authors: Deepak D. Ubale, Raviraj V. Nimbalkar, Vivek R. Chavan

Paper Title: Stiffness and Damping of Epoxy Granite

Abstract: The productivity and accuracy of machine tools now became most significant as the cutting conditions change continuously. Therefore to withstand against these cutting conditions the machine tool structural material must have higher stiffness and damping. This review deals with various research works to study the stiffness and damping of epoxy granite or polymer concrete. It is reported that the epoxy granite shows improved damping and high strength to weight ratio than that of conventional machine tool structures of steel and cast iron.

Keyword: Epoxy Granite, Stiffness, Damping factor

References:

Authors: Rupali

Paper Title: Thermo-Mechanical Autofrettage Process of Spherical Vessel

Abstract: In this analysis results of Elastic-plastic stress distributions in a spherical pressure vessel with Thermo-Mechanical loads are discussed. Results of study are obtained with Finite element (FE) analysis. A quarter of pressure vessel is considered and modeled with all realistic details. In addition to presenting the stress distribution of the pressure vessel, in this work the effects Thermo-Mechanical autofrettage on different limit strength for spherical pressure vessels are investigated. The effect of changing the load and various geometric parameters is investigated. Consequently, it can be observed that to be the significant differences between the present thermo-Mechanical autofrettage and earlier (Mechanical autofrettage and Thermal autofrettage) method of autofrettage for the predictions of Elastic-plastic stress distributions of spherical pressure vessels. Some realistic examples are considered and results are obtained for the whole vessel by applying thermal load and mechanical load. The actual material curve is used for loading, unloading and residual stress behavior of
spherical pressure vessel. Kinematic hardening material is considered and effect of Bauschinger effect factors are studied with thermo-mechanical load. Equivalent Von-Mises yield criteria is used for yield criteria. Behavior of elastic-perfectly plastic is also studied and compared. Influence of Thermo-Mechanical autofrettage over stress distribution and load bearing capacity of spherical vessel is examined. The question of whether Thermo-mechanical autofrettage gives more favorable residual compressive stress distribution and therefore extension of pressure vessel life is investigated in this analysis.

**Keyword:** Thermo-Mechanical Autofrettage, Strain hardening, Tangent modulus, FE Analysis, Residual stress.

**References:**

**Authors:** Saurabh Shah, Jaymin Bhali

**Paper Title:** Performance Analysis of ZF and MMSE channel equalizer for Butterworth and Chebyshev Low Pass Channels

**Abstract:** Due to the high demand for information in the communication system needs a greater amount of...
data transmission on the current channels. The data flow rate on the existing channel is bounded because of the Inter Symbol Interference (ISI). To minimize the influence of ISI Channel equalizers are utilized. The Zero Forcing (ZF) & Minimum Mean Square Error (MMSE) equalizer is used to compare the eye diagrams before and after the equalizer in this paper. It shows that the equalizer reduce the ISI effectively and achieves the suitable performance.

**Keyword:** Channel Equalization, Eye Diagram, ISI, ZF & MMSE Equalizer.

**References:**

**Authors:** S.M.Jaybhaye, V.Z.Attar

**Paper Title:** Resource Provisioning for Scientific Workflow Applications using Aws Cloud

**Abstract:** Cloud computing play a very important role in day to day life of everyone. In recent years cloud services are much popular for hosting the applications. Virtual Machine Instances are the Images of physical machines which are described with its specification and configurations such as number of microprocessor (CPU) cycles, Memory access and network bandwidth. Cloud provider must contribute special interest while designing and implementing the Iaas. The role of quality and service performance is crucial aspects in application execution. Scientific workflow based applications are both compute and data intensive. These application can take advantage of cloud features. Resource provisioning approaches varies based on the user’s requirements and the metric which is used to allocated resources.

**Keyword:** Cloud computing, Resource provisioning, Scheduling

**References:**


Authors: Pratiksha P. Gofane, Vijay S. Gulhane, Harshal N. Datir

Paper Title: Block-Chain Based Authentication Technique

Abstract: The Block-chain technology contain multiple blocks are interconnected to each other with help of previous hash and current hash. The Block-chain is technology which is used to enable for moving some coin, data and assets from one user to another user. Where using hash algorithm, cryptographic algorithm and block-chain maintenance/updating. Block-chain technology contain the previous hash of first block is always zero that is called genesis block and current block will generate according to the data. In block-chain technology after complete the first block system automatically generated new block. Second block contain the previous hash will be always current hash of first block for interconnect the blocks and chain will formed ahead. According to this chain automatically detect there some transparency and this transparency says that block chain is very secured technology. This block-chain technology with transaction is very safe for companies, colleges and business. It is layered framework technology. Where perception layer, transmission layer, storage layer and application layer are present. In block-chain technology transaction contain there need not any third trusted party. Previous concept of block-chain with IOT that is not secured where some disadvantages of limited storage present and reduce that limitation we are using distributed ledger of block-chain technology. Where system have occurred peer to peer transaction. Further, block-chain contain well organized their weaknesses, strengths, opportunities, and threats of block-chain based transaction application. In block-chain contain using with OTP this block-chain will be more secured and easily transfer the money. Their future scope in business, education and companies.

Keyword: Block-chain, Block-chain types, Block-chain requirements & Block-chain security process.

References:
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Authors: Prateek Mundra, Anoop Arya, Suresh K Gawre

Paper Title: Partial Shading Condition on PV Array: Causes, Effects and Shading Mitigation using DSMPPT

Abstract: Solar photovoltaic (PV) systems are gaining importance increasingly as it directly converts solar radiation into electrical energy which is renewable and environment friendly. Where it has a numerous advantage, some disadvantages are also there like its dependency on environmental conditions. The power developed by solar panel decreases if it does not get uniform radiation. Sometimes due to nearby buildings, passing clouds etc. PV module might be partially shaded because of which power output of solar panel may get decrease this is called partial shading conditions. It causes significant reduction in the system power output. To overcome this, maximum power point-tracking under partial shading condition by continuous duty cycle variation schemes have been proposed, in which dc–dc boost converters are connected to PV module to enable maximum power extraction. In this paper a new method of Duty Sweep Maximum Power Point Tracking (DSMPPT) has been implanted, which is capable of tracking the Global Maximum Power Point (GMPP) in the presence of other local maxima. The proposed scheme tracks Maximum Power Point (MPP) by continuous variation of converter’s duty cycle without the use of costly components such as signal converters and microprocessors thereby increasing the compactness of the system.

Keyword: Photo voltaic, Partial Shading, DSMPPT

References:


Authors: Madhura Chinchmalatpure, M.P. Dhore

**Paper Title:** Quality Healthcare Prediction using K-Means And Clara Partition Based Clustering Algorithm For Big Data Analytics

**Abstract:** Big Data is a collection of large or vast amount of information that grows at ever increasing rates. Big data is ordered, unstructured, semi structured or mixed data in natural world. Researchers are designing, implementing, analyzing different application. In medicinal industry large or vast amount of data is available but people are not able to extract the significant information. Healthcare big data analytics (HBDA) becomes “Healthier analytics” by fusion of techniques. In this paper, we discuss and implement algorithms of clustering using R-Studio tool. Clustering is defined as the method of partitioning set of patterns into similar groups called as clusters. We can extract the data from vast datasets in the form of clustering rules. These clustering techniques are scalable. Also, we compare the accuracies of two partition based clustering techniques k-means and Clara on healthcare datasets for giving good quality of healthcare services. Implemented results demonstrate the k-means method gives better accuracy values than Clara algorithm.

**Keyword:** Healthcare Big Data analytics(HBDA), Partition based clustering techniques, Electronic Health Record(EHR), K-Means, Clara, Internet-Of-Things(IOT)

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Authors: Hesham Alsharief

**Paper Title:** The Engineering behavior and the Properties of Phosphorit and Gypsum on the Resistance strength of Concrete

**Abstract:** Phosphorite buildup from Phosphorites that negatively affect nature. The reuse of this waste is carried out in this study by replacing percentage of cement by Phosphorite (P) residue and gypsum (G). The cement of the Phosphorites and gypsum was replaced by the following percentages of weight: for masonry (0%, 5%, 10% 15%, 20%, and 50%), for concrete (0%, 10%, 25%, 35%, and 50%), number of samples (36 masonry samples , 30 cube samples, 20 cylinder samples, total 86 samples) Standard Resistance strength tests were carried out at (Asia lab – Iribi) to verify the strength of pressure in new mixtures. The results showed that replacing of cement by P residues and G increased the strength of masonry sample (MGPC-25%) by (42%). The results showed that replacing of cement by Phosphorite residues and gypsum increased the strength of concrete cubes sample (CGPC-25%) by (13%). The results showed that replacing of cement by Phosphorite residues and gypsum increased the strength of concrete cylinders sample (CYGPC-25%) by (20%). It is proposed to use Phosphorite residues and gypsum as an alternative to the cement by limited percentage, because increasing the gypsum percentage causing failures and weakness of concrete.
**Keyword:** Resistance strength, natural impact, cost, gypsum (G), Phosphorite.

**References:**


**Authors:** Trilochan Patra, Swarup Kumar Mitra

**Paper Title:** Rain Attenuation Predicted Model for 5G Communication in Tropical Regions

**Abstract:** The signals operating at higher microwave frequency ranges get attenuated in the tropical regions where heavy rainfall occurs. Controlling of Signal fading for establishment of efficient link plays an important role in the heavy rainfall regions. Here rain attenuation predicted model has been designed in sub- 6 GHz and mm Wave bands. This predicted model is applicable to the tropical regions where heavy rainfall occurs. Frequency variation technique has been adopted to execute the research work. The estimated rain attenuation depends on International Telecommunication Union-R rain mitigation forecast technique utilizing assessment of rain in the tropical regions of South East Asia. The frequency ranges used here for variation techniques are respectively 3.6 to 4.2 GHz, 4.4 to 4.9 GHz, 27.5 to 29.5 GHz, 37 to 40 GHz and 64 to 71 GHz. In the previous works [1] it is observed that only lower fade margin has been considered for communication link design. As the fade margin increases, the communication link seems to be more reliable. In this paper the fade margin has been increased and it has been chosen from 12dB to 16dB. This predicted model will yield better result than that of ITU-R model.

**Keyword:** Frequency variation technique, Frequency variation correction factor, Fade margin, Fade mitigation Technique.

**References:**


Authors: Pranjal Barman, Santanu Sharma

Paper Title: Electronic Differential Control of Independent Wheel Drive NEV using Drive Current Balancing Strategy

Abstract: This paper presents the design and real-time implementation of an electronic differential speed control system (EDSC) for a neighborhood electric vehicle (NEV) with a decentralized power train configuration. The EDSC supervises the desired speed variation of the drive motors of the vehicle at various turning trajectories. The core focus of this design is to reduce the system complexity, computation delay and design expenses with an aid of a newly proposed drive current balancing algorithm (DCBA). The embedded DCBA based EDSC allocates the necessary torque to each wheel solely depending on the motor current variables. Thus, it eliminates the necessities of typical feedback variables-steering and speed to control the EDSC. The developed system performance is being investigated in situ real time on-board experiment. Results in the context of response time, design simplicity and performance reveal the effectiveness of the proposed framework.

Keyword: Electronic Differential (ED); Current Balancing; Neighborhood Electric Vehicle (NEV); Permanent Magnet DC Motor (PMDC).

References:

Authors: Sk. Khaja Mastan, M. Raja

Paper Title: Smart garbage level Monitoring using iot

Abstract: In latest few years we can examine quick increase in urban improvement plans, the concept of smart cities. While the concept comes up for Smart cities there’s a requirement for Smart waste management. The
important aim of Garbage tracking system is for the Smart buildings, Colleges, Hospitals and Bus stands to hold cleanliness. The Garbage tracking device theory is an improvement of regular dustbin by increases it to be smart using IR sensors. Garbage monitoring device is a new Technology of implementation which makes a regular dustbin smart using ultrasonic sensors for rubbish level monitoring and detection, it video display units and sends message to the concern department committee updating the status of the bin the usage of GSM modem when bin is

**Keyword:** IOT smart garbage level monitoring, Internet of things (IOT).

**References:**

**Authors:** Muhammad Hafizi Danial, Mohd Saidin Misnan

**Paper Title:** Critical Strategies to Influence Project Success in Construction Industry

**Abstract:** This research paper explored the critical strategies to be adopted by organizations that are mainly operating based on project based or project oriented organizational structure. The identified strategies are necessary to compensate the prolong issues embedded in project management practice particularly on misalignment issues between organization and its operational objectives and strategies. Generally, the issues are contributed from several factors such as unclear roles and responsibilities, limited autonomy and accountability, lack of a commercial and customer orientation, and weak of professional capacity. All these factors are extending the gap between the organization strategies and project implementation, and consequently put project success at stake. This study was conducted as an attempt to provide solutions to overcome these long rooted problems found in project implementation. The objectives of this study are to identify the importance factors of top management support to influence on project success, to investigate the relationship between top management support and project success, and to determine the critical top management support that influencing project success. This study was conducted by going through five main steps starting with understanding the nature of the research problems, followed with reviewing and compiling relevant literatures, journals and other sources of secondary data, preparing survey questionnaire form, collecting the data by gathering responses from the targeted samples, analysing the data to generalize the samples’ results, before closing with discussion and conclusion. The population of this study are constituted of professional serving in Construction Industry within Johor Bahru area, Malaysia. This study had gathered 100 responses from the targeted respondents through online survey form developed in “Google Form” system. The forms were distributed by forwarding the “link address” to the respondents. The data were analyzed using three different methods which are descriptive mean analysis, correlation analysis and regression analysis for respective research’s objectives. The results of this study discovered that organization should prioritize their strategies on three main areas namely financial system, stakeholder management and macro-economic factor. This study also found that organization should adopt all quality of top management supportive behaviours proportionally to ensure the effect of their actions are impactful to influence on project success at three different areas namely future preparation, project efficiency, and business adaptability and success. Organization should adopt different strategies when attempting to achieve different criteria of project success. This study’s outcomes could provide a useful source of information that may benefit other scholars or companies that are applying project management practice to formulate plan and prioritize line of actions in attempt to improve their organizational performance. This study implies ideas by focusing on optimum numbers of strategies and specific set of actions that are critical to achieve on different kind of project success.

**Keyword:** Critical success factors, organizational structure and strategies, project success, and project success factors.

**References:**

Authors: W. F. Tawhedy, Yasmnen Elsayed

Paper Title: Quality Assessment of Strengthened Concrete by FRP Laminates using Non-Destructive Testing

Abstract: A non-destructive testing program has been designed to evaluate the integrity of the bond strength of plain concrete beams strengthened by Glass Fiber Reinforced Polymer (GFRP) Laminates. A series of concurrent static load and non-destructive testing experiments were carried out in the materials and testing laboratory at the college of engineering, Matara, Helwan University, Cairo, Egypt.

A total of 90 plain concrete standard beam specimens of dimensions 150 mm x 150 mm x 750 mm were constructed in the laboratory with three different design strength categories (38, 45, and 50) MPa. The beam specimens were strengthened by externally bonded GFRP laminates with various number of layers namely (3, 5 and 7) layers. In addition, the effect of debonding of the GFRP laminates was investigated by simulating it by variation in voids between concrete and laminates namely, (0, 30 and 60%). This study investigates the effectiveness of externally bonded GFRP laminates on the flexural strength of plain concrete beams by using Ultrasonic Pulse Velocity (UPV) device before and during loading until failure and their effect on the p-wave velocities. Four-point flexural tests were performed on the concrete beams, strengthened with different layers of

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GFRP laminates and different percentage of voids at the concrete-laminate interface. The capacity of the beams and p-wave velocity were investigated. It was found that as the percentage of voids decreased, the capacity of strengthened concrete beams increased linearly. The reduction in voids enhanced the beam flexural behavior and controlled tension crack propagation. In addition, it was observed that use of GFRP laminates were more effective with higher concrete characteristic linearly. The reduction in voids enhanced the beam flexural behavior and consequently led to a higher capacity of strengthened concrete beams.

**Keywords:** FRP Laminates; FRP strengthening; Laminates debonding; Non-destructive testing; UPV testing

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Authors: Krishan Kumar, Yogesh Chaba

**Paper Title:** Enhanced Elliptic Curve Cryptography based Secure Transmission in LTE Network

**Abstract:** Long Term Evolution is considered as an important innovation of current wireless communication systems. LTE improves the limit and decreases the multifaceted nature of system availability, and furthermore empowers administrators to limit their operational expenses. In systems of LTE communication, eNodeB (eNB) is used to refer to a typical base station. In any case, clients in the LTE system are confronting a few difficulties those are to be explained. Routing and security are the issues happened during the information transmission. On the off chance that the client is not in range with the base station needs to speak with the base station. Be that as it may, the correspondence must be secured. To accomplish this necessity, in this research OPSO based Elliptic Curve Cryptography (ECC) is exhibited. It is notable that elliptic bend cryptosystem (ECC) based algorithm would be best decision because of their small key sizes and proficient calculations. The ECC algorithm is upgraded or optimizes by utilizing Oppositional Particle Swarm Optimization (OPSO) algorithm and furthermore the OPSO is utilized to produce the ideal key qualities. In light of the optimal key value data’s are safely conveyed to the eNB. The proposed EECG is actualized in the stage of Network test system (NS3). The exhibition of the proposed methodology is assessed as far as energy efficiency, delivery ratio and delay.

**Keywords:** EECG, OPSO, LTE, Communication, Security, Optimal key and eNodeB

**References:**
Decks Range Gola Village Community Begun District Buton District North

Language means to give opponents meaningful speeches so that they can be understood and understood because in language, of course, requires excellent and correct linguistic tools. This study aims to analyze the deixis of the people of the village of Rante Gola, Bonegunu District, North Buton Regency. This study uses a qualitative descriptive method carried out by not prioritizing the numbers, but prioritizes the depth of appreciation of the interaction between the concepts being studied independently. The population in this study was the community of Rante Gola Village, Bonegunu District, North Buton Regency, the sample in this study amounted to 14 people. Data collection techniques in this study were recorded and recording techniques. Based on the approach used, the data analysis method used is the contextual method. The contextual way is a method of analysis that is applied to data by basing, calculating, and linking contexts. The results of the above research are deixis found in the Kulisusu Dialect of the Rante Gola Village Community, Bonegunu District, North Buton Regency, namely six types, namely: Deixis People or Persona, place, time, discourse, social, and pointer.

Deixis, Bonegunu, North Buton

References:

Keywords: Deixis, Bonegunu, North Buton

Authors: Firman Gazali Djnaiadi, Azwan, Andi Yusdiandi Tenriawali, Risman Iye, Saidina Zulfigar bin Tahir

Abstract: Decks Range Gola Village Community Begun District Buton District North

Language means to give opponents meaningful speeches so that they can be understood and understood because in language, of course, requires excellent and correct linguistic tools. This study aims to analyze the deixis of the people of the village of Rante Gola, Bonegunu District, North Buton Regency. This study uses a qualitative descriptive method carried out by not prioritizing the numbers, but prioritizes the depth of appreciation of the interaction between the concepts being studied independently. The population in this study was the community of Rante Gola Village, Bonegunu District, North Buton Regency, the sample in this study amounted to 14 people. Data collection techniques in this study were recorded and recording techniques. Based on the approach used, the data analysis method used is the contextual method. The contextual way is a method of analysis that is applied to data by basing, calculating, and linking contexts. The results of the above research are deixis found in the Kulisusu Dialect of the Rante Gola Village Community, Bonegunu District, North Buton Regency, namely six types, namely: Deixis People or Persona, place, time, discourse, social, and pointer.

Deixis, Bonegunu, North Buton

References:
Paper Title: Synthesis, Characterization and Application of Chitosan-Coated Magnetite Nanoparticles in Drug Delivery

Abstract: Magnetcite nanoparticles were used extensively for various applications. In the present study, magnetite nanoparticles were synthesized and characterized by atomic force microscopy (AFM). AFM images showed that the obtained particles were perfectly spherical. Functionality is afforded to these magnetite nanoparticles by adding biocompatible polymer chitosan during the synthesis. AFM phase image clearly showed that the magnetite core is encapsulated with the polymeric shell. Fourier-transform infrared spectroscopy (FTIR) study showed the chitosan sorption on Fe2O3 nanoparticle surface. The drug sulphanethoxazole was loaded over magnetite nanoparticles and the encapsulation efficiency of drug was calculated at different concentrations of magnetite. The encapsulation efficiency increases with increase in the concentration of magnetite. Thus, an attempt was made in synthesizing drug loaded biopolymer magnetite nanoparticles suitable for targeted drug delivery.

Keyword: Nanoparticle: Chitosan; AFM; Coating; Polymer

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Authors: Aakash Gupta, Ashok Kumar Gupta, Ashish Kumar

Paper Title: A Model for Pavement Characteristic Deflection for Rural Roads in Himachal Pradesh

Abstract: Structural Evaluation of pavements is essential to assess the structural strength of different layers of pavement. It also helps in determining the remaining life of a pavement and the thickness of overlay required. Surface Deflection is the structural response that is easy to measure and hence, commonly used parameter in structural evaluation. In the present study, an attempt has been made to develop a relationship between surface deflection and various structural parameters of pavements selected on low volume flexible rural roads in Himachal Pradesh. Benkelman Beam has been used to determine characteristic deflection on selected 12 rural road stretches in Shimla and Solan district of Himachal Pradesh. Because the conduction of Benkelman Beam Deflection (BBD) test is costly and difficult to carry out in the region of Himachal Pradesh due to hilly and narrow rural roads leading to disruption of traffic, hence, models have been developed to predict surface deflection value using Soaked CBR, Un-soaked CBR, Average Annual Daily Traffic (AADT) and Age of pavement from last overlay (in years). Another model has also been developed to estimate surface deflection using K-value, AADT and age of pavement. Multiple models have also been developed using linear regression model. The various developed models have been studied, compared and best model is suggested supporting better coefficient of determination value and root mean square error (RMSE).

Keyword: Benkelman Beam, California Bearing Ratio, K-value, AADT, Linear Regression

References:
transportation applications. People are concerned about the grocery shopping a popular choice. With traditional households still being widely spread in the Indian society, the online companies need to have a resounding approach to influence the buying habits and shopping patterns of the consumers. The aim of this study is to understand the attitude of Indian consumers towards online grocery shopping and determine the factors that influence the consumer decision making to shop groceries online. The primary data is collected using a well-thought-out questionnaire in the form of an online survey. Data collected was analysed to determine the consumer attitude towards online grocery shopping. The findings of the study show that the consumers are influenced by various factors like time saving and convenience provided by the online grocery shopping platforms. They are also influenced by the quality of products and the return policy as well as the level of comfort while using the online shopping website/app. We have also been able to understand the reasons that prevent people from online shopping. Some people find themselves lacking the technical skills to shop online, but most people who do not shop online like going to the market personally. In case of online shopping, an area of concern for most shoppers is trust on the online grocery companies. The busy lives of people especially the urban working population, makes the local kirana store and to some extent by the emerging hypermarkets/supermarket. But, with the increasing internet and penetration of smartphones into the daily lives of the people, several online grocery stores have been able to penetrate the Indian markets. The busy lives of people especially the urban working population, makes the online grocery shopping a popular choice. With traditional households still being widely spread in the Indian society, the online companies need to have a resounding approach to influence the buying habits and shopping patterns of the consumers. The aim of this study is to understand the attitude of Indian consumers towards online grocery shopping and determine the factors that influence the consumer decision making to shop groceries online. The primary data is collected using a well-thought-out questionnaire in the form of an online survey. Data collected was analysed to determine the consumer attitude towards online grocery shopping. The findings of the study show that the consumers are influenced by various factors like time saving and convenience provided by the online grocery shopping platforms. They are also influenced by the quality of products and the return policy as well as the level of comfort while using the online shopping website/app. We have also been able to understand the reasons that prevent people from online shopping. Some people find themselves lacking the technical skills to shop online, but most people who do not shop online like going to the market personally. In case of online shopping, an area of concern for most shoppers is trust on the online applications. People are concerned about the privacy of their personal information while shopping online and needs thoughtfulness of the retailers to encourage more consumers to opt for online shopping platforms. In this paper we have comprehensively explored different areas associated with online grocery shopping and this study can be advantageous for the online grocery retailers to articulate effective policies to gain customer confidence towards online grocery shopping.

**Keyword:** Online Grocery Shopping, Data Analytics, Consumer behaviour, e-commerce, marketing strategy

**References:**


**Authors:** Deepshika Aggarwal

**Paper Title:** Determinants for Consumer Attitude towards Technology Enabled Grocery Procurement

**Abstract:** Online grocery shopping is trending worldwide as one of the most expedient e-commerce practice. Many people have started purchasing their grocery online and this has given the opportunity to the researchers to identify and analyse the factors that influence the consumers for making online purchases. We have observed that until around 5 years back, the daily grocery requirements of the Indian consumers were fulfilled by the local kirana store and to some extent by the emerging hypermarkets/supermarket. But, with the popularity of internet and penetration of smartphones into the daily lives of the people, several online grocery stores have been able to penetrate the Indian markets. The busy lives of people especially the urban working population, makes the online grocery shopping a popular choice. With traditional households still being widely spread in the Indian society, the online companies need to have a resounding approach to influence the buying habits and shopping patterns of the consumers. The aim of this study is to understand the attitude of Indian consumers towards online grocery shopping and determine the factors that influence the consumer decision making to shop groceries online. The primary data is collected using a well-thought-out questionnaire in the form of an online survey. Data collected was analysed to determine the consumer attitude towards online grocery shopping. The findings of the study show that the consumers are influenced by various factors like time saving and convenience provided by the online grocery shopping platforms. They are also influenced by the quality of products and the return policy as well as the level of comfort while using the online shopping website/app. We have also been able to understand the reasons that prevent people from online shopping. Some people find themselves lacking the technical skills to shop online, but most people who do not shop online like going to the market personally. In case of online shopping, an area of concern for most shoppers is trust on the online applications. People are concerned about the privacy of their personal information while shopping online and needs thoughtfulness of the retailers to encourage more consumers to opt for online shopping platforms. In this paper we have comprehensively explored different areas associated with online grocery shopping and this study can be advantageous for the online grocery retailers to articulate effective policies to gain customer confidence towards online grocery shopping.
Bus is a Major mode of transport in India and the passenger safety is significant during the travel. This Comprehensive comprehension on the literatures available discusses various parameters used to improve the Vehicle Design, Safety, Fuel Efficiency and decrease in drag of the vehicle. The outcomes obtained from CFD investigation is tabulated, and the exploratory outcomes obtained from aerodynamic tests are contrasted and numerical examination and the outcomes are additionally incorporated. The impact of temperature and the wind stream is likewise considered in this investigation. Various kinds of ventilations given in the transport vehicles are recorded, and the outcomes acquired from the various configurations in the structure is considered for opening and closing of Windows (Combination of windows). The cooling air inside the transport straightforwardly relies upon the outside climate condition. By overhauling the current vehicle transport model, the eco-friendliness will be improved and the drag power will be diminished.


References:
Brain MRI Classification using Deep Learning Algorithm

Abstract: The brain tumor is one of the most dangerous, common and aggressive diseases which leads to a very short life expectancy at the highest grade. Thus, to prevent life from such disease, early recognition, and fast treatment is an essential step. In this approach, MRI images are used to analyze brain abnormalities. The manual investigation of brain tumor classification is a time-consuming task and there might have possibilities of human errors. Hence accurate analysis in a tiny span of time is an essential requirement. In this approach, the automatic brain tumor classification algorithm using a highly accurate Convolutional Neural Network (CNN) algorithm is presented. Initially, the brain part is segmented by thresholding approach followed by a morphological operation.

Keyword: AlexNet, Brain Tumor classification, MRI, Convolutional neural Network, Deep Learning.

References:
### Chaotic African Buffalo Optimization Based Efficient Key Mechanism in Categorized Sensor Networks

**Abstract:** In recent days, Wireless Sensor Network (WSN) can be used to monitor the circumstances of various movable objects and several processes such as friendly forces monitoring, biological attack detection, fire detection and so on its applications are extended. To make all these applications reliable and secure, it is necessary to use cryptographic processes. The security of the whole network is depending on the strength of a generated key, the algorithm decides the size of the key handling and processing. In this research, a secure efficient key management scheme is proposed with the help of Chaotic African Buffalo Optimization (CABO) for wireless sensor networks. The evaluation of this method is made with the objective to improve the security strength and reduce the cost of resource. The traditional methods called genetic algorithm and an evolutionary algorithm named as Particle Swarm Optimization (PSO) is compared to verify the proposed scheme.

**Keywords:** Key Generation, Particle Swarm Optimization, Chaotic African Buffalo Optimization, Genetic algorithm.

**References:**


### An Optimal Multilevel Encryption Technique for Securing the Data Transmission in IoT

**Abstract:** Internet of Things(IoT) is playing a pivotal role in our daily life as well as in various fields like Health, agriculture, industries etc. In the go, the data in the various IoT applications will be easily available to the physical dominion and thus the process of ensuring the security of the data will be a major concern. For the extensive implementation of the numerous applications of IoT, the data security is a critical component. In our work, we have developed an encryption technique to secure the data of IoT. With the help of Merkle-Hellman encryption the data collected from the various IoT devices are first of all encrypted and then the secret message is generated with the help of Elliptic Curve Cryptography.
Keyword: Elliptic curve cryptography, Merkle-Hellman encryption.

References:

Authors: B. Reddaiah

Paper Title: Pseudorandom Numbered Hybrid Crypto-Algorithm with Two Bit Crossover and Boundary Mutation

Abstract: In spite of all the advantages while using networks in any form, there are large numbers of possible security issues that are rising with networking. To sort the security issues network security is the action that is intended to safe guard the resources and integrity of network and data. At work stations there are filters, firewall to protect. But while data in transmission security services are needed and frequent change in methods are to be developed to counter threats. In this work different methods like pseudorandom generation and multiple genetic algorithms are used that resembles quite different in nature. This proposed hybrid algorithm can be used in small business applications where they are frequently hacked. Small organizations that cannot afford to build a strong security system can use such hybrid systems.

Keyword: Security attacks, Pseudorandom numbers, Encryption, Decryption, Crossover Function, Mutation.

References:

Authors: Priyanka Aiwale, Saniya Ansari

Paper Title: Detection of Brain Tumor using KNN and LLOYED Clustering

Abstract: Today world the brain tumor is life threatening and the main reason for the death. The growth of abnormal cells in brain leads to brain tumor. Brain tumor is categorized into malignant tumor and benign tumor. Malignant is cancerous whereas Benign tumor is non-cancerous. Diagnosing at earlier stage can save the person. It is actually a great challenge to find the brain tumor and classifying its type. Detection of Brain Tumor and the correct analysis of the Tumor structure is difficult task. To overcome the drawbacks of exiting brain tumor detection methods the proposed system is presented using KNN & LLOYED clustering. Undoubtedly, this saves the time as well as it gives more accurate results as in comparison to manual detection. The proposed method is a novel approach for detection Tumor along with the ability to calculate the area (%age) occupied by the Tumor in the overall brain cells. Firstly, Tumor regions from an MR image are segmented using an Ostu Algorithm. KNN& LLOYED are used for detecting as well as distinguishing Tumor affected tissues from the not affected tissues. Total twelve features are extracted like correlation, contrast, energy, homogeneity etc. by performing “wavelet transform on the converted gray scale image”. For feature extraction DB5 wavelet transform is used.

Keyword: KNN& Lloyd, wavelet transform, tumour, MRI image

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Stefan Bauer, Roland Wiest and Lutz-P Nolte, “A Survey Of MRI-based restorative picture examination for Brain Tumor Studies”.

Vaishnavi Dr. P. Eswaran “Enhanced Color Image Enhancement Scheme utilizing Mathematical Morphology”, Volume 3, Issue 4, April 2013 BARCSSE.


Pavel Drovrak1,2 and Bjoern Menze3 Structured Prediction with Convolutional Neural Networks for Multimodal Brain Tumor Segmentation, 2015.


Anatoly Sorokin, Evgeny Zhvansky, Konstantin Bocharov, and Vsevolod Shurkhay, Alexander Potapov, “Multi Label Classification of Brain Tumor mass spectra microscopy data” 2017.


Authors: Venkatesh P, C. Ramesh Kannan, Milon Selvam Dennison

Paper Title: The Outcome of Turning Factors on the Machining Characteristics While Turning 655M13 Steel Alloy using Tialn Coated Carbide Insert

Abstract: This exploration is carried out to reveal the outcome of turning factors such as cutting velocity, depth of cut and feed rate on the surface roughness, mean cutting force and tool-work interface temperature on turning cylindrical 655M13 steel alloy components. The experiments are designed based on (33) full factorial design and conducted on a turning centre with Titanium Aluminium Nitride (TiAlN) layered carbide tool of 0.8mm nose radius, simultaneously cutting forces such as feed force, thrust force and tangential force and the tool-work interface temperature are observed using calibrated devices. The surface roughness of the turned steel alloy parts is deliberated by means of a precise surface roughness apparatus. Prediction models are created for average surface roughness, mean cutting force and tool-work interface temperature by nonlinear regression examination with the aid of Minitab numerical software. The optimum machining conditions are confirmed with the aid of a Genetic Algorithm. The outcome of each turning factor on the surface roughness, mean cutting force and tool-work interface temperature is studied and presented accordingly.

Keyword: 655M13; Lathe; Surface roughness; cutting force; TiAlN; Genetic Algorithm; Regression analysis

References:


Authors: Emad Al-Mahdawi

Paper Title: A Feasibility Solution of a Synchronous Generator for Optimisation of the System Power Stability using an Integrated Development Environment of Visual Basic-Excel

Abstract: Power systems are considered highly non-linear because the environment in which they operate keep changing and hence require iterative mathematical techniques to analyse them. Such changes have a resultant effect on the system’s stability. Fluctuations in parameters are experienced in loads across the networks of the system, generator’s outputs, network topology and other operating parameters. Practically, there is no analytical solution exists for solving the problem of stability. On the other hand, there are techniques available to obtain an acceptable approximate solution of such a problem, known as digital simulation. Runge-kutta method is one of these techniques which has been used broadly as it calculates every step in a sequence of sub-steps. The method relies on a complex mathematical modelling of the synchronous generator with the help of Park-Gorev’s transformation, for the sake of simplicity and intuitiveness the method is used to analyse and study the complex equations of the three-phase synchronous generator. Generally, the system is said to be stable if the opposing forces within it are balanced and at a perfect equilibrium. The aims of this research are to establish the effects of synchronous generator’s design and transient conditions upon power system stability with the help of Embedded Microsoft Excel Sheet based on Power System Stability Analysis (EMES- PSS), using the Runge-Kutta integration method. The study has proved that EMES-PSS can find the limits of Salient and Non-Salient machines stability when changing their essential parameters. The optimisation solutions of the power system stability problem can be achieved by using basic computational resources. The software can also be used on a number of modern tablets e.g., Apple’s tablets.

Keyword: Synchronous Machine, Modelling, Stability, Runge-Kutta, Visual Basic

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Authors: A.Lakshmanarao, A.Srisaila, T. Srinivasa Ravi Kiran

Paper Title: An Efficient Ad-Click Prediction System using Machine Learning Techniques

Abstract: Ad-click prediction is a learning problem that is highly related to the multi-billion-dollar ad-promoting the online advertising industry. As the number of internet users in India reached 525 million in 2019, online advertising companies are trying to influence internet usage users for promoting their business. Machine learning is a technique in which systems getting to act without any explicit programming. Currently, machine learning is pervasive today and we can use machine learning models in every research field. The accuracy of the ad-click prediction system impacts business revenue, so it is very important to build a prediction system with fewer false positives and false negatives. In this paper, we proposed an ad-click prediction system based on machine learning techniques. The dataset is taken from Kaggle. The dataset contains nine features. The goal of the model is to evaluate the probability of an online user to click on a given ad. We built a machine learning model based on these features. We applied a voting classifier on the dataset and achieved an accuracy of 98%. We used python language for implementation.

Keyword: Ad-click prediction, machine learning, python.

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Authors: Adedotun O. Akinola, Akunnaya P. Opoko, Eziyi O. Iheb, Hilary I. Okagbue, Adedeji O. Afolabi

Paper Title: Climate Change Adaptation and Mitigation Strategies in Lagos, Nigeria: Built Environment Professionals’ Perspective

Abstract: In recent times, the need for concrete steps to be taken in the adaptation and mitigation of the effects of climate change has taken the centre stage in development discourse. However, there is a scarcity of empirical studies on the extent to which built environment professionals, especially in a developing country like Nigeria are aware of the various climate change mitigation and adaptation strategies. This study examined the level of awareness of climate change adaptation and mitigation strategies amongst built environment professionals in Lagos, Nigeria. The data were sourced through a cross-sectional survey of 71 respondents including, architects, builders, town planners, estate managers and quantity surveyors in the study area using an online questionnaire. The data were subjected to descriptive statistics and the result shows that the built environment professionals identified the main causes of climate change to include the use of fossil fuels in industrial production, automobiles, and generation of electricity. Also, the major effects of climate change were flooding and excessive heat, while the top three adaptation and mitigation strategies greening/planting trees, enforcement of building guidelines and the use of energy-efficient technologies. This study implies that the built environment professionals are very much aware of the existing climate change adaptation and mitigation strategies but there is an urgent need to internalize them in the production and management of the environment in Nigeria.

Keyword: Adaptation, Mitigation, Awareness, Built environment professionals, Climate change, statistics.

References:
adaptation constraints in Lagos slum communities. Geoforum, 55, 76-86.


CMOS Circuit Design for Classification of ST and VT Arrhythmia Based on Morphological Analysis using Neural Network Classifier

Abstract:
Ventricular tachycardia is a life threatening medical emergency. Discerning dangerous ventricular rhythms with safe Sinus tachycardia based on heart rate is very tough as they are having similar heart rate. Most of the existing research used time information for classification which may lead false alarm. Hence a CMOS circuit is proposed to classify ventricular-tachycardia based on morphological changes in QRS complex. The design includes sample and hold circuit for sampling QRS complex, mapping circuit for map the given input signal to unit length, hamming neural network and winner take all circuits for classification of ventricular tachycardia. This design is implemented using 180nm CMOS technology with the operating voltage and power consumption of $19.81 \mu W$.

Keyword: Sinus tachycardia, Ventricular tachycardia, arrhythmia classifier, Hamming Neural Network, WTA Networks.

References:
Authors: V. Ezhilarasi, K. Kulothungan, L. Sai Ramesh

Paper Title: Secure Block Level De-Duplication on Big Data using Proof of Ownership

Abstract: De-duplication technology is commonly used to decrease the space and bandwidth requirements of services by eliminating repeated data and store only a single copy of them. Unfortunately, it raises issues relating to security and ownership such as, unauthorized users may claim as owner of that file and security threat from curious server itself. To overcome these issues, Secure Block level de-duplication with Proof of Ownership Scheme is proposed in this work. Proof-of-Ownership Scheme allows any owner of the same data to prove to the server that he owns the data in a robust way. This scheme uses convergent encryption and it protects the data from attackers and honest but curious server. It also reduces storage space efficiently by checking the uniqueness of data at block level.

Keywords: de-duplication, encryption, secure, block.

References:

Authors: N. Dileep kumar, S. Shanthi

Paper Title: Automatic Gate using Face Recognition Technique using HAAR Cascade Algorithm

Abstract: Now a day, in every single person households it is important to check regularly regarding their safety. Especially for elderly people it is mandatory, because they have become a target for certain burglars which leads to higher accidents/robberies in almost all the areas. To decrease the risk of such unwanted happenings in living space for single-person households, the hybrid security system should be adopted. The automatic personal identification has become the popular instead of using passwords or pattern in this days. This paper addresses the development of a face recognition technique for the above mentioned purpose.

Keywords: Security system, Face Recognition, HAAR cascade algorithm, Raspberry Pi.

References:


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Authors: R. Nandhini, D. Amsaveni

Paper Title: Fine Fuzzy sp Closed Sets in Fine Fuzzy Topological Spaces

Abstract: The main view of this article is the extended version of the fine topological space to the novel kind of space say fine fuzzy topological space which is developed by the notion called collection of quasi coincident of fuzzy sets. In this connection, fine fuzzy spclosed sets are introduced and studied some features on it. Further, the relationship between fine fuzzy spclosed sets with certain types of fine fuzzy closed sets are investigated and their converses need not be true are elucidated with necessary examples. Fine fuzzy spcontinuous function is defined as the inverse image of fine fuzzy close set is fine fuzzy spclosed and its interrelations with other types of fine fuzzy spcontinuous functions are obtained. The reverse implication need not be true is proven with examples. Finally, the applications of fine fuzzy spcontinuous function are explained by using the composition.

Keyword: Fine fuzzy topological space, Fine fuzzy spclosed set, Fine fuzzy spcontinuous. Subject Classification Primary: 54A05, 54A10, 54A20.

References:

Authors: Vijay Bhanudas Gujar, Arbaaz Shaikh, Alim Bagwan, Pooja Dixit, Nidhi Todkar

Paper Title: Intelligent Video Surveillance using Deep Learning

Abstract: Now days, Big data applications are having most of the importance and space in industry and research area. Surveillance videos are a major contribution to unstructured big data. The main objective of this paper is to give brief about video analysis using deep learning techniques in order to detect suspicious activities. Our main focus is on applications of deep learning techniques in detection the count, no of involved persons and the activity going on in a crowd considering all conditions [9]. This video analysis helps us to achieve security. Security can be defined in different terms like identification of theft, detecting violence etc. Suspicious Human Activity Detection is simply the process of detection of unusual (abnormal) human activities. For this we need to convert the video into frames and processing these frames helps us to analyze the persons and their activities. There are two modules in this system first one Object Detection Module and Second one is Activity Detection Module .Object detection module detects whether the object is present or not. After detecting the object the next module is going to check whether the activity is suspicious or not.

Keyword: Big data, Video surveillance, Deep learning, Crowd analysis, Machine Learning; Violent Activities Detection; Convolutional Neural Network; Recurrent Neural Network; Long Short-Term Memory.

References:
3. Python website from https://www.python.org/
4. OpenCV and Python from https://pypi.org/project/opencv-python/
5. Keras website from https://keras.io/
Abstract: Facial Expression conveys nonverbal communication, which plays an important role in acquaintance among people. The facial expression detection system is an activity to identify the emotional state of the person. In this system, a captured frame is compared with trained data set that is available in the database and then state of the captured frame is defined. This system is based on Image Processing and Machine Learning. For designing a robust facial feature descriptor, we apply the Xception Modelling algorithm. The detection performance of the proposed method will be evaluated by loading the dataset and pre-processing the images for feeding it to CNN model. Experimental results with prototypic expressions show the superiority of the Xception-Model descriptor against some well-known appearance-based feature representation methods. Experimental results demonstrate the competitive classification accuracy for our proposed method.


References:

Authors: M. Sandeep Reddy, Ch. Chinmiao, B. Sai Teja, P. M. Ashok Kumar

Paper Title: Facial Expression Detection using Deep Neural Networks

Abstract: This work focuses on enhancements of the maximum power point tracking for wind energy village. This work also targeted on numerous variables like air density, wind speed and impression of other geographical regions specific ecological elements. The Incremental Conductance along with Fractional open Circuit Voltage algorithms are usually is much less fruitful and still has problem in determining perfect step-size. To eliminate such drawbacks we recommended Hybrid execution of MPPT algorithms for maximum power point tracking to achieve the best possible power operation. The algorithms are presented by using Matlab simulation. This paper also delivers results for wind farm for various climate conditions in Maharashtra region with wind rose analysis. The outcomes attained are ideal for equivalent weather conditions based on air density variations and Hybrid Algorithm execution can be applied to draw out maximum power point. Results shows that recommended method is more efficient maximum power point tracking method with less execution time for any renewable energy resources.

Keyword: MPPT algorithms, power optimization, wind energy, incremental conductance, wind rose, wind farm analysis.

References:

Authors: Antaraksha Verma, H. K. Suhas

Paper Title: Development of MPPT Algorithm and Wind Rose Model for Wind Farm in Maharashtra

Abstract: This feature descriptor, we apply the Xception Modelling algorithm. The detection performance of the proposed method will be evaluated by loading the dataset and pre-processing the images for feeding it to CNN model. Experimental results with prototypic expressions show the superiority of the Xception-Model descriptor against some well-known appearance-based feature representation methods. Experimental results demonstrate the competitive classification accuracy for our proposed method.


References:
Abstract: The dynamic sedimentation of large particles including thermal convection gained the significant attentions in various applications using the Direct Numerical Solution (DNS) methods. The current solutions are mainly focused on isothermal suspended particles without the thermal convection separating dissolved particles and enveloping fluids. The systems beside thermal convection having the lack of sufficient investigations like missing the hot and cold elliptic particle in infinity long channels. In this work, we work on two challenges efficient DSN method designing and simulation of elliptic particle in infinity long channel using proposed DNS. The novel approach presented to study and simulates dynamic behaviour of elliptic particle sedimentation using the different settling modes using the Swarm Intelligent (SI) construct Finite Element Fictitious Boundary Method (FEM-FBM) and validates outcomes effectively. The Particle Swarm Optimization (PSO) used as SI to improve the accuracy and efficiency of FEM-FBM model in this work. The PSO based multi-grid FEM-FBM called PFEM-FBM proposed as Direct Numerical Solution (DNS) to simulate and validate fluid flows with thermal convection. The PFEM-FBM method used to understand the progression, energy, and warmth conditions effectively. The re-enactments utilizing PFEM-FBM led to utilizing the three diverse experiments. In the principal case, the relative investigation of cold, hot, and isothermal elliptic particles with thermal convection introduced. In the resulting situation, the estimation of cold elliptic particle improving in an incomprehensibly long channel with its endorsement presented. In the third case, the examination of hot elliptic particle resolve in an incessantly large channel with its support presented. The completion of the study is validated using the simulation outcomes with recent technique at the end.

Keyword: Direct numerical solution, finite element method, fictitious boundary method, particle swarm optimization, sedimentation, thermal convection.

References:

Authors: Y. Md. Riyazuddin, S. Mahaboob Basha, K. Krishna Reddy, S. Naseera Banu

Paper Title: Effective Usage of Support Vector Machine in Face Detection

Abstract: With the rapid growth in Technology in terms of multimedia contents such as Biometrics, Facial recognition etc. Facial detection got much attention over the past few years. Face recognition describes a biometric technology that attempts to establish an identity. In this paper, I would like to review about a facial recognition system using machine learning especially, using support vector machines. In any case, point of this exploration is to give extensive writing survey over face acknowledgment alongside its applications. Furthermore, after top to bottom conversation, a portion of the significant discoveries are given in end.

Keywords: Face recognition; Machine Learning; Image classification; feature extraction; pattern recognition ;SVM; Haar cascade classifier;

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4. T. Etrich, B. Lang, Parallel tuning of support vector machine learning parameters for large and unbalanced data sets, Preprint BUW-SC 2005/7, University of Wuppertal (May 2005).

Authors: Parikshith Nayaka S. K., Dayanand Lal N., Brahmananda S.H., Neetha K. S.

Paper Title: Security Advanced Framework for the Robust Systems Monitoring

Abstract: In the present communication technology the distributed networks have a vibrant job, Whether it’s statutory or non-governmental organisations. The significant worry of the present IT industry is that stability, adaptability and the complexities of the distributed systems are handled. Robust distributed system (RDS) are hubs in organized PCs, which changes itself as indicated by changes to conditions. A study framework or tool is utilized to distinguish the adjustments in the distributed frameworks and many of the activities of the whole system. The intruder could compromise this monitoring system while gathering the data from the distributed framework. The following task will discuss this paper, the framework of security approaches for studying RDS. Initially, work into current studying tools to assess the impact of monitoring practices in RDSs. Once security-sensitive information is collected by the monitoring tool, the risk of information being leaked to unauthorized users is high, Secondly, a safe corresponding channel was introduced using the RSA algorithm to track confidential information. Thirdly, A stable, personalized network monitoring tool was introduced to provide the necessary protection for each parameter in the system. Protection metrics are used to calculate the security levels of each constraint to be monitored.

Keywords: Robust Distributed systems, Security approaches, Network Monitoring Tool.

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Dheeraj V. C., Kartik Holla A., Deeksha G., Nischitha A., Kishore G.R.

**Paper Title:** Determination of Age using Traditional Techniques Such as Hand MRI, Face Recognition, Versus Building Neural Networks and Image Processing Techniques.

**Abstract:** Technological advancement in forensic imaging have tremendous flow on benefits to the professional practice of forensic anthropology, not only in respect of case-work analyses, but also in facilitating empirical research that has validated and improved existing, and introduced novels, methods. The detail contribution include the spatial features of a dental x-ray image in a dental featured database. Determining the additional information it solves the model by Lagrange multiplier. Functional neural networks developed progressively with age. In dentistry, clinical radiographs reverberate the intensity loss of an X-ray when being transmitted through the mandibular objects. Dental examination is one of the most important parameter that helps us to identify the age of an individual. Teeth are known to aid in personal identification as well as in addition to the age determination as they are highly durable to resist the effect of reaction by chemical and other environmental factors.

**Keyword:** Forensic science, Radiographic strategies, Dental age estimation, Data analysis and interpretation, Non-invasive methods.

**References:**

**Authors:** Anuradha D. Thakare, Priyanka R. Lele
Paper Title: Genetic Clustering for Polycystic Ovary Syndrome Detection in Women of Reproductive Age

Abstract: Now a days, hormonal disorder causing Polycystic Ovary Syndrome (PCOS) is been observed in most of the women of reproductive age. PCOS causes enlarged ovaries with small cysts on the outer edges. Women with PCOS may have irregularity in menstrual periods or excess male hormone (androgen) levels. The ovaries may develop numerous small collections of follicles (cysts) and fail to regularly release eggs. Symptoms of PCOS include irregular periods, excess androgen, polycystic ovaries, abnormal Body Mass Index, disturbed levels of hormones (Luteinizing Hormone, Follicle-stimulating Hormone, Dehydroepiandros- terone), poor insulin resistance. There is a need to design and develop an optimized system to analyze the sonogram in correlation with the physical symptoms for detection of PCOS at early stage which may result in proper treatment and reduced health loss. This article presents work-in-progress of our proposed research on Intelligent System to detect PCOS. The performance analysis of various Machine learning algorithms like Artificial Neural Network, K-Nearest Neighbor and Linear Regression to detect PCOS is presented. Whereas, optimized Genetic Clustering for optimization of classification results is proposed. Basic Genetic Algorithm (GA) and other hybrid GA’s will be used for comparing the optimal results. The classification results are optimized with 89% accuracy

Keyword: Classification, Genetic Clustering, Machine Learning, Polycystic Ovary Syndrome, statistical measures, Sonography.

References:

Authors: Byeonggyu Jeon, Youngmin Han, Ruchire Eranga Wijesinghe, Mansik Jeon, Jeehyun Kim

Paper Title: Automated Defect Inspection Algorithm Incorporated Spectral-Domain Optical Coherence Tomography for Optical Polarizing Thin Films

Abstract: Optical polarizing thin film is an optical filter enables light waves of a specific polarization pass through while blocking light waves of other polarizations. Optical polarizing thin films control the brightness of back-light unit for LCD (liquid crystal display) panel, which is essential to produce LCD modules. Defect inspection of polarizing thin films is an important feature during the manufacturing process that is helpful to improve the product quality. In the current study, an automated defect inspection algorithm is introduced and incorporated with a well-known non-destructive and non-contact optical inspection method called spectral domain optical coherence tomography (SD-OCT) to pre-identify defective sub-surface as well as top-surface locations of optical polarizing thin films Polarizing thin films employed in this study consist of 6 layers. The tomographic information, layer information, and defective locations were sufficiently identified through the SD-OCT system
owing high-axial resolution. The acquired results indicate the possible application of the proposed system in optical polarizing thin films for the quality assurance.

**Keyword:** SD-OCT, optical thin film, defect inspection, optical inspection.

**References:**

**Authors:** M. Satish Kumar, Ambati Dattatreya Kumar, Hepsibah Palivela, M. V. Raju, T. Ch. Anil Kumar

**Paper Title:** Hydrological Modelling of Catchments at Industrial Sector

**Abstract:** In any nation industries are the major sources for the country economy and also the major source of employment for the people of any nation. Industries are also considered as prime reason for the developmental activities with huge employment potential at the other side the environmental conditions in and around the industries are degrading very rapidly due to the lack of proper supervision on disposal of industrial wastes along with the emissions releasing into the open atmosphere by few of the industries [9] without any concern of human health eventually over a period of time all the effluents and the emissions released into the open atmosphere without treatment shows dangerous consequences on the environment in the society. The major requirements of any industries starts with water only, as the water is prime element for the survival any living organism on the earth and also the water is the prime component for the development of any area but at certain areas the water both surface and ground water [11] sources have been contaminating due to the unethical and unscientific disposal of wastes into the open lands as well as into the nearby water bodies, when we emphasize the reason behind this specific activity we came to understand that improper maintenance of effluent treatment plants and the effluents releasing from them shows its severe impacts on nearby aquatic organisms [3], if the same water is used for domestic activities there will be a damage for human health and sometimes it may leads to the death of the individuals also. In the present study three locations were indentified around the boundaries [8] of catchment based on the entry of flow into the catchments and the samples were collected for three times in the study period of three months, all the samples were marked with labels and analysis [2] was carried out by using prescribed analytical procedures, the results were compared with surface water quality standards [1] specified by Central Pollution Control Board,1979 and the Bureau of Indian standards, 1982 to find out the hydrology of the catchment.

**Keyword:** Catchments, Effluent, Environment, Hydrology, Industries, Treatment.

**References:**
1. Surface water quality criteria for different uses (specified by CPCB, 1979 and the Bureau of Indian Standards, 1982)
4. Manivasakam.N., Physico chemical Examination of Water, Sewage and Industrial Effluents, Pragati Prakasham,p.234(2202)
**Superconductivity in Heavy Fermion Materials**

**Abstract:** The heavy fermion materials have small superconducting transition temperature and large specific heat corresponding to large effective masses. In these materials the superconductivity co-exists with ferromagnetic or antiferromagnetic order at low temperatures. It shows phenomena like magnetic instabilities, quantum critical points (QCP), non-fermi liquid (NFL) and unconventional superconductivity. By comparing the superconducting properties, phase diagram and effect of magnetic field and pressure of heavy fermions based on uranium, cerium, and praseodymium, the basic physics behind pairing mechanism can be imagined. This paper aims to present remarkable findings in superconductivity of various heavy fermion materials.

**Keyword:** Cerium, heavy fermion superconductors, Praseodymium, Unconventional superconductivity, Uranium.

**Authors:** Shailaj Kumar Shrivastava

**References:**
Abstract: Topological indices of different molecular structures has been widely studied since last many decades. These indices are treated as a score function which maps a structure to a real numerical value and this value can be used as a descriptor of the structure which helps to study the structure and under its characteristics. Topological indices are defined in many ways based on distances between nodes, degree of a node. In this paper we will be discuss various types of topological indices of some special classes of semigraphs. Here we will use the adjacent degree of end vertices to define these indices. Also in this paper we will find the generalised formula of these indices for complete Semigraph $E_n$ and $T_{n-1}$.

Keywords: Semigraph, Randic index, Zagreb index.

References:
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6. Tamás Réti “On the Relationships between the First and Second Zagreb Indices” by, MATCH Communications in Mathematical and in Computer Chemistry - January 2012

Authors: P. A. Hangargekar, K. R. Harne

Paper Title: Application of Passive Cooling Technologies in Commercial Buildings

Abstract: World over building sector is largest consumer of electrical energy. Energy requirement for air cooling and refrigeration is found to be 40% of total consumption of electrical energy used in building sector. Passive cooling technologies used in building have good potential of indoor air cooling many buildings built on these principles are showing reduction in energy requirements. In present work, passive cooling technologies such as planform, shading devices, garden trap bond, fenestration, air ducts, earth berming, and indoor gypsum wall finishes, false ceiling etc. had been integrated into building design of a commercial building at Tuljapur in the hot and dry climatic zone of India. Field experimentation work of measurement of temperatures in indoor and outdoor locations of the building had conducted to assess the cooling potential of these technologies. It was found that average temperature reduction in indoor atmosphere was archived as 3°C except the temperature difference between indoor and outdoor atmosphere. This was a cumulative effect of above mentioned passive cooling technologies integrated in building design.

Keywords: passive cooling, temperature, relative humidity, energy conservation

References:
7. https://doi.org/10.1016/j.enbuild.2009.03.013

Authors: P. Brahmedra S. Prakash

Paper Title: Smart Helmet using IoT

Abstract: The goal of the adroit guarded top is to give a systems and mechanical social affair to recognizing and revealing mishaps. Sensors, and passed on enrolling frameworks are used for building the structure. The occurrence conspicuous evidence framework gives the accelerometer respects to the processor which dependably screens for unusual combinations. Right when a disaster occurs, the related nuances are sent to the emergency contacts by utilizing cloud based assistance. The vehicle area is acquired by utilizing the general masterminding structure. The framework guarantees a reliable and brisk development of data identifying with the episode constantly and up dated to cloud which are gotten to by IOT. In this way, by utilizing the unavoidable framework
which is a striking part for the watchful urban zones, a mind blowing protective top for calamity ID is created.

**Keyword:** Disaster Detection, Alcohol Detection, Internet of Things, IR sensor and Smart Helmet.

**References:**
1. SayanTapadar, Arnab Kumar Saha, Dr. Himadri Nath Saha, Shinjini Ray, "Fiasco and Alcohol Detection in Bluetooth empowered Smart Helmet for Motorbikes" 978-1-5386-4649-6/18/$31.00 ©2018 IEEE.

**Authors:** M. Nageswara Rao, S. Varu Kumari, P. Manohar, B. Madesh, P. Naveen Krishna, R. Suraj Krishna Sai

**Paper Title:** Simultaneous Scheduling of Machines and AGVs in FMS Through Ant Colony Optimization Algorithm

**Abstract:**
High amount of flexibility and quick response times have become essential features of modern manufacturing systems where customers are demanding a variety of products with reduced product life cycles. Flexible manufacturing system (FMS) is the right choice to achieve these challenging tasks. The performance of FMS is dependent on the selection of scheduling policy of the manufacturing system. In Traditional scheduling problems machines are as considered alone. But material handling equipment’s are also valuable resources in FMS. The scheduling of AGVs is needed to be optimized and harmonized with machine operations. Scheduling in FMS is a well-known NP-hard problem due to considerations of material handling and machine scheduling. Many researchers addressed machine and AGVs individually. In this work an attempt is made to schedule both the machines and AGVs simultaneously. For solving this problems 4 new metaheuristic Ant Colony Optimization (ACO) algorithm is proposed.

**Keyword:** FMS; Operational Completion Time (makespan); Metaheuristic algorithms; AGVs; NP-hard problems.

**References:**

**Authors:** Immanuel K., Dinesh Kumar A., Praveen Kumar E.

**Paper Title:** Enhanced Intelligent Automated Method to MSRCR Algorithm for Image Enhancement

**Abstract:**
The images captured by a camera may need tweaking based on the lighting situations present at the scene captured. The extremities in the lighting and the position of the object may sometime degrade the image captured. To have a right image all the time this concept was developed. This paper focuses on the automated procedure which rides over the Multi Scale Retinex with Colour Restoration Algorithm for best possible results. This is a completely automated approach where the user need not do anything apart from giving the image as the input. The main problems in photography are overcome to a great extent using this procedure.

**Keyword:** MSRCR, High Key, Low Key, Histogram Equalisation.

**References:**


Authors: Mohd Abdul Kareem

Paper Title: Step-UP DC-DC Converter for PV Cell

Abstract: Paper In modern trend renewable energy sources has taken vast place in power generation. out of all renewable energy sources solar power generation source has high efficiency, in our paper we have using a converter which step up the power generation through photo voltaic cell. Coupled inductor topology not step up input but also provides uninterrupted power supply to load. This type of system is used in island applications. Voltage developed by photo voltaic cell is 15v which is step up to 220V using our proposed converter with power of 100W, this converter provide output which is fifteen times of input. This converter is transformer less and has negligible losses therefore it is DC-DC converter used for DC applications and for AC applications by connecting an inverter to it.

Keyword: PV module, Continuous Conduction Mode (CMM), DC-DC Converter, CIMP technique, Active switch.

References:

Authors: H.L. Phalachandra, Dinkar Sitaram

Paper Title: Optimizing Energy Efficiencies in Cloud Data Center Resources with Availability Constraints

Abstract: Cloud infrastructure Resources hosted in Data Centers, support the effective execution of Cloud computing applications. Given the increased adoption of the Cloud Computing Applications and the Businesses getting to be Data-driven, there is a huge increase in the number of Data Centers and the Size and amount of resources hosted in these Data Centers. These Data Center resources consume a significant amount of energy and this continuous scaling of the resources is leading to increased power consumption and a large carbon footprint. Given our fragile eco-system, optimization of the Data Center resources for energy conservation and thus the carbon footprint is the primary area of our focus. Businesses also need to satisfy QoS guarantees on Availability to their customers. Optimization towards Energy efficiencies may compromise on the Availability and thus may warrant a trade-off, and a need for them to be considered together. Although there have been numerous studies towards Energy efficiencies, most of them have been focused on only energy. In this paper, we initially segregate Optimization activities towards the Data Center resources like Compute, Network, and Storage. We then study the different control parameters or approaches which will lead to meeting the objectives of Energy Efficiencies, Availability and Energy Efficiency constrained with Availability. Thus, this will support the selection of approaches for the optimization of energy while meeting the QoS Availability requirement.

Keyword: Availability, Data Center Resources, Energy Efficiency, Optimization, QoS

References:
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100. L. Shang, L.-S. Peh, and N. K. Jha, “Dynamic Voltage Scaling with Links for Power Optimization of Interconnection Networks.”


Authors: Swapna P, A. Daisy Rani

Paper Title: Design and Development of Smart Fleet System using Global Positioning System

Abstract: Now a days, Vehicle tracking system plays a major role in our daily life. As the technology grows, vehicle thefts are increasing enormously. This paper proposes to design an embedded system which is used to track and position any vehicle by using Global Positioning System (GPS) and Global system for mobile communication (GSM). This helps in monitoring and reporting the status of the moving Vehicle on demand continuously. So, ATMEGA328 microcontroller is serially interfaced to a GSM Modem and GPS Receiver through serial communication protocol RS 232. In this, driver circuit is used to covert TTL voltages into RS 232 voltage levels. Identifying the position of the remote vehicle is done by GPS modem continuously. The current location details like vehicle longitudes and latitudes of the remote vehicle is sent through GSM modem. The output is acquired from GPS modem and displayed on the LCD display. The same data is transmitted to the mobile at the other end from where the position of the vehicle is demanded. Based on the request placed by the user, the position of the vehicle is automatically sent to the corresponding mobile number. So, this project has been implemented to identify lost vehicle, know the status of moving vehicle from remote location and send the information to the user's mobile number.

Keyword: Microcontroller, GPS, GSM, Vehicle tracking system, Embedded systems.

References:

2. Chia-Hung Lein, Chi-Hsiung Lin, Ying-Wen Bai, Ming-Fong Liu and Ming-Bo Lin " Remotely controllable outlet system for home power management” Proceedings of IEEE tenth international symposium on consumer electronics (ISCE 2006), St Petersburg, Russia, PP-7-12, 2006.


Authors: Andril Alagusabai, T/ShivaPrakash, N.P.Gopika

Paper Title: A Novel Smart Tag-Based Vigilance System for Human Against Wildlife Threats on Iot

Abstract: India has 1.37 billion people and still the population is growing, therefore government is putting immense pressure on land to build homes and factories irrespective to wild inhabitants. Also, government in the process of taking endless effort in aspiration for economic growth of country by rushing through projects, sometimes without proper safeguards and deforestation. Deforestation and urbanisation are becoming a major concern. Which in turn results, human wildlife conflicts. This is a matter of serious alarm in balancing the competition for land between people and animals. Due to the above-mentioned reason the tribal people who dwell in and around the forest area suffer from the human and wild animal conflicts. The occurrence is mainly due to the unawareness of their migration of animal inhabitants in and around the living area due to scarcity of food and water. It has been visualized and propounded as an idea towards the people who dwell in the tribal forest areas, and encounter such kind of human wild life conflict problems through the articles in daily news. It’s a major problem to be concerned, because this conflict has led to the extinction, reduction of numerous species, uncountable human deaths and economic losses. Recent advances in our understanding of conflict have led to a growing number of positive conservation but unfortunately with technology gaps.

Keyword: Digital Image processor, DBMS, Smart Tag

References:
1. RuthKanska, MartinKiddb, Andrew T.Night," A wildlife tolerance model and case study for understanding human wildlife conflicts"


Authors: G. Ganesh Naidu, Sk. Hasheer, M. Sri Durga Vara Prasad, P.Ravi Kumar
Paper Title: Bond Behaviour of Epoxy Coated Rebar Induced in Self Compacting Concrete

Abstract: This paper analyses the bond behaviour of epoxy coated rebar induced self-compacting concrete. Experimental program is designed to check the workability and pullout test is performed to evaluate the bonding performance of rebars. Two mixes of self-compacting concrete are chosen to form a fine paste of cement that could make bonding between concrete and reinforcement. A reference mix of SCC is made using ordinary reinforcement and pullout test values are compared. Workability and compressive strength values of SCC are also analysed and compared.

Keyword: SCC, bond behaviour, workability, pullout test.

References:

Authors: Vilas K. Patil, UdhHAV M. Shirsat
Paper Title: Sintering Temperature and Applied Pressure Effect on Manufacturing Ni-Cr Based Composite Material.

Abstract: Mechanical Property of Nickel-Chromium composite investigated with different parameters. Green pallets (composite) were manufactured under the different pressure (220MPa, 275MPa and 330MPa) and such pallet sintering in two different temperatures (9000C and 10000C). The result indicate that the properties of the composite increases with increasing pressure and also with increasing sintering temperature for Ni-Cr based composite. Porosity plays a vital role in mechanical properties of composite and it present between maximum 4.304% to minimum 1.865%. For highly porous material, mechanical properties are minimum than lower porous composite material. The result of the study reveals that the properties of Ni-Cr based composite improved for 330MPa pressure and 10000C temperature. Thus there is need to consider these aspect while manufacturing the composite material to have a good mechanical or Tribological properties.

Keyword: Ni-Cr based material, Green pallet applied pressure, Sintering temperature.

References:

Authors: Santhosh N, Manjunath N, Mahesh H R
Paper Title: Potentiodynamic Corrosion Characterization of Hybrid Aluminium Composites for Advanced Engineering Applications

Abstract: Corrosion characterization of Aluminium composites is a significant study planned for assessing the capability of utilizing the materials for aviation and automobile parts. Aluminium 5083 is a particular class of
alloys which is known for its corrosion resistance in extraordinary conditions and is utilized in aerospace components. However, the experimentations on impact of reinforcements, for example, the effect of Silicon carbide and Flyash on corrosion properties of Aluminium 5083 alloys is still in its incipient stage and not much literature is available outlining the corrosion attributes. The present work includes the fabrication of Aluminium 5083 – Silicone carbide – Flyash composites and investigation of the corrosion conduct of these composites. The composites are fabricated by stir casting procedure, considering silicon carbide particulates varied in the scope of 3 wt.% to 9 wt.% at an intermittent intervals of 2 wt.%. The composition of fly ash in the present work is limited to 5 wt. % for restricting the porosity after conducting preliminary trials. The composite materials considered in this research are assessed for corrosion by Potentiodynamic test, which is accomplished utilizing a test arrangement comprising of five mouth jar with calomel electrode and a working cathode (comprising of the specimen held rigidly with a copper wire and secured with Teflon tape notwithstanding a region of one square centimeter exposed to the electrolyte). The anodic and cathodic potentiodynamic polarization estimations are acquired as tafel plots in the PC that is interfaced with the test arrangement. The outcomes reveal that the corrosion current (Icorr) increases with the increase in the weight percentage of Silicon carbide in the metal matrix. The electrolyte consisting of five mouth jar with calomel electrode and a working cathode (comprising of the specimen held rigidly with a copper wire and secured with Teflon tape notwithstanding a region of one square centimeter exposed to the electrolyte).

Keywords: Aluminium, Metal, Matrix, Composite, Potentiodynamic, Corrosion.

References:

Authors: Hallay Beyene, Narayan A.Joshi.

Paper Title: Experimental Selection of Machine learning Techniques and Image features to Detect “Cactus” Diseases

Abstract: Image is a very important data in machine learning. In order to select better features, feature extraction techniques and classifiers, intensive experiments are taken place using data. In this work, best feature, feature extraction technique and machine learning classifier are selected experimentally. Hence, bag of features were the best features experimentally out of color, texture and bag of features. Of color histogram, bag of features and GLCM (Gray-level co-occurrence matrix), bag of features extraction technique is found to be the best one experimentally. Of the machine learning classifiers shown in the scatter plot and confusion matrix, linear support vector machine is selected and the achieved accuracy is 97.2%.

Keyword: Cactus, bag of features, GLCM, Color histogram, Confusion matrix

References: 424.
Managing risk is an integral part of sound management and risk management helps to achieve projects objectives. Although the process of risk management is standardized to a great extent, risk control strategies depend on project circumstances and feature.

One of the essential humanity’s challenges in the future, is surely ensuring water needs. Equitable and sustainable management of water resources is a major global challenge, and supply of clean fresh water is decreasing around all nations. Egypt is one of the countries hardest affected by climate change. Also challenges include population growth, increase in food demand and lack of water and energy Leads to let managing risk for construction of water control structures projects on water streams in Egypt becomes more challenging and essential than ever before.

Moreover, this study aims to show the effect of risk on cost and time targets for water control structure projects in Egypt. This study mainly identify a list of significant risk factors effecting on cost and time for these type of projects in Egypt through studying pervious publishing for risk management in construction projects and a questionnaire survey, then conducting a qualitative analysis using a Severity and Probability matrix (S/P matrix) techniques to assess the influence of risk factors and to isolate critical risk factors for a quantitative analysis.

Finally, conducting a quantitative analysis by mean of Analytical Hierarchy Process (AHP) to determine the cost and time contingency, s the conclusion of this study shows that the cost contingency needed to account for the different critical risk factors is to increase the estimated cost by 12.35% on the total estimated budget of the project. In addition that the time contingency needed to consider for different critical risk factors is to increase the scheduled time by 11.25% over the total originally scheduled of the project.

References:
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7. I. Rashid, "Risk and Risk Management definitions" Lectures in construction management, Faculty of Engineering, Cairo University, 2007, Cairo, Egypt.
8. S. Saeed, "Cost and Time Risk Management in Construction Projects". (Research gate) Tikrit Journal of Engineering Sciences, Kirkuk University, 2018, Kirkuk, Iraq. ISSN: 1813-162X (Print); 2351-7589 (Online).
11. N. Zabaal, "Risk management of pipeline infrastructure projects in Egypt", Thesis (M.Sc.) Faculty of Engineering, Cairo University, 2007, Cairo, Egypt.

Authors: Zeeshan Sidiq Paul, Sandeep Singla, Manish Kaushal
Paper Title: Risk Assessment and Control in Construction Projects

Abstract: Construction tasks are initiated in changing and complex environments results in circumstances of excessive uncertainty and danger, that are compounded by means of worrying time constraints. Construction industry has modified significantly during the last numerous years. It is the industry driven on the whole via non-public investors; the existence of securitized immovable property has multiplied considerably. It is prone to the business and numerous technical dangers which represent higher exposures than risks which are traditional.

Thus there is a need of Risk Assessment. Risk Assessment is a Process to discover those risks in a assignment and manipulate it as a result with a right treatment. Assessment of Risk is described as a tool which identifies and measure risk to personnel and belongings impacted by an assignment. The general technique of this Study depends largely on the questionnaire survey which become accrued from the local constructing contractors of different sizes with the aid of mail or by way of personnel meeting. A thorough review of literature is to begin with carried out to discover the hazard elements that have an effect on the overall performance of creation enterprise as a whole. The questionnaire survey is designed to probe the cross-sectional behavioral sample of production risks. The questionnaire organized for the pilot survey turned into formulated by means of seeing the applicable literature within the vicinity of creation risk management. Total seventy five businesses the questionnaires have been given, in which forty five had an powerful respond and two of them were rejected due to...
flawed answering. Thus the reaction rate is 60% which is taken into consideration a terrific response in this kind of survey. This study seeks to become aware of and assess the dangers and to increase a risk control framework which the contractors/investing body can adopt while contracting creation work in Kashmir.

**Keyword:** Risk Assessment, Construction

**References:**
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42. Suchith ReddyRisk Construction Industry Management — A case study, multinationa journal of advanced engineering know-how and management research vol.4A, 10 OCT 2015

Authors: Sadanand, Ravindra Prawasi, Ritesh Kumar, M.P. Sharma, Abhishek Sharma

Paper Title: GIS Implementation in MNERGA Schema using Bhuvan Portal

Abstract: Government of India through MNREGA scheme is trying to fulfill the critical requirement of focused Panchayat asset mapping for the proper analysis of the required resources to be channelized for the overall wholesome development of the Panchayat in India. One such step taken by ISRO was to develop an Android Application for Panchayat Asset Mapping of the villages for generating database that will assist the government to study and channelize resources and funds for a proper controlled futuristic development of the Panchayat. The Panchayat Asset Mapping Application gives the citizens the privilege to contribute to this national project through a citizen login that can be easily registered through the Panchayat Asset Mapping Android Application.

Keyword: Asset mapping, Data collection, Upload Asset, Activity planning, View Asset.

References:
1. Space Based Information Support for Decentralized Planning (SIS- DP), Nagaraja Ravoori, Project Director, SIS- DP.
2. Mobile Based Asset Mapping for Panchayat Equivalent Bodies on GIS Platform, Bhuvan Panchayat Mobile Application, NRSC.
4. Integrated Water Management Program (IWMP)
6. NIRD, Bhuvan App PdF.

Authors: Deepak D M, Bhavin Kumar S, Dayanand Lal

Paper Title: Major Hurdles of Cyber Security in 21st Century

Abstract: A digital assault is an attack propelled by cybercriminals utilizing at least one PCs against a solitary or numerous PCs or systems. A digital assault can perniciously handicap PCs, take information, or utilize a ruptured PC as a dispatch point for different assaults. Cybercriminals utilize an assortment of strategies, including malware, phishing, ransomware, refusal of administration, among different techniques. Albeit most government offices and significant enterprises have completely sent individual devices as data safety efforts, focuses of assaults have extended to incorporate, other than government foundations, basic frameworks and explicit ventures and partnerships, calling for increasingly powerful counter measures. In this paper we have discussed about Cyber Attack and its types, its initiated and a major cyber-attacks in 21st century.

Keyword: Confidentiality, Cyber-Attack, , DoS, ,Phishing.

References:
1. Mohamed Syahir Abdullah et al , ” Cyber-Attack Features for Detecting Cyber Threat Incidents from Online News978-1-5386-7541-0/18/2018 IEEE.
5. Noora Alallag et al Group topic-author model for efficient discovery of latent social astroturfing groups in tourism domain“ 978-1-5386-7541-0/18/2018 IEEE.

Authors: Waled Abdallah Ali

Paper Title: Behaviour of RC Buildings with Single and Double Outriggers under Seismic Response

Abstract: Today, tall structures are inescapable in urban communities. Along these lines, the structure requires a production system which can effectively participate in resisting the applied wind and earthquake loads. Among the available lateral load resisting systems, outrigger, as rigid horizontal elements connect shear walls to exterior columns is the most commonly used to enhance tall structures performance under lateral forces. A series of dynamic response spectrum (RS) analyses devoted to assess the seismic response behavior of R.C tall buildings with central core wall having outrigger system. Several models with and without outrigger systems were considered in the analysis in order to investigate the ideal position and the number of outriggers. The developed building models have either one or two outriggers. Structural software package ETABS was used to develop the considered herein different configurations of the building models as well as performing the dynamic analysis. The
performance of the considered configurations was investigated in terms of displacement and inter-storey drift peak profiles. Sensitivity to the position of outrigger on the induced wall bending moment was also explored comparing the responses of the different configurations. The results of the performed study can provide structural designers with the optimum location of a single or either double outrigger in order to minimize the induced seismic response during the initial stage of the outrigger system design process. The optimum locations of outriggers are quarter height of the building in case of using single outrigger and at quarter and three quarters of the building in case of using double outrigger in order to minimize the induced moment values on the core and columns

**Keyword:** R.C Tall buildings, Outrigger, seismic responses, RS analysis, ETABS.

**References:**

**Authors:** Anjali Diwan, Rajat Sharma, Anil K Roy, Suman K Mitra

**Paper Title:** Digital Image Tamperin Gdetection using sift Key-Point

**Abstract:** Copy-move imitation is a widespread and generally utilized operation to corrupt digital image. It is considered as the most effective research areas in the domain of blind digital image forensics area. Keypoint based totally identification techniques have been regarded to be very environment-friendly in exposing copy-move proof because of their steadiness against a number of attacks, as like large-scale geometric movements. Conversely, these techniques don’t have the capabilities to cope with the instances if copy-move forgeries only engage in minor or clean areas, the place the quantity of keypoints is more restricted. To affirm the originality of image, detection of digital image tempering is required. To manage this difficulty, a quick and efficient copy-move imitation detection process is promoted by using the skill of hierarchical function point matching. It is viable to produce an adequate quantity of key points that are present in small or easy areas with the aid of reducing the brightness threshold and resizing the enter digital image. After that, construct a novel hierarchical equivalent technique to remedy the key point equivalent issues over a huge quantity of the key points. To decrease the false alarm charge and exactly localize the affected areas, we similarly advise an innovative iterative localization approach by way of using the steady elements (which comprises of the overriding orientation and the scale data) and the color data of all key point. The proposed technique validates the highest quality overall functioning of the suggested approach in terms of efficiency and precision.

**Keyword:** Copy-Move, Forgery Detection, Freak Descriptor, SIFT (SIFT Detector), Tampering

**References:**
10. Luca D’Amiano, DavideCozzolino, Giovanni Poggi, and Luisa Verdoliva: A PatchMatch-based Dense-field Process for Video Copy-
Bearing Capacity of Soft Marine Soil Stabilization with Cockel Shell Powder (CSP)

Abstract:
The quality of the subgrade is depending on the geotechnical properties, strength and the stabilization technique adopted for problematic soil in order to increase the bearing value. In Malaysia, soft soil is a challenging due to very low strength value and low California Bearing Ratio (CBR) value as well. The soil stabilization process is conducted to increase bearing capacity of marine soil. An experimental works cover from identification of basic soil properties by index test, compaction test and CBR test. Though, the marine soils have to increasing percentage volume of water usage indicates the decreasing value of ion and al of of.

References:
The technique is based on depth-ep learning and shallow learning techniques has been conducted 250.

References:

25. Detection, Multibox Detector.


Authors: Khushaboo Gill, Veenu Mangat

Paper Title: Effective Deep Learning Based Architecture for Pedestrian Detection from Digital Images

Abstract: This paper is to present an efficient and fast deep learning algorithm based on neural networks for object detection and pedestrian detection. The technique, called MobileNet Single Shot Detector, is an extension to Convolution Neural Networks. This technique is based on depth-wise distinguishable convolutions in order to build a lightweighted deep convolution network. A single filter is applied to each input and outputs are combined by using pointwise convolution. Single Shot Multibox Detector is a feed forward convolution network that is combined with MobileNets to give efficient and accurate results. MobileNets combined with SSD and Multibox Technique makes it much faster than SSD alone can work. The accuracy for this technique is calculated over colored (RGB images) and also on infrared images and its results are compared with the results of shallow machine learning based feature extraction plus classification technique viz. HOG plus SVM technique. The comparison of performance between proposed deep learning and shallow learning techniques has been conducted over benchmark dataset and validation testing over own dataset in order measure efficiency of both algorithms and find an effective algorithm that can work with speed and accurately to be applied for object detection in real world pedestrian detection application.

Keyword: Convolution network, Deep Learning, Histogram of Oriented Gradients, Object Detection, Pedestrian Detection, Multibox Detector.

Authors: Shubhashish Goswami, Himanshu Kumar Diwedi

Paper Title: Security Validation Model in Cloud Computing Environment

Abstract: Private, Public cloud or a unified cloud system, client’s absence of a successful secure computable assessment techniques for handling the security circumstance of its own data foundation overall. This paper gives a quantifiable security assessment framework for various mists that can be gotten to by reliable API. The assessment framework incorporates security checking motor, security recuperation motor, secure computable assessment system, graphical presentation segment & so on. Secure assessment system makes out of many assessment components comparing various fields, for example, figuring, stockpiling, organize, support, application security and so forth. Every component is doled out 3 tuples on the liabilities, score & fix strategy. Framework receives “I vote” system for a field to check its point & includes synopsis as overall score, & to make high security. We implement the computable assessment for various cloud environment clients dependent on the G Cloud phase. It
displays active security examining for one or different clouds with pictorial diagrams & clients to adjust arrangement, expand activity & fix liabilities, in order to increase secureness of cloud assets.

**Keyword:** security, quantifiable evaluation, secure validation, secure view, cloud computing

**References:**

**Authors:** C. Thilagavathi, M. Sowmiya

**Paper Title:** Improved Self Key Establishment Protocol for Multi Hop Communication under Wireless Device Systems

**Abstract:** The wireless device systems are definitely the tiny systems composed of wireless device goods. The device tools catch environmentally friendly information. Information catch, the information receives and data gears are the three main procedures of the device products. The information morals will be sent through the radio rate of recurrence. Protection is the most important obligation for the purpose of the cellular device systems. Necessary administration is extremely important for anyone protection applications. The distribution procedure in administration has been changed drastically over the years. The self-key establishment process for cellular device sites (SKEW) is utilized to handle the crucial administration activities in terms of security. The effective self-key restaurant standard protocol provides essential administration with much less important storage space, conversation, transmitting regularity and computational expenses. The crucial circulation can be performed with minimal message transmitting procedure. The self-key store process with regards to cellular device systems can be the foundation process for everybody protection protocols. The self-key establishment protocol is mainly created for the single-hop communication environment. The proposed platform enhances the self-key organization process for numerous jump conversation environments. The SKEW process can be sustained for unrestrained multiple bottom train station environment without groupings. The self-key business process shall be built-in with additional protection protocols to offer a comprehensive option for essential distribution and guaranteed conversation procedure.

**Keyword:** SKEW, Protection, WSN

**References:**

Authors: M. Mahasree, N. Puviarasan, P. Aruna

Paper Title: Pixel Value Ordering Based Reversible Data Hiding with Novel MPBS Strategy

Abstract: Recently, Reversible Data Hiding (RDH) techniques have gained much attention in many sensitive fields such as remote sensing, archive management, military and medical image processing systems. This is due to the lossless data extraction ability of RDH schemes. The primary goal of RDH schemes is to achieve high embedding rates while maintaining the quality of cover objects. For achieving better performance, Pixel Value Ordering (PVO) based reversible data hiding schemes have been proposed. PVO refers to the process of ranking the pixels in blocks and then modifying the pixels according to some embedding rules/conditions. So far, the existing PVO techniques have considered neighborhood pixels at unit distance. In this paper, an improved RDH using block based PVO scheme is proposed which exploits the pixel correlation efficiently by increasing the block size and applying a novel Median Pixel based Block Selection Strategy (MPBS). When block size is increased, the ordering of pixels is changed after embedding. So, to extract the secret data in a lossless manner, the secret bits are swapped in accordance with their corresponding Stego pixels’ index order. Also, the overflow and underflow conditions are effectively handled using Location Map. Experimental results show the better performance of the proposed RDH technique with the existing technique.

Keyword: Reversible data hiding, pixel value ordering, pixel correlation, block selection, index order, location map.

References:

Authors: Aya Abd El-Moneim, Ahmed A. Hassan, Samia Abou El-Fotouh, Aiman El-Saadi, Ahmed Abdallah

Paper Title: Drainage Water Reuse under Water Scarcity

Abstract: Water resources management in arid regions and semi-arid such as Egypt is a continuous process for the achievement of rational use of the scarce water resources for the benefit of the national economy. Water scarcity in Egypt is a major challenge, which is annually increasing due to the high water demand of different sectors, while the share of Egypt from the Nile is fixed at 55.5 billion cubic meter (BCM). Non-conventional water resources, such as drainage water, are essential alternatives to improve the water use efficiency. In Nile Delta, a considerable number of reuse pump stations (RPSs) are distributed along the drains network already decades ago. But farmers are unofficially using small pumps to divert drainage water directly to their fields. The major concern in the reuse of agricultural drainage water is the build-up of salts. This research aims to assess the water balance in El-Behira governorate to reduce the negative impacts of water scarcity on the crop yield, soil deterioration, evapotranspiration. The model was calibrated using the water and agriculture data of the year 2014 which was used as a base year then it was validated using the data of year 2015. Two statistical goodness-of-fit coefficients [Nash-Sutcliffe model efficiency coefficient (NSE) and ratio of the root mean square error to the standard deviation of measured data (RSE)] were used to assess the re-calibration and validation of the model; where the results of the...
model showed good and very good performance with the observations. In addition, the water allocation of the study area was simulated by the SIWARE Model during the studied two years to assess the current water uses and soil conditions, while the results are visualized using Geographical Information System (GIS) as an essential tool for a decision support system. The simulation results indicated that the study area suffers from water stress that forces the farmers to unofficially reuse the drainage water. Electrical Conductivity (EC) of the unofficially reused water ranged between Medium and high hazard salinities that gives restrictions on the crop pattern, causes hygienic risks, and increases the pollution in the shallow aquifer.

**Keyword:** Drainage Water Management, SIWARE, EL-Behira Governorate, Water Scarcity, Reuse of Drainage Water

**References:**

**Authors:** Rajanish Kumar Kaushal, Tilak Thakur

**Paper Title:** Multiobjective Electrical Power Dispatch of Thermal Units with Convex and Non-Convex Fuel Cost Functions for 24 Hours Load Demands

**Abstract:** There are a host of difficult issues with scheduling, operation, and control of integrated power systems. The electricity sector is changing rapidly, and one of the most important concerns is deciding operational strategies to meet electricity demand. It is a greater challenge to satisfy customer demand for power at a minimum cost. The operating characteristics of all generators may be different. In general, operating cost is not proportionate to the performance of these generators. Therefore challenge for power utilities to balance the total load between generators. For a specific load condition on energy systems, Economic Dispatch(ED) seeks to reduce the fuel costs of power generation units. Moreover, energy utilities have also an important task to reduce gaseous emission. So the ED problem can be recognized as a complicated multi-objective optimization problem (MOOP) with two competing targets, the minimal cost of fuel and the minimum emissions effects. This paper presented an efficient method, hybrid of particle swarm optimization (PSO) and a learning-based optimization (TLBO) for combined environmental issues because of gaseous emission and economic dispatch (CEED) problems. The results were shown and verified by PSO and TLBO for standard 3 and 6-generator frameworks with combined issues of emission and economic dispatch taking into account line losses and prohibited zones (POZs) on hourly demand for 24 hours.

**Keyword:** economic, emission, CEED, PSO, TLBO, PSO_TLBO

**References:**

Authors: Siva Suryanarayana Ch., Satya Prakash Singh

Paper Title: Fuzzy Optimization Algorithm for Software Cost Estimation

Abstract: Estimation of a software cost depends on a probabilistic model and thus it doesn’t create precise values. In any case, availability of good chronicle information combined with a efficient technique can create improved outcomes. This paper, we have displayed a Software Effort Estimation Model utilizing PSO and Fuzzy Logic. Fuzzy sets have been utilized for displaying uncertainty and imprecision in estimation of effort while PSO has been utilized for tuning parameters. This has been seen from the outcomes that Fuzzy-PSO intelligence gives precise outcomes when compared through its different partners. This system relies upon thinking by linguistic quantifiers and fuzzy logic. This kind of model holds well, when the product plans are communicated by absolute or potentially arithmetical data. Along these lines, this projected methodology improves the old style correlation process that doesn’t think about clear cut data. In the fuzzy correlation model, fuzzy sets are used to describe both the clear cut and the arithmetical data.

Keywords: Fuzzy Logic, Fuzzy Optimization, Particle Swarm Optimization (PSO), Software Effort Estimation, Software Cost Estimation (SCE).

References:

Authors: Annu Priya, Sudip Kumar Sahana

Paper Title: A Deterministic Flowshop Scheduling Problem to minimizing the Makespan using PA-ACO

Abstract: Scheduling problems are NP-hard in nature. Flowshop scheduling problems, are consist of sets of machines with number of resources. It matins the continuous flow of task with minimum time. There are various traditional algorithms to maintain the order of resources. Here, in this paper a new stochastic Ant Colony optimization technique based on Pareto optimal (PA-ACO) is implemented for solving the permutation flowshop scheduling problem (PFSP) sets. The proposed technique is employed with a novel local path search technique for initializing and pheromone trails. Pareto optimal mechanism is used to select the best optimal path solution form generated solution sets. A comparative study of the results obtained from simulations shows that the proposed PA-ACO provides minimum makespan and computational time for the Taillard dataset. This work will applied on large scale manufacturing production problem for efficient energy utilization.

Keywords: Permutation Flowshop Scheduling Problem (PFSP), probability of Correct Selection (PS), High-performance computing (HPC)
Abstract: A Recommendation engine recommends the most relevant items to the user by using different algorithms to filter the data. A Recommendation system is more useful in the context of data extraction relating to...
applications of big data and machine learning. As the name indicates Popularity based recommendation system works with the current vogue. It basically uses the items which are in swing at present. This is the most basic recommendation system which provides generalized recommendation to every user depending on the popularity. Whatever is more popular among the general public that is more likely to be recommended to new customers. The generalized recommendation not personalized is based on the count. In this paper I am going to use a class that we created which includes the methods to create recommendations and to recommend the item to the user. Next I will load the data of Comma Separated Value (CSV). After that sort the sound name based on the how many users have listened to the sound name. After the collection of data code splits the dataset into training and the test dataset using 80–20 ratio. This creates an instance of popularity based recommenders class. At last I will use the popularity model to make the predictions.

**Keyword:** popularity, recommendation, sound name, prediction, listen, dataset, filter, trend.

**References:**
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4. Portugal, Implementation of item and content based collaborative filtering, popularity model techniques based on ratings average for recommender systems, University of Mumbai 2013.

**Authors:** Barabash Oleg, Halakhov Yevhen

**Paper Title:** Setting the Optimum Time for a Special Audit to Improve the Enterprise’s Cyber Security

**Abstract:** The article presents a method for setting the optimal time for special audit to improve the level of cyber defense of an enterprise working in the field of market relations of IT services. Studying the issue of providing measures to reduce the risk of a cyber-incident, analyzed the time series of the intensity of cyber-attacks of the enterprise. An analytical function of the cyber-attack intensity at an enterprise that satisfies the nonlinear Bernoulli differential equation is considered. The elasticity interval of the analytic function of the cyber-attack intensity at the enterprise is found. Analysis of the cyber-attack time series on the enterprise system for the same time periods falling within the time interval from the end of the planned audit to the beginning of the next one. An analytical alignment of the time series of the cyber-attack intensity function was performed using a logistic curve. A stepwise p-transformation of a small parameter into a cyber-attack intensity function for an enterprise was introduced and the dimensionlessness of the variables was performed, which made it possible to calculate the sensitivity of a dimensionless cyber-attack intensity function from a small parameter p over a set time period. The study is based on the application of the theory of elasticity of the intensity function of cyber-attacks, which determines the time interval at which to conduct a special audit at the enterprise. Due to the found elasticity interval of the cyber-attack intensity function, the optimal time for special audit was determined.

**Keyword:** cyber security, time series, cyber-attack intensity, logistic curve, elasticity, Bernoulli equation, p-transformations, filtering, special audit

**References:**
3. IBM i2 Enterprise Insight Analysis for Cyber Threat Hunting. ZZS03196-USEN-06. URL: https://www.ibm.com/downloads/cas/WZKLWGBP

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260. 1567-1572
Authors: E. R. Aruna, A. Rama Mohan Reddy, K. V. N. Sunitha  

Paper Title: Development of IoT Health Monitor System using Security Patterns  

Abstract: Context: The most important non-functional requirement of the software application is the security. Developing Secure Software is a challenging Process. Software vulnerabilities and defects may disclose by developers, users, hackers due to Software-intensive systems get connected more and more in every day’s lives. A better way to develop secure software is, enhance security processes in all the phases in SDLC. To enhance security in SDLC process required lots of mechanisms and systematic measures to assess the security during the development process. Objective: In this paper, we propose a method “Security-aware-Software Development Life Cycle (Sa-SDLC) using Security Patterns”. We also measure our security efforts in SDLC. This method fills the insecurity gaps from root level to top level in Granular style approach. Our method is suggestible for security critical applications such as Medical, Finance, Legacy and Communication (Messaging like email) Systems. Results: we successfully implemented our approach on remote health monitor since IoT devices are convenient in everyday life, these devices are using in home, environment, healthcare due to its feasible networking, storage and process features etc. In IoT health care applications, security of the sensitive data is paramount since humans are part of the IoT platform. IoTs heterogeneous network connection and expected growth, opens many new threats and attacks which impacts on life of a patient. Conclusion: Hence, our proposed methodology is implemented on Security Essential IoT based health care application and measures shows our method is improved software security.

Keyword: Sa-SDLC Methodology, Secure Patterns, IoT Application  

References:
To improve SIP signal execution in MANET, routing parameters must be powerfully balanced through SIP methods dependent on a set equal for execution improvement measurements to help the SIP signal framework. In this manner, the presentation of the Optimal Link State Routing Protocol (OLSR) is to be additionally improved. In MANET, vitality is a key anxiety for secure communication, making it conceivable to avoid enemies or childish hubs since the system. In term of this paper, the projected secure as well as QoS based energy aware multipath routing in MANET. In support of multipath path collection, we have provided the Optimal Link State Routing Protocol (OLSR) algorithm. Energy efficient multipath routes are designated on the system using this method. Afterward a quantity of transactions, a route may misplace its connection quality. Hence the optimal path is selected to the paths installed on the system utilizing the Spider Monkey Optimization (SMO) algorithm. At last the presentation measurements of our planned SMO-OLSR task are contrasted and the current OLSR. SMO-OLSR used for hybrid wireless network for efficient communication. The reproduction results demonstrate that the presentation of our planned work, the packet delivery rate, the delay, and the packet fallout are improved over the existing work. This planned methodology is actualized on the foundation of NS2.

**Keyword:** Optimal Link State Routing Protocol (OLSR), Spider Monkey Optimization (SMO), MANET, Multipath Routing, Hybrid Wireless Network (HWN).

**References:**


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<th>Authors:</th>
<th>S. M. Borikar</th>
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<tr>
<td>Paper Title:</td>
<td>Accelerating Anisotropic Cosmological Model Filled with Two Fluid and</td>
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<td>Abstract:</td>
<td>In this paper we have studied Kantowski-Sachs universe filled with perfect fluid and radiation with a cosmological constant. To get determinate solution, it is assumed that the scalar of expansion is proportional to shear scalar (\theta a\sigma) which leads to the relation between metric potentials (R = A S). The cosmological parameters of models are also discussed.</td>
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<th>Sameer Saxena, Yudhveer Singh, Basant Agarwal</th>
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<td>Paper Title:</td>
<td>Boundary Detection to Segment the Pectoral Muscle from Digital Mammograms Images</td>
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<td>Abstract:</td>
<td>Breast cancer is class of cancer that sets off when the breast cells grow out of proportion and control. The radiologist recognizes the sign of breast cancer by performing a kind of X-ray called screening mammography. During analysis of mammography the biggest problem arise because of the presence of pectoral muscle. The mass of tissue on which the breast is rest called the Pectoral muscle. It is the primary problem that pectoral muscle area density is almost similar to the tumour cell and this condition generates confusion to recognize the tumour cell. For analysis the Medio-Lateral oblique (MLO) view of mammograms is being taken so that the complete breast image can be viewed. Some part of the pectoral muscle also gets visible along with the breast in the MLO view which must be segmented from the mammogram. Pectoral muscle involvement can lead to false positive or false negatives. The workforce shortages of Radiologist with respect to growing demands and to declare the result in a very short time have also increased the pressure. Consequently, a radiologist is sometimes unable to detect an anomaly. This is the time where CAD system can help radiologists to detect breast cancer at an earlier stage. Numerous strategies for the selection of the pectoral muscle have been suggested and developed so far. This article reviews the different segmentation techniques for pectoral muscle removal in mammograms through digital images.</td>
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Authors: Somanath Swamy R H M, Hiregoudar Yerrennagoudar, Mahesh G

Paper Title: Performance and Emission Characteristics of CI Engine with Modification in Fuel Injector

Abstract: Work has been carried out using four stroke single cylinder diesel engine with retrofit attached with fuel injector and at optimum injection pressure 210 bar and 230 BTDC. The main purpose of using retrofit is to achieve HCCI (Homogeneous charge compression ignition) with which emissions can be reduced. Four Variants of retrofits were used and with V-cut type retrofit it was found that there is reduction in toxic emission like CO and NO but there was slight increase in HC emission when compared with normal fuel injector. Engine performance was compared with normal injector and injector with V-cut and it was found that Break thermal efficiency was increased by 0.25% at full load and 1.53% at 80% load and specific fuel consumption decreased by 0.01%.

References:

Authors: Monika, Dipali Bansal

Paper Title: Forensic Science Research Summary for Forgery Detection of Digital Images

Abstract: An important measure of proof collection, storage, and authentication in forensic sciences, which decide the safety and security of any system documents, which can be either portable document formats or scanned images. To gather evidence, or plan a forensic investigation digital images are secured with different modern methodologies. Digital image analysis includes image recovery and surveillance for image information improvement. The goal of forgery detection is to maximize the extraction of information from manipulated images, particularly noisy and post-processed images. Because digital image processing is becoming popular with many advantages in scientific and engineering applications, the forgery techniques are also growing at a rapid rate. Therefore, the main focus is on different types of forgery detection in digital image processing with the help of all transform techniques and comparing their best results for further improvement in order to generate a new approach for a future forensic science investigation.


References:


During the peak time of a disease, some medicines are not available in the hospital. Now-a-days, medicines play an important role in medical science. To treat a patient there are absence of medications in government emergency clinics. Our fundamental point of our venture is to build up a Healthcare Information System, for government emergency clinics. Our main point is: medicines play an important role in medical science. To treat a patient there are absence of medications in government emergency clinics. Now-a-days, medicines play an important role in medical science. To treat a patient there are absence of medications in government emergency clinics. Our fundamental point of our venture is to build up a Healthcare Information System, for government emergency clinics. Our main point is:

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During the peak time of a disease, some medicines are not available in the hospital. Now-a-days, medicines play an important role in medical science. To treat a patient there are absence of medications in government emergency clinics. Our fundamental point of our venture is to build up a Healthcare Information System, for government emergency clinics. Our main point is:

Authors: Neeraja, Pradeep Kumar J

References:

2. Gartner, Inc. Stamford, CT: Gartner; 2016. identifies three key trends that organizations must track to gain competitive advantage in its 2016 hype cycle for emerging technologies.
Fake education certificates or fake degree is one of the major concerns in higher education. This fraud can be minimized if there is a tamper-proof and confidential registry of certificates wherein not one but multiple certified authorities verifies and stores the issued certificate in immutable repositories with proper privacy maintained. Secondly, there should be a mechanism for retrieving the authentic certificate without much cost and time. Blockchain is an immutable, shared, distributed ledger without the control of a single centralized authority that fits very well for the discussed use case. The proposed work, PrivateCertChain, has implemented the idea for university having multiple affiliated colleges, by deploying and verifying digitally signed e-certificate on Ethereum Blockchain. Multiple affiliated colleges can serve as the miners for verifying the signature of the issuer. For privacy concerns, the content of the certificate will be hashed and this hashed value will be stored in Blockchain. For university having multiple affiliated colleges, by deploying and verifying digitally signed e-certificate on Ethereum Blockchain. Multiple affiliated colleges can serve as the miners for verifying the signature of the issuer. For privacy concerns, the content of the certificate will be hashed and this hashed value will be stored in Blockchain. For university having multiple affiliated colleges, by deploying and verifying digitally signed e-certificate on Ethereum Blockchain. Multiple affiliated colleges can serve as the miners for verifying the signature of the issuer. For privacy concerns, the content of the certificate will be hashed and this hashed value will be stored in Blockchain. For university having multiple affiliated colleges, by deploying and verifying digitally signed e-certificate on Ethereum Blockchain. Multiple affiliated colleges can serve as the miners for verifying the signature of the issuer. For privacy concerns, the content of the certificate will be hashed and this hashed value will be stored in Blockchain. For university having multiple affiliated colleges, by deploying and verifying digitally signed e-certificate on Ethereum Blockchain. Multiple affiliated colleges can serve as the miners for verifying the signature of the issuer. For privacy concerns, the content of the certificate will be hashed and this hashed value will be stored in Blockchain.
blockchain, by scanning QR through the dedicated application designed for verification. The proposed solution can be a foolproof mechanism against all frauds as it guards for integrity, confidentiality, authenticity, and privacy of educational certificates.

**Keyword:** Blockchain, Smart Contract, ethereum, Privacy, Confidentiality, e-Certificate, e-Degree, Immutability

**Introduction**

**References:**


**Authors:** Rajalakshmi, P.Sumathy

**Paper Title:** Spectrum Allocation in Cognitive Radio - Simplified Swarm Optimization Based Method

**Abstract:** Communication through wireless mode is accelerated its expansion in broad manner that make a way to communicate with different type of computing devices to interact each other. As the number of users continues to increase, there is a constant demand for the usability of radio spectrum, which is a limited resource. Therefore a maximum utilization of spectrum is necessary at any moment. Moreover it is desired to share the capacity of the bandwidth between the user’s application on the basis of different channel utilization without compromising efficiency and fairness. Because cognitive system accommodate a dynamic spectrum allocation environment and it becomes an essential to compare performance in terms of Throughput, Latency, End-To-End Delay, Average Power Consumption, Average Adaptation Time and Average Total Utility were provided to illustrate the improved behaviour of the proposed system. A quality conscious spectrum assessment work is proposed, where spectrum bands are examined based on the requirements of application as well as the complex existence of the spectrum bands. The author used Simplified Swarm Optimization (SSO) in this paper to communicate spectrum allocation and the performance of the proposed method is compared with the existing methods; Genetic Algorithm (GA) and Particle Swarm Optimization (PSO). It has been found that SSO gives an optimal solution than GA and PSO.

**Keyword:** Cognitive Radio, Spectrum Sharing, Genetic Algorithm, Particle Swarm Optimization and Simplified Swarm Optimization.

**References:**

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32. Richard N. Clarke, “Expanding mobile wireless capacity: The challenges presented by technology and economics, Telecommunications Policy”, Volume 38, Issues 8–9, September 2014, Pages 693-708


Authors: Nornajihah Nadia Hasbullah, Zuraidah Sulaiman, Adaviah Mas’od

Paper Title: The Influences of Parasocial Relationship and Sources Credibility in Promoting Sustainable Fashion in Social Network Sites

Abstract: Fashion industry is the second most polluted industry in the world that has caused social and environmental issues. Pointing to the fact, sustainable fashion has been designed to reduce pollution and to improve working conditions in the industry. Concurrently, many consumers have claimed that they are concerned about the impact of major fashion brands on the planet. However, beyond the concerned, the market share produced on this fashion concepts are still lagging. In reaching potential consumers, advertisement via social network sites (SNS) appears to be the most effective medium to reach them. Due to this reason, this study designed the most persuasive ways of promoting sustainable fashion advertising. By engaging the Persuasion Knowledge Model (PKM), this conceptual paper demonstrates the relationships between parasocial relationship, sources credibility, and sustainable fashion consumption. This study proposes three hypotheses based on the growth of sustainable fashion within the Malaysian context. As this study will involves with quantitative analysis, the researchers will employ the PLS software for data analyses in future. Although the sustainable fashion scene in Malaysia is still slow, its growth is promising. The findings can be leveraged to gain deeper understanding on how to create effective digital advertising with the implementation of persuasive knowledge, parasocial relationships, and sources credibility. Accordingly, the study outcomes contribute to various practical implications that may be beneficial for marketing, policy making, and non-governmental action aimed at stimulating sustainable fashion consumption from a dyadic perspective.

Keywords: Persuasion Knowledge Model, Parasocial Relationships, Sources Credibility, Sustainable Fashion, Social Network Sites Advertising, Sustainable Fashion Consumption.

References:


Abstract: Delhi, the most populated city in the country, is the capital of India. The huge population, urbanization and industrial processes contribute to degradation of water quality which is further aggravated by direct disposal of untreated domestic wastewater into the river Yamuna. In Delhi, the sewerage system is badly affected by improper management of the drainage system and insufficient installation of sewers in undeveloped as well as slum areas of the city which degrade the surface water quality of Yamuna River and create unhygienic conditions for the increasing population. In this study, three sewage treatment plants (STPs) have been selected which are situated at Najafgarh, Delhi Gate and Shahdara based on different technologies like Extended Aeration (EA), Biological Filtration and Oxygenated Reactor (BIOFOR) and Phytorid in order to assess the quality of wastewater before and after treatment and to determine the removal efficiencies of various parameters. The study reveals that the performance of Delhi Gate and Shahdara STPs based on BIOFOR and Phytorid technologies are more efficient for the treatment of the municipal wastewater which can be further safely disposed off into surface water and can be used for non-domestic purposes like irrigation, agriculture, cleaning of parks and streets. The effluent quality of Najafgarh STP based on EA technology is found to be less efficient as compared to the BIOFOR and Phytorid technologies. Hence, it is required to be operated and maintained properly with close supervision so as to achieve effluent quality standards as prescribed by the Indian standards.

Keyword: Sewage treatment plant, Extended Aeration, BIOFOR, Phytorid, Biochemical oxygen demand

References:
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Abstract: In a present development world materials will be made up of light weight, better strength, easily availability and low cost ie. Composite materials are Automotive application, aerospace application, marine, construction and household purposes. In this paper we research a natural fiber ie. Sisal and basalt fiber, we can use also glass fiber. Numerous specialist made on these fiber however we can utilize sisal+basalt+epoxy, sisal+glass+epoxy, glass+basalt+epoxy, sisal+epoxy, basalt+epoxy, glass+epoxy by made on Hand layup followed by vacuum bag technique for contrasting the mechanical properties like ductile, flexural and sway quality which is better one for including filler material in next advancement venture Sisal fiber any place on the planet is effectively accessible for automobile application, agricultural application and etc. so on at low coast, basalt fiber is likewise less expensive contrasted with carbon fiber, better warm safe and these to filaments are biodegradable can makes these blend for improves the properties of composite material.

Keywords: Composite material, Basalt fiber, Epoxy, Glass fiber and Sisal fiber

References:
2. Flavio de Andrade Silva, Romildo Dias Toledo Filho, Joao de Almeida MeloFilho, Eduardo de Moraes Rego Fairbairn, Physical and mechanical properties of durable sisal fiber-cement composites, Construction and Building Materials;2010;24:777785.

Authors: M.A. Attia, M. E. Eldamarawy, M. B. Anwar, A.M. Radwan

Paper Title: Ultimate Shear Strength of Sand to Concrete Interface

Abstract: One several studies have been performed by many researchers regarding laboratory interface testing. Interface tests were performed to determine the soil to structure shearing resistance angle (Ø). This angle is used for the design of geotechnical structures such as friction piles, retaining walls, culverts, etc. Also, test results are useful for determination of parameters for constitutive modeling of interface response. Correlations between sand relative density, and corresponding friction angle (Ø), and interface shearing resistance angles (Ø) are obtained. In addition, (Ø) is represented as a function in (Ø). These relations are based on degree of interface roughness and particle shape of sand.

Two types of sand, and in addition one mix (50%-50%) of the two sand types, are investigated. The first type of
sand is siliceous sand and has rounded to sub-rounded particles. The second type of sand is fragments of weathered igneous rock of granite and basalt. This type of sand has angular shaped particles. To form a surface representing the retaining structure, ordinary Portland concrete mix was made from locally available material (sand, ordinary Portland cement and potable water). The mix was then poured into a steel mold having 4 sides 59 mm long, and 19 mm high to fit into the shear box bottom half. In order to simulate a smooth surface of concrete, the mold was placed on to smooth plastic sheet, and then the paste is poured into the mold.

Interface tests have been performed on many types of soil-to-structure, soil-to-rock, and rock-to-rock interfaces. In this section, previous studies of soil-to-concrete and soil-to-steel interfaces are emphasized. The results of tests performed on both types of interfaces provide valuable insights into fundamental aspects of interface behavior.

Keyword: DSB, Portland cement, potable water, resistance

References:

Authors: M. A. Mahmoud, M. S. Rabah, A. A. Mahmoud, N. M. Amin, A. M. Radwan

Paper Title: Improvement of Sub-Base of Roads by Chemical Admixtures and Organic Materials

Abstract: One of the aspects of increase of earlier damage and failure of traffic load, especially in clayey regions, is the deficiency of pavement subgrade. To prevent such damage, strengthening of the pavement by improving the subgrade layer is essential. Many investigators have carried out research on the subgrade layer, especially when containing clay particles, using several types of additives (stabilizers).

Soil Stabilization is a method of improving the engineering properties of soil and therefore making it more stable. Generally, stabilization includes pre-consolidation, compaction and numerous other similar methods. However, stabilization is usually related to the processes which modify the soil composition itself for enhancement of its properties.

Soil stabilization of pavements is usually designed based on the assumption that specified levels of quality will be achieved for each soil layer in the pavement system. Each layer must resist shearing within the layer, avoid excessive elastic deformations that would result in fatigue cracking within the layer or in overlying layers, and prevent excessive permanent deformation through densification. Engineers are responsible for selecting or specifying the correct stabilizing method, technique, and quantity of material required.

Usually, the technology provides an alternative provision structural solution to a practical problem. The simplest stabilization processes are compaction and drainage. The other process is by improving gradation of particle size and further improvement can be achieved by adding binders to the weak soils.

This study showed that lime activated by sodium chloride in combination with sugar cane ash could be effectively improved to use soft clay with low soaked CBR value and high plasticity. Therefore, from the environmental point of view, it was recommended that sugar cane ash can partially replace lime in clay stabilization to form material with cementitious properties.

Keyword: Clayey soil, Lime, Sodium chloride, Sugar cane ash, Strength, Swelling

References:
**Authors:** Chandra Shakher Tyagi, R.L. Sharma, Prashant Mani

**Paper Title:** Impact of Threshold Voltage roll off in Ultra Thin Fully Depleted Silicon on Insulator MOSFET

**Abstract:** This article is discussing about threshold voltage roll off effect in Ultra Thin Fully Depleted Silicon on Insulator MOSFET. The device performance is improved due to the reduction in threshold voltage roll off. The thickness of oxide layer is optimized to 2nm which also have a vital role in improvement of device’s throughput. The effect of oxide thickness on parasitic parameter also discussed. Device conductance and transconductance also take in account on simulating the ultra thin fully depleted SOIMOSFET.

**Keyword:** Threshold voltage, SOI, MOSFET, Transconducance

**References:**


**Authors:** M. Chandrasekhar, M.Suneel Raja

**Paper Title:** A Compact Integrated Small Disk Monopole Antenna with DGS for Wireless Applications

**Abstract:** The structure of a compact Micro strip feed circular monopole antenna working in the frequency range of (2.5GHz-4GHz) and wideband of frequency ranging from 4.9GHz to 19.93GHz is proposed in this paper. Using a circular radiating monopole with terrible ground wideband frequency operation is possible. Two frequency bands can be accomplished by separating the middle part of the patch and further engraving a circular arc with radius λ/2 from it. An FR4 substrate with ε=4.4 and a loss tangent of 0.02 was utilized to realize and simulate this antenna. It can be operated in both the frequency bands 2.5-4GHz and 4.9-19.93GHz [wideband] possessing less than -10dB reflection coefficient. The whole WB and also in the low-frequency band as mentioned above shows a sturdy radiation pattern.

**Keyword:** Disk monopole MPA, Dual band, Radiation pattern, gain.

**References:**


Authors: Aditya Kumar Patnaik, Sapan Kumar Samal, Prasanta Kumar Das

Abstract: Love waves in a pre-stressed fiber-reinforced medium lying above a monoclinic half-space have been investigated. Upper surface of fiber reinforced layer remains stress free and interface of half space and layer satisfies continuity conditions. The dispersion equation for Love waves propagation has been derived. Effect of anisotropy parameter of half space and initial stresses of reinforced layer on Love waves propagation have been observed from dispersion curves. Some particular cases have also been developed by using the dispersion equation. Further, the range of the existence of Love waves is calculated. The cut-off periods for three nodes of Love waves with variation of anisotropy parameter and compressive stress are presented in tabular form.

Keywords: Love wave, Half space, Dispersion, Monoclinic medium.

References:

Authors: Prachi Patel, V. M. Patel

Abstract: As per ministry of statistics and programme implementation (2018-2019), construction industry is contributing 7.81% share in GDP of India. There is an estimated need of around 75 million workers in the building, construction and real estate sector by 2022 (KPMG, 2019). The construction industry has been essential part in the developed and developing countries (Durdyev et al. 2012). The construction industry in India is expected to grow at 5.6% during 2016-20 (Invest India, 2019). Construction is a labor-intensive industry (Chalise 2015). Construction industry is totally dependent on labor and equipment, so increasing labor productivity by using scientific methods is the need of today’s highly growing world. Productivity is usually well-defined as the ratio of outputs to inputs. Labor and equipment productivity are some of the highly influencing factors that affect the physical growth of each construction project. Therefore, to increase the profit margin of construction industry, labor productivity is key factor. This paper presents the bottom-up approach for study of labor productivity.

Keywords: Labor, Productivity, Construction, Factors Affecting, Cost

References:
Abstract:
In this paper, Discrete Wavelet Transform (DWT) Orthogonal Frequency Division Multiplexing (OFDM) system is compared with Discrete Cosine Transform (DCT) and Discrete Fourier Transform (DFT) OFDM systems. The channel noise is modelled with a white Gaussian Model (AWGN), the fading is the impairment in the channel and modelled by Rayleigh fading which is frequency selective fading channel and flat fading channel. The comparisons of Peak to Average Power Ratio (PAPR) and Bit Error Rate (BER) are made using modulation techniques such as Differential Amplitude and Phased Modulation (DAPM), Quadrature Amplitude Modulation (QAM) and Pulse Amplitude Modulation (PAM). Simulation results show that PAPR is 4.497 dB for DWT-DAPM combination, 4.684 dB for DWT-QAM combination and 6.211 dB for DWT-PAM combination at 10-3 Complementary Cumulative Distributive Function (CCDF). The performance analysis with the combination of DFT, DCT with DAPM, QAM and PAM are also compared. The BER is 0.01816, 0.01806 at 20 dB SNR in frequency selective channel, flat fading channel for DWT-DAPM and for DWT-QAM, AWGN channel BER is 0.01765 at 20dB SNR.

Keyword: Orthogonal Frequency Division Multiplexing (OFDM), Discrete Wavelet Transform (DWT), Differential Amplitude and Phase Modulation (DAPM), Flat Fading Channel, Frequency Selective Fading Channel.

References:

Authors: Ari Wibowo, Rosalendro Eddy Nugroho, Bambang Purwoko Kusumo Bintoro

Abstract:
The increase of fast completion and cost certainty demands of construction projects were encouraging the Provincial Government of DKI Jakarta to use the design-build as a project delivery system. However, the design-build project experienced several constraints. This research aimed to determine the effect of external risks (consist of land acquisition, utility disruption, and third-party risk) on project performance of infrastructure design-build projects with a lump-sum contract system. A mix-method of quantitative and qualitative approaches used in this research, with data collected by using a questionnaire, interview, and documentation study. The questionnaire sent to contractors involved in design-build contracts for the 2015-2018 period, as many as 78 respondents from 39 projects. Fifty responses received within the stipulated time. Quantitative data analysis carried out by using the Structural Equation Model (SEM) based on Partial Least Square (PLS) using SmartPLS and qualitative data used as supporting data. The research findings were as follows. First, land acquisition, utility disruption, and third-party risk had no significant effect on project time performance. Simultaneously, the external risk contributed 11.7% of the time performance variable. Second, the utility disruption and third-party risk requests had a significant negative effect on cost performance, while the land acquisition risk did not have a significant
effect on cost performance. Simultaneously, the external risks contributed to 39.3% of the cost performance. Third, time performance has a positive and significant effect on cost performance. Fourth, there was inadequate and inaccurate information related to the existence of the external risk, as well as an inadequate allocation of risk handling costs. Risk identification was vital. Furthermore, working schedules had to synchronize to the risk management schedule in such a way that the effectiveness and efficiency of the work could be maximized by considering all aspects. The response to risk could differ from project to project even between the same types of construction projects. The risk response determined by considering their impact on the project's time and cost performance.

**Keyword:** design-build, external risk, lump sum contract, project performance

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**Authors:** Sunil Kumar Jatav, Vijay Kumar Pandey, U. Pandel, A. K. Nayak, Rajendra Kumar Duchaniya

**Paper Title:** Thermo-Physical Properties of CaO-Fe2O3 Binary Mixture and its Application in the Field of Nuclear Reactor as Simulant Material

**Abstract:** The simulant materials play important role in the melt coolability experiments to understand the actual scenarios of core melt accidents in the field of nuclear reactor. Simulant materials are generally oxide/ceramics materials which have the properties similar to the properties of corium (mixture of UO2, ZrO2, Zr alloy, Fe, Ni and Cr etc.). This work was carried out to determine the thermo-physical properties of CaO-Fe2O3 binary mixtures of different ratio of CaO and Fe2O3 (23C77F, 26C74F, 29C71F, 32C68 and 35C65F; here the ratio is in the wt% and C for CaO and F for Fe2O3) and compare the properties of CaO-Fe2O3 with the properties of corium. It was observed that the thermo-physical properties of CaO-Fe2O3 binary mixture are close to the properties of corium, so it can be said that this material is simulant material. In this research work, thermal behavior of CaO-Fe2O3 was also carried out using differential scanning calorimetry (DSC). The simulant material CaO-Fe2O3 can be used in the melt coolability experiment to understand the phenomena that happened during the core melt accidents in the nuclear reactor.

**Keyword:** simulant materials, melt-coolability, corium, CaO-Fe2O3 binary mixture, thermo-physical properties.

**References:**
Authors: Rijwan Khan, Pawan Kumar Sharma, Akhilesh Kumar Srivastava

Paper Title: Improving the Quality of Gaming Apps After Testing using Genetic Algorithm

Abstract: Software testing is a field that insures that delivery of any software or application in android is error free. Education program in Software Engineering aims at imparting skills among the students that focus upon meeting the expectations of the fluctuating needs of the industry. It has always been a worry about the skills and knowledge becoming outdated in a flash. The current article focuses the results and draws on experiences from improving the quality of a computer game after testing process using Genetic Algorithm. The quality of Gaming Apps can improve some areas of an individual like learning ability, problem solving, and sovereign learning and learn by doing. In order to better understand this research authors applied this change to 100 students which shows that they are good learner compare to others. The improved quality of the gaming also give the confidence to the parents that their child will learn in efficient manner.

Keyword: Gaming Apps, Testing, Unit Testing, Genetic Algorithm, Quality Checking

References:
of experimentations are conducting to increase the efficiency of pulsating heat pipes in many aspects i.e. varying lengths, working fluids, number of turns, different fill ratios, heat inputs and orientation. As taking part of these research a five turn closed loop pulsating heat pipe (of tube inner diameter 2mm, outer diameter 3mm; adiabatic section length 170mm, condensation section length is 50mm, evaporation section length is 42mm) working with pure and binary fluids (water-acetone, water-ethanol) compared with water. Acetone, Ethanol with heat inputs 20w, 40w, 60w, 80w, and fill ratio 50%, also the orientations are horizontal and vertical. The analysis from the results obtained was the thermal resistance of all working fluids is drastically diminishing from 20w to 40w heat input and slowly from 40w to 80w.

**Keyword:** Closed Loop Pulsating Heat Pipe, Binary fluids, Thermal resistance, Thermal performance.

**References:**


**Authors:** Balamurugan Annamalai, Sivakumaran Thangavel Swaminathan

**Paper Title:** Fault Diagnosis in Multi Phase Induction Machine using Mind Evolution Computation Algorithm Optimized Neural Network

**Abstract:** This article proposes a new solution method for diagnosing faults in a multi phase induction motor using least mean square filter (LMS) and a new hybrid neural network with mind evolution computation algorithm. The entire procedure for teaching an artificial neural network (ANN) is popularly thought of among the toughest activities in system learning and also it has lately attracted lots of research workers. The proposed hybrid fault diagnosing method includes an efficient feature extractor based on LMS and a fault classifier based on a hybrid neural network. First, the LMS method is used to extract the effective features. The mind evolution computation algorithm is employed to train the neural network. The performance and efficiency of the presented hybrid neural network classifier is estimated by testing a total of 600 samples, which are modeled on the basis of the failure model. The average correct classification with and without mind evolution computation algorithm is about 98% and 96.17% for various fault signals respectively. The outcome got from the simulation analysis shows the potency of the proposed hybrid neural network for fault diagnosis in multi phase induction motor.

**Keyword:** Fault diagnosis, feature extraction, least mean square, multi layer perceptron neural network, mind evolution computation algorithm.

**References:**

Abstract: The problem of triple diffusive surface tension driven convection is investigated in a composite layer in the presence of vertical magnetic field. A closed form solution is obtained under microgravity condition. The parameters suitable for fluid layer dominant and porous layer dominant composite layers are determined. The parameters appropriate for controlling the convection are determined which are useful to manufacture pure crystals.

Keywords: Triple diffusive, Species concentration, Magnetic field, Surface tension, Composite layer.

References:

Authors: Pavan Kumar Tadiparthi, Srinivas Yarramalle
Paper Title: Towards the Development of Effective Video Segmentation Based on Skew Gaussian Mixture Model
Abstract: video analysis has gained a exponential demand with its usage in security cameras and in most of the real time applications for monitoring the law order. In order to have a precise analysis background subtraction and foreground detection processed are generally considered in the most of the approaches. However ,to have a more precise output from the dynamic motion images, this article proposes a methodology based on skew Gaussian mixture model. The results are analyzed against the existing methods using quality assessment measures.

Keywords: Performance analysis; image segmentation; skew Gaussian; Background subtraction; quality metrics.

References:


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**Keywords:** Effluents, Groundwater, Hardness, Quality, Salinity, Treatment.

**References:**


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**Keywords:** Heutagogy, vocational education, education 4.0, enjoyable learning, prospective vocational education teachers

**References:**


Abstract: Effort distribution in software engineering is a well-known term used to measure cost and effort estimation for each and every phase or activity in software development. Effort distribution is taken in consideration in almost all IT companies while developing software. But it is mostly not considered or overlooked in developing academic software projects by students of computer science courses. The paper presents with results of an experimentation on phase effort distribution data of 84 software academic projects of post graduate final year students of computer science. The phase effort distribution provided by students were collected, analyzed and compared with COCOMO II model which provides effort distribution required in software development. Finally, this paper also discusses and provides recommendation about the use and importance of effort distribution in academic software projects development.

Keyword: COCOMO II model, Computer Science, Effort Distribution, Software Development Life Cycle (SDLC), Software Engineering, Software Projects

References:
13. T. Haapio, “Improving Effort Management in Software Development Projects”, publications of the University of Eastern Finland, dissertations in Forestry and Natural Sciences, Faculty of Science and Forestry, Finland, Kuopio, 2011
14. T. Tan, “Domain-Based Effort Distribution Model for Software Cost Estimation”, dissertation presented to The Faculty of The USC Graduate School University of Southern California in partial fulfillment of the requirements for the Degree Doctor of Philosophy (Computer Science)

Authors: Ziad El-Khatib, Ahmed Al-Gindy, Sherif Moussa

Paper Title: Fully-Integrated Tunable Q-Enhanced Linear Low Noise Amplifier for Wireless Receivers

Abstract: This paper presents the design of a fully-integrated tunable Q-enhanced LNA resonator filter designed to tune the circuit center frequency and quality factor Q. The proposed circuit achieves a 600 MHz 3dB bandwidth tunable center frequency at 2.4 GHz with a 5.5 dB Quality Factor Q tuning range. The proposed circuit utilizes a distortion transistor compensator to improve linearity of the circuit. The results show an 18 dBc of third order intermodulation IM3 cancellation. The overall proposed circuit peak gain is 16.5 dB and the minimum NF is 0.94 dB at 2.4 GHz frequency with power consumption of 5.2 mA.

Keyword: Low noise amplifier, Tunable Q-enhanced coupled-inductors, Negative resistance and linearization, Wireless communications.

References:

Authors: Pramodini Sahu, Chhabirani Tudu

Paper Title: Effect of Jute Fibre Orientation and Percentage on Strength of Jute Fibre Reinforced Concrete

Abstract: The demerits of plain concrete are its lesser tensile strength, not significant ductility and poor resistance to cracking. Due to propagation of internal micro cracks in plain concrete causes decrease in tensile strength, hence leads concrete to brittle fracture. Addition of fibres behaves like crack arrester and enhances the dynamic properties of concrete. In India natural fibres such as bamboo, coir, jute, sisal, pineapple, banana, ramie etc are high available. Jute is a useful natural fibre for concrete reinforcement due to its easy availability and low cost. In this research, the experiments related to Jute fibre reinforced concrete (JFRC) are done by taking different fibre percentage and the compressive strength and modulus of rapture value observed. This JFRC can replace plain concrete and wood in many cases for example in door and window panels, inclined roof slabs, partition walls etc.

Keyword: Concrete, Jute, Jute fibre reinforced concrete, JFRC

References:
13. Shetty, M.S. (2013) “Concrete technology theory and practice “, S CHAND publishing company Ltd.,Delhi

Authors: M Prasanna Kumar

Paper Title: Force and Settlement Characteristics of an Embankment on Soft Consolidating Soil with Lime Columns

Abstract: Embankment supported on soft soil with lime column is analyzed. The lime column is modeled using a two nodded plane frame element with three degrees of freedom (DOF) (two translational and one rotational), whereas the soil stress-strain behavior is presumed to be non-lining and modeled by a Cam-Clay model. The properties of lime column is obtained from a stress-strain curve obtained from a laboratory test. It is concluded from the study that addition of lime column in soft soil reduces the settlement after the construction.

Keyword: lime column, Embankment on soft consolidating soil, finite element analysis, ground improvement technique.

References:

Authors: A.B.M. Salman Rahman, Vasanth Ragu, Myeongbae Lee, Yongyun Cho, Changsun Shin

Paper Title: Identification of Corresponding Environmental Factors for Fruit Diseases

Abstract: There are various types of pathogens that occur in plants, due to the fact of climate changes, weather changes, seasons changes and the significance of environmental (temperature, humidity, rainfall, etc.) changes. The consequence of plant disease affects our agriculture industry and agriculture sector. It affects our plant growth, production growth, and economic growth throughout the world. So, to prevent the diseases, necessary to understand weather conditions and also identify corresponding environmental factors in plant diseases. Therefore, in this study, analysis of the different types of plant diseases and identification of corresponding environmental factors in plant data using the artificial neural network. Using neural network model to identify the environmental factors and the purpose of the correlation method is to find out the relationship between two variables (the actual value of diseases and the predicted value of diseases). Finally, in result explained detailed to identify the environmental factors in plum data.

Keyword: Diseases, Environmental factors, Neural Network, Correlation.

References:
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Bacterial Canker from Royal Horticultural Society, https://www.rhs.org.uk/advice/profile?PID=86

Anthracnose from The old Farmer’s Almanac, https://www.almanac.com/pest/anthracnose


Authors: Vasudha, Anoop Bholia, Vaibhav Vyas

Paper Title: A Novel Energy-Efficient Clustering Based on Node Dormancy for Balanced Energy Consumption

Abstract: Clustering is effective method to lessen the energy utilization in WSN. To improvise network lifespan numerous clustering approaches implement various parameters for election of CH. An effective clustering algorithm depends upon the number of factors such as number of CHs, uniform cluster size, CHs distribution, energy of the CHs etc. This paper proposes a Balanced Energy Consumption clustering algorithm. We introduce the concept of optimal number of nodes for CH selection based on heuristic approach and node dormancy mechanism for minimization of total energy consumption. This metric is incorporated with the probability function of CH selection. Mathematical analysis and simulations show the performance of proposed method.

Keyword: Clustering, Energy efficient, Cluster-heads (CHs), LEACH, WSN, network lifetime.

References:


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Authors: Shibu K.R, Suji pramila R

Paper Title: Load Based Key Generation for MANETs with DSR and AODV Routing Techniques

Abstract: Automatic key establishment schemes are the root of secure communication in Mobile adhoc networks(MANETs). These schemes are not universal; their performance depends on many factors like routing protocols, type of attackers aimed at, the parameter used for key generation, etc. Among the routing protocols used in MANETs the most popular ones are reactive routing protocols DSR and AODV. In this paper, an efficient secret key establishment technique using traffic matrix is simulated in the two reactive routing protocol scenarios: DSR (Dynamic Source Routing) and AODV (Ad hoc On-demand Distance Vector routing). The simulation results are compared and analyzed in terms of the key generation complexity, packet loss ratio and active attacker detection. Finally the paper concludes the fact that traffic load based key generation scheme is preferable for reactive routing protocol based systems.

Keywords: DSR, AODV, Traffic matrix, Secret key

References:


Authors: Yogesh Sharma, Neeraj Yadav

Paper Title: Enhancement in Heat Exchange Process in a Shell and Tube Heat Exchanger using Nano-Particles

Abstract: Nanoparticles and nano-fluids are having its significant role in transforming and improving the existing tools and techniques of science and other research. This experimental study deals with the parametric analysis of Al2O3 of size 20-30 nm and CuO of size 30-50 nm nanoparticles to improve the effectiveness of a shell and tube heat exchanger. Nanoparticles used in heat exchangers improved performance through better heat transfer characteristics. An experimental investigation was done on the forced convective heat transfer and flow characteristics of the nano-fluid flowing in a horizontal shell and tube heat exchanger under turbulent flow conditions. The heat transfer of nano-fluid is found higher than that of the base liquid at same mass flow rate and temperature difference. The heat transfer thus heat transfer parameters increases with an increase in volume concentration up to 1.6 % after which heat transfer decreases due to viscosity effects.


References:

9. A. M. Elhashemy, W. F. Tawhed, Mohamed H. Agamy

Paper Title: Behavior of Hollow Core Slabs Reinforced with GFRP Prestressing Bars

Abstract: An experimental program was designed to study the behavior of full-scale hollow core slabs prestressed with Glass Fiber-Reinforced Polymer (GFRP) bars in the concrete laboratory at the college of engineering, Mataria, Helwan University, Cairo, Egypt. The hollow core slabs were load-tested under uniformly distributed load.

The GFRP bars were manufactured from locally available materials with a 10 mm nominal diameter. To improve the bond properties between the bars and concrete, GFRP threads were axially wrapped around the bars manually. The mechanical properties of the bars were investigated in the laboratory. The bars average ultimate
tensile strength (fu) and elastic modulus (E) were 1000 MPa and 46 GPa, respectively.

Four full-scale concrete hollow core slab specimens with characteristic strength of 80 MPa were constructed and solely reinforced with a single prestressed GFRP bar. Each slab specimen represented one complete vent with a width of 140 mm, 150 mm thickness and 4000 mm total length. These specimens were simply supported during the experiments where the GFRP bar was placed at the centerline of the vent near the soffit. The Bars were prestressed to different stress levels, namely (10, 20, 30 and 40%) of their ultimate tensile strength (fu). All slab specimens were load-tested under uniformly distributed load. The deflection, strain and crack pattern were investigated during load-testing. From the obtained results, it was observed that the optimum prestressing level was 20% of the ultimate tensile strength of the bar for both the moment carrying capacity and the deformation.

Keyword:  
GFRP Prestressing Bars; Hollow Core Slabs; Simply Supported Slabs; Uniformly Distributed Load Test

References:

Authors: Bashar B. Tarazi, Abdel Moniem Y. Sanad, Mohamed M. El-Attar, Dina M. Sadek

Paper Title: Physico-Mechanical Properties of Bricks Manufactured using Cement Kiln Dust

Abstract: the actual increase in global industrial production and manufacturing, produces a continuous increase in amount of industrial waste and continues to emit an all-time high amount of air pollutants and greenhouse gas emissions. To fight and mitigate these phenomena, proper Waste Management become the pillar of most environmental strategies worldwide. By reduction of consumption, re-use of goods and recycling of products, waste management aims to preserve the resources and to protect the environment. The Cement industry is one of the most important industrial sectors for society development; however it also has significant negative environmental impacts due to its emissions and production of waste. Cement kiln dust (CKD) is an industrial waste or by product which results from cement manufacturing. CKD is fine grained, solid, highly alkaline particulate material chiefly composed of oxidized, anhydrous, micron-sized particles collected from electrostatic precipitators during the production of cement clinker. This research examines the effects of using large amounts of CKD to replace the cement content in the fabrication of solid cement bricks. It is triggered by the quadruple objectives of reducing the amount of cement consumption, disposing efficiently of its industrial waste and producing economic bricks with safe strength. The purpose of this paper is to assess the properties of solid cement bricks containing different amounts of CKD. Cement bricks produced using different amounts of CKD were tested to find their properties and final comparison has been made to identify the effect of using different CKD/Cement ratio on the performance of bricks compared to the reference specimen produced using cement only with no CKD. For the brick mixes, Ordinary Portland cement (OPC), with two cement content of 200kg/m3 and 250kg/m3 were used throughout this investigation. The physical properties; unit weight, water absorption and mechanical properties; compressive strength, flexural strength, of the produced bricks were determined. Results showed that partial replacement of OPC with CKD reduces the brick compressive strength by 18% to 23% for CKD/OPC ratio of 30% and by 36% for CKD/OPC ratio of 50% and in all cases the strength remains largely higher than the standard limit for load bearing bricks.

Keyword: Cement Kiln Dust (CKD), Portland cement, Bricks physical and mechanical properties.

References:
This paper presents an l1-norm penalized bias compensated linear constrained affine projection (11-BC-CAP) algorithm for sparse system identification having linear phase aspectin the presence of noisy colored input. The motivation behind the development of the proposed algorithm is formulated on the concept of reusing the previous projections of input signal in affine projection algorithm (APA) that makes it suitable for colored input. At First, 11-CAP algorithm is derived by adding zero attraction based on l1-norm into constrained affine projection (CAP) algorithm. Then, the proposed l1-BC-CAP algorithm is derived by adding bias compensator into the filter coefficient update equation of l1-norm constrained affine projection (11-CAP) algorithm to alleviate the adverse consequence of input noise on the estimation performance. Hence, the resulting 11-BC-CAP algorithm excels the estimation performance when applied to linear phase sparse system in the existence of noisy colored input. Further, this work also examines the stability concept of the proposed algorithm.

**Keywords:** Affine projection, bias compensator, linear constraint, sparsity.

**References:**


Authors: **Rajni Yadav, Chandra Shekhar Rai**

**Paper Title:** L1-Norm Penalized Bias Compensated Linear Constrained Affine Projection Algorithm

**Abstract:** This paper describes a lexical analysis (segmentation) approach in Pattern Recognition for Online Handwritten Character Recognition (OCHR) in Malayalam. The subunits (Pattern Primitives) in the single stroke vowel characters in Malayalam are identified and marked with pattern primitives to obtain a reference set of characters. Segmentation of the handwritten character samples into pattern primitives is made using a Combined Approach of Ramer Douglas Peucker algorithm and Eight Direction Freeman Code as per reference set. Features
that are unique in the primitives of a character are extracted. The discriminating features identified are the direction of first primitive, segment count, cusp in second primitive, crossing in third primitive, and cusp in seventh primitive. The experiments were conducted on 100 samples per character that showed exact segmentation as per the reference set. With a five dimension feature set, the study achieved a recognition rate of 95.77% for five-fold cross-validation using Support Vector Machine with RBF kernel. The study shows that the segmentation of characters into pattern primitives is an effective method to realize accurate Malayalam OHCR systems for real-time applications.

**Keyword:** OHCR, SPR, Pattern Primitives, RDP, EDFC

**References:**

**Authors:** Aradhana Negi, Parminder Kaur

**Paper Title:** Addressing Natural Language Request Complexity: At Semantic Web Service Discovery Horizon

**Abstract:** The wondrous influence of semantic web on Service-Oriented Architecture pushes it towards a realistic and self-driven architecture where publication, discovery, selection, composition, and monitoring of services are semi-automatically performed on the behalf of their hosts or mediators. In the direction of this realistic and self-driven architecture, this research work is adding one more realistic aspect of ‘interpretation of natural language request’ to making the service discovery more usable for novice users. Three contributions have been made: (1) description of natural language request using six-slab range (2) two algorithms for extraction, sub-request generation, inclusion of semantics and semantic matchmaking of natural language request, and (3) evaluation of proposed strategy with two semantic formalisms. The proposed algorithms handle each complex service request as an individual entity and extract the demand/s of the request by decomposing it to the simple request from conjunction, condition, and negation-oriented natural language request. The experimental evaluation of the proposed strategy signifies the given algorithms. The proposed work and result evaluation is a part of ongoing research on a generic discovery mechanism for semantic web services.

**Keyword:** Composite Services, Natural Language Processing (NLP), Natural Language Request (NLR), Semantic Web Service (SWS), SWS Discovery

**References:**
Paper Title: Determination of Pullout Strength of Geogrid in Sandy Soil

Abstract: Geogrid reinforcement of soil has been successfully used for many years in a wide variety of applications. This paper presents data obtained from a series of laboratory tests performed on the geogrid. The tests were conducted to determine the mechanical property including the tensile strength of the geogrid and its corresponding pullout test. Tests were performed to find out the effect of width of geogrid on the pullout resistance. It was found that the pull-out resistance of geogrid is a function of the relative density of the soil, the length and the width of geogrid specimen. A mechanism of soil-geogrid interaction is described and used to explain the results of the pull-out tests. A significant finding is that the selection of geogrid specimen dimensions for laboratory pullout tests must take into account the strain to failure of the soil and the stiffness of the geogrid in order to properly represent the maximum pull-out stress that will be available in field applications.
Abstract: To detect the vegetation land from google earth image and clustered that vegetation land to get the different clusters and so the area of clustered land is calculated. The detection is done by land cover classification using fuzzy C-means clustering because it overcomes the disadvantage of K-means clustering algorithm because that clustered land data is based on the land attributes not a particular distance. The exhibition of the FCM algorithm relies upon the choice of the primary cluster focus and the primary enrollment esteem. On the off chance that best primary cluster focus that is near the real, last cluster focus can be discovered, the FCM algorithm quickly cover the particular area and the preparing time can be radically decreased. Which altogether diminishes the calculation time required to segment a dataset into desired clusters.

Keywords: Vegetation Areas, Fuzzy C-means Clustering, Vegetated Land, Empty Land, Buildings and Paths.

References:
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analysed result is compared with the numerical results and satisfactory agreement is noted.

**Keyword:** Mathematical modeling, Microbial fuel cell, Artificial wastewater, Numerical simulation, Homotopy perturbation method.

**References:**
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**Authors:** Vineet Chouhan, Pushpkant Shakdwipee, M. L. Vasita, Punam Chand

**Paper Title:** Measuring Accounting Professionals Perception on use of AI Based Accounting Practices in India

**Abstract:** Accounting as a progressive domain of knowledge is now ready to adapt new changes and understand how to effectively respond. Artificial intelligence (AI) has brought new challenges and solutions of old problems. It is intense technology not for replacing people but for improving importance of purely human skills like enthusiasm, creativity or empathy: all essential aspects of profession. AI is used for enhancing the human experience for decision making. This means deleting the monotonous work out from employee’s schedule and converting their skills towards managerial decision making. It deals with Large volumes of information that previously used to be succeeded by workforces are now controlled by AI while they can contentedly examine it. Composite altering patterns can be accustomed very easily in the data. These arrangements are extremely dependable than the previously tracked techniques. This research paper analyses the use of AI in accounting, auditing and recruiting with measuring its benefits and challenges. For this purpose a sample of 104 accounting professionals were taken and analysed by using regression method with SPSS software and revealed the hidden potentials of AI in the area of accounting profession.

**Keyword:** Accounting Professionals, Artificial intelligence, India, Perception.

**References:**

Authors: Trayan Ganev Stamov

Paper Title: Stability Analysis of Neural Network Models in Engineering Design

Abstract: In this paper neural networks applications in engineering design are discussed. The question for stability of their steady states is also considered. Some new efficient criteria are proposed. Since neural networks are relevant systems applied in various engineering design tasks, including many optimization and control problems, the results can be useful in design of such systems of diverse interest.

Keyword: Engineering design, neural networks, stability.

References:
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Authors: Jaydeep Lakwal, Manisha Dubey

Paper Title: Fuzzy Logic Based Control of Multilevel Inverter for Railway Traction System

Abstract: This research especially focus on Railway Traction System of Electrical Multiple Units (EMUs) and illustrate the approaching of an Asymmetric Cascaded H-bridge (ACHB) 9-level MLI controlled by the Fuzzy Logic Controller (FLC) to enhance the quality of output by sinking the harmonic contents in the output result. As in the railway, traction system desires high power and voltage for its operation. So it is proficient to utilize recent introduced Multilevel Inverter (MLI) instead of Conventional Inverter. MLI which is discussed here uses two H-bridge modules with unequal DC sources and it is competent to generate multilevel results at output side. Here proposed MLI uses limited semiconductor switches and voltage source. Therefore expenditure and dimensions of the system is condensed. Thus the system effectiveness will enhance. Simulation has done by MATLAB software to authenticate the performance and functional study of proposed MLI. The simulated output shows very favourable result. Comparison has been made between the two (Conventional and Multilevel) power circuit configurations.

Keyword: Multilevel Inverter, Electric Multiple Unit, Fuzzy Logic Controller, Asymmetric Cascaded H-bridge.

References:
Abstract: Lubricating oils containing ester, gaining more importance due to their friction reducing ability. Screening the performance of lubricating oils prior to field test is of most significance for the new lubricant formulations. In this endeavor, six lubricating blends were formulated having variable concentration of additives (sulfur and ester) in mineral oil and screened for their performance using four-ball tribo-tester. The formulated blends were evaluated for their extreme pressure and anti-wear characteristics as per ASTM standards. Tests were conducted on DUCOM TR-30L four-ball tester and wear scar diameter were measured on an optical microscope. Compatibility and synergy of additives have been discussed on the basis of various parameters such as anti-wear scar diameter, mean scar diameter (just below weld load), mean scar diameter (at last non-seizure load), weld load and load wear index. The findings of this study demonstrate that ester along-with sulfur not only boost anti-wear properties but also enhance load carrying capacity of oil. An addition of sulfur beyond 2% may not yield any significant improvement of tribo-characteristics of these oils. This paper is highlighting the synergistic effect of additives to render it as suitable lubricant for metal working applications. This paper also suggested an optimum concentration of an additive for its suitability for anti-wear and/or extreme-pressure properties.

Keyword: Anti-wear; Extreme pressure additives; Weld load; Load wear index

References:
different optimized models including genetic optimized feature selection method, Genetic Algorithm (GA), ensemble approach that uses information gain and genetic algorithm as feature selection methods incorporated SVM model, Genetic Bagging (GB) and the next method uses optimized feature selection as feature selection technique incorporated back propagation model, Genetic Neural Network (GNN) models are compared. We are tested in sentiment analysis using sample multi-domain review datasets and movie review dataset. These approaches are tested using various quality metrics and the results show that the Genetic Bagging (GB) technique outperforms in classifying the sentiment of the multi domain reviews and movie reviews. An empirical analysis is performed to compare the level of importance of the classifiers GB, GNN methods with McNemar's statistical method.

**Keyword:** sentiment classification, machine learning, feature selection, review, information gain, genetic algorithm, ensemble method, back propagation model.

**References:**

**Authors:** Mohit Kumar Verma, Mohd. Saif Wajid

**Paper Title:** A Multimodal Biometric System using Iris and Palmprint

**Abstract:** A biometric system is basically a system of image recognition that uses bio metric characteristics to identify individuals. The thesis introduces a biometric multimodal system that is based on iris-based Palm Print verification and fusion. We suggest an approach to extracting features from each modality using four-level decomposition of the wavelet packet. It includes 256 packets capable of generating a simple binary code. Dictate standardized thresholds based on the first three highest energy peaks that would impact 0 or 1 for each wavelet packet. Specific fusion approaches were evaluated at different levels: character level, score level and error level. Its first fusion is an iris and palm print application, actually. For matching ratings the next one uses a weighted sum law. The next applies to the Hamacher t-norm's deficiencies. The standard database is used for testing the program proposed. The current approach and then each fusion method was checked for The consistency about the database of Casia iris merged with the database of Casia palm print. With each fusion process, the proposed solution to the multimodal biometric system achieves an increase in identification.

**Keyword:** Iris Pattern, Palm print Pattern, Wavelets Packets, Feature Fusion, Weighted Sum Rule.

**References:**
**ISSN: 2347-3878**


**Authors:** S. P. Salve, A. M. Fulambarkar, P. D. Khune

**Paper Title:** Solar Drying System Integrated with Phase Change Material (PCM)

**Abstract:** The post-harvest losses for agricultural products are around 30%–40% [1]. Drying is one of the necessary processes for the preservation of agricultural products. Agricultural products require hot air of temperature above 40 °C for drying. Open sun drying takes more time for drying of products due to slower drying rates. Also, various factors hamper the quality of the dried product. Due to the moisture content in the products bacterial attack is possible. India being the tropical region has good solar radiation. It is advisable to use the solar dryer to avoid spoilage of quality of products [2]. In this work, the compact and portable forced convection solar dryer designed and developed for drying chilies with thermal energy storage. Solar dryer is having capacity of 15 kg and it consists of the flat plate collector based air heating system with thermal energy storage. Paraffin wax used as phase change material (PCM). The CFD simulations carried out for the solar dryer to study the temperature distribution over the surfaces of the flat plate collector and inside the drying chamber, velocity of air and phase change behavior of paraffin wax inside the trays. The energy stored in the paraffin wax and time required for charging and discharging of paraffin wax is found out. The time for which temperature in the drying chamber is maintained above 40 °C is also found out. Results of CFD simulations validated with the experimental results.

**Keyword:** Agricultural products, charging, discharging, drying, Phase change materials (PCM), Paraffin wax, solar dryer.

**References:**


2. “Comparative study of open sun drying and solar cabinet drying techniques for drying of green chillies”, Ashish Kumar, Ajeet Rai,
The workspace identification of 6-DOF Stewart Platform has been done in this paper through inverse kinematic modeling. This Stewart Platform has six linear cylinder–piston actuators connected within fixed and moving platform. The motions of the moving platform such as surge, sway, heave, roll, pitch and yaw have been generated from the combined motions of piston of actuators. The mathematical formulations for Inverse-Kinematic modeling of Stewart Platform have been formulated to find out the individual piston motion for the required platform motion. The platform motions and the actuator motions have been studied for the workspace identification of the Stewart Platform.

Authors: S Dasmahapatra, M Ghosh

Paper Title: Workspace Identification of Stewart Platform

Abstract: The workspace identification of 6-DOF Stewart Platform has been done in this paper through inverse kinematic modeling. This Stewart Platform has six linear cylinder–piston actuators connected within fixed and moving platform. The motions of the moving platform such as surge, sway, heave, roll, pitch and yaw have been generated from the combined motions of piston of actuators. The mathematical formulations for Inverse-Kinematic modeling of Stewart Platform have been formulated to find out the individual piston motion for the required platform motion. The platform motions and the actuator motions have been studied for the workspace identification of the Stewart Platform.


References:

Authors: S Vijayachitra, Hema Priya Dharshini, M, Nandhakumar P, Nanthini K, Ajith Kumar M.
Abstract: The presented work is related to tying of flowers and more specifically it deals with knotting mechanism using Pneumatic actuator driven by a Servo motor. Veni making using different kinds of flowers are preferred by most of the women during their festival occasions. Each type of flower has different processes and methods for tying. Various types of flowers used for veni making are Sampangi, Jasmine and Roses. Here the flowers are tied one by one with gripper and servomotor unit using pneumatic actuator in order to make a bridal Veni. When it is done manually, a person has to tie each and every flower to produce Veni in different designs. There is no known mechanism in which the veni can be automated. Generally there are many automated mechanisms for tying a bunch of flowers for easier transportation or storage, whereas an automated mechanism for bridal veni making is not known. This proposed work provides an automated process for bridal veni making using pneumatic pistons, Servomotor with gripper unit and relay circuit.

Keyword: pneumatic actuator, relay unit, servo motor, gripper unit.

References:
2. Dynamic equation; Robotic manipulator; force; energy; Newton—Euler; Lagrange.
3. Chukwuemeka C. Obasi, Ikhari A. Braimoh, Alphaeus Odaba, Leonard Iyase Ogbebew, Bambe A. Oluonyi
4. Dynamic computation include the process of determining the forces and energies that would cause a manipulator to move certain distance at a given angle. The complex nature of available materials has made this process difficult. The dynamics equation for a 3-links robotic manipulator was designed using the Lagrange archetypal. The result shows that the energies (including Potential and Kinetic Energy) as well as the torques required to cause motion at each joint can be computed separately. The torque equations represents the dynamic models required.

Keyword: Dynamic equation; Robotic manipulator; force; energy; Newton—Euler; Lagrange.

References:
stable filterate quality. It also has limitations like reduction in filter run and comparatively higher back washing requirement. To assess the suitability of such method, under the existing conditions is of enormous importance. Current research explains the impact of filter media conditioning on the overall performance of conventional rapid sand filter. The study was carried out by installing a pilot plant at Ichalkaranji municipal water treatment plant. Different doses of alum as filter conditioner were tested and the comparison was made with the performance of conventional filter without filter aid. The parameters for evaluation were turbidity removal, filter run and backwash requirements. The dose of alum as filter conditioner was given as slug dose. The effect of zeta (ζ) potential change was observed to be one of the major reasons of the performance improvement, accelerating the surface removal since initial phase.

Keyword: backwash requirement, media conditioning, rapid sand filter, ripening period, turbidity log removal, zeta (ζ) potential.

References:
1. IS 10500:2012. Indian standard Drinking water: Specification (second revision), Bureau of Indian standards, New Delhi, 1. 2015

Authors: K. Mani, S. Prasath Sivasubramanian

Paper Title: Trust Based Secure Routing Mechanism in Mobile Adhoc Networks for Enhancing the Routing Performances

Abstract: Mobile Adhoc Networks enforces certain level of challenges for the researchers since they operate without a fixed infrastructure. Moreover the constant movement of nodes gives additional challenges while implementing any type of solutions. Similarly enforcing secure mode of routing in mobile adhoc networks creates lot of hurdles for the implementers. This paper addresses these issues, by computing the trust of each node and updating the trust tables of the respective nodes and the cluster head. This paper focus in designing a trusted secure mechanism for routing. The objective of this work is to calculate the trust of nodes using various trust methods. Later the calculated trust is updated with the trust table of the cluster head by forming a web of trust. This will enable a secure channel of communication among the adhoc nodes. After incorporating the newly computed trust, the routing performance of well known routing protocol say AODV, is evaluated for various routing parameters and it is compared with the performance of Trusted AODV (TODV).

Keyword: Direct Trust, Indirect Trust, Web of Trust, Clusters, throughput, packet delivery ratio
The process of comminution is nondeterministic in nature, so deriving out a designated size range on crushing by fixing the parameters of the mill is not possible in mining industry. Loss of materials in huge amount is an obvious phenomenon due to under sizing of materials in transit. The aim of the paper is to predict the amount is an obvious phenomenon due to under sizing of materials in transit. The aim of the paper is to predict the state of grinding and the particle size distribution (psd) during any desired stage of crushing in the ball mill. The acoustic sensors have been used to capture audio signals at different running conditions of the ball mill and analyzed to develop the prediction model. In the proposed work first Genetic Algorithm (GA) based predictive procedure is applied on the fragmented signal to extract the parameters of genetic operators and store them in a table. We also apply Gaussian Mixture Model (GMM) to obtain the psd of each fragment and Fuzzy C-means (FCM) clustering algorithm is employed to classify the distributed signal. The psd of each fragment has been stored in another table. The experiment is conducted for different raw materials with different size distribution. At run time the material grinding procedure is operated and stopped automatically based on the trained controlled parameters corresponding to the desired stage of grinding. The psd of experimental output is verified with the
desired psd obtained during training and stored in the table. The proposed method exhibits significant improvement in prediction performance and outcomes are verified with the experimental results.

**Keyword:** Acoustic Signature, Ball Mill, Crossover and Mutation, Fuzzy C means, Gaussian Mixture Model

**References:**

Authors: K Subba Reddy, E. Srinivasa Reddy

**Paper Title:** Spam Detection in Social Media Networking Sites using Ensemble Methodology with Cross Validation

**Abstract:** Social media networking sites are more popular over Internet. The Internet users spend more amount of time on social media sites like Twitter, Facebook, Instagram and LinkedIn etc. The social media networking users share their ideas, opinions, information and make new friends. Social networking sites provide large amount of valuable information to the users. This large amount of information in social media attracts spammers to misuse information. These spammers create fake accounts and spread irrelevant information to the genuine users. The spam message information may be advertisements, malicious links to disturb the natural users. This spam data in social media is a very serious problem. Spam detection in social media networking sites is critical process. To extract spam messages in social media various spam detection methodologies are developed by researchers. In this paper we proposed an ensemble methodology for identification spam on Twitter social media network. In this methodology we used Decision tree induction algorithm, Naive bayes algorithm and KNN algorithm to construct a model. As part of this approach, we compare the classification results of any two classification algorithms, if both classifiers predict the same result, then we finalize the class of tweet under investigation. If the predicted classes of both classification algorithms differ, then we use the prediction of third algorithm as the final class label of tweet. To measure the performance of our model we used precision, recall and F measure.

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14. Kaayu Wang, Yumei Wang, Hongqiao Li, Yilin Xiong and Xinyu Zhang, “A New Approach for Detecting Spam Microblogs Based on Text and Users Social Network Features,” National college Innovation program, Beijing University, china


Authors: V.Lavanya, D. S. T. Ramesh, N.Meena

Paper Title: Further Results on Dual Domination in Graphs

Abstract: Let G = (V, E) be a simple graph. A set is a dual dominating set of G (or bi-dominating set of G) if S is a dominating set of G and every vertex in S dominates exactly two vertices in V − S. The dual-dominination number ydu(G) (or bi-dominination number ) of a graph G is the minimum cardinality of the minimal dual dominating set (or dual dominating set). In this paper dual domination number and relation with other graph parameters are determined.

Keywords: Domination, dual-domination, chromatic number and connectivity.

References:
4. V.Lavanya¹, D. S. T. Ramesh² and N. Meena³, Bi-domination in Graphs, International Journal of Emerging Technologies and Innovative Research (IJETIR), 2020, 424-427

Authors: Youngmin Han, Naresh Kumar Ravichandran, Pilun Kim, Fansik Jeon, Jeehyun Kim

Paper Title: Real-time Fully Automated Internal Layer Segmentation of Human Retina in Optical Coherence Tomography Images

Abstract: In the field of ophthalmology, optical coherence tomography (OCT) has proven to be a powerful imaging technique when it comes to diagnosing various eye-related diseases. This research article introduces a real-time automatic retinal layer segmentation algorithm based on intensity variation in the OCT images. The built algorithm is capable of detecting internal retinal layers like the internal limiting membrane (ILM), the retinal pigment epithelium (RPE) and the retinal nerve fiber layer (RNFL) with micrometer level precision, the algorithm uses openMP for parallelized computation for real-time visualization of the segmented retinal layers. The total execution time of the algorithm was evaluated using various image sizes and compared with the OCT frame rate to demonstrate the efficiency of real-time segmentation.
Keywords: Layer Segmentation, Optical Coherence Tomography, Real-time, Retina.

References:

Authors: J.S.Prasath, U. Ramachandraiah, G. Muthukumaran

Paper Title: Embedded Systems with Wireless Networks for Data Security in Industry Applications

Abstract: Embedded system technologies are widely used in a variety of industry applications. Embedded devices with wireless technology are vulnerable to a variety of attacks due to their large number of deployment, resource limitations, and increased complexity. Embedded systems with wireless technology often have to work in an untrusted and harsh environment, which allows attackers to analyze side channels and physical component attacks. The unauthorized parties can access and modify the sensitive process information that is transmitted across wireless networks. The integrity of information results not only damages the physical components but also failure of entire plant operations. The embedded systems without security mechanisms results in unsafe working environment. This proposed work is the implementation of a security mechanisms using embedded system with wireless networks in order to protect the sensitive plant information from unauthorized access. It reads the temperature and gas data through the embedded system and performs encryption which converts the process data into unreadable format. This unreadable cipher text is transmitted across wireless networks using zigbee technology. This encrypted data is converted back to plain text by the process of decryption at the receiver. This received process data is monitored using Graphical User Interface (GUI). The security threats increases due to the widespread deployment of embedded systems. This proposed work provides cost-effective solutions in protecting the process equipments and safety to the operators. It can be applied to secure sensitive process data in any industry applications.

Keywords: Sensor, Embedded systems, Wireless networks, Security mechanism, Zigbee

References:

Authors: Rajashree Gadhave

Paper Title: Statistical Perspective on Hyper Spectral Classification Systems for Accuracy Improvement

Abstract: Classification on a hyperspectral imagery data is a multi-domain problem, it involves segmentation, followed by feature extraction (FE) & selection and finally classification. The vast majority of work in processing...
of hyperspectral imagery data is done in the field of image classification itself, due to the fact that most of the hyperspectral images are captured in order to evaluate the areas where a particular type of event is occurring, these events range from crop growth, forest covers and military applications. These systems use an algorithm for each of the given steps individually in order to evaluate the accuracy of the system under test. Thus, various algorithms have been proposed in order to evaluate the classification performance of hyperspectral systems. Due to so many algorithms in the field of research, there is a lot of confusion as to which approach should be selected for an effective system. Thus, we need to find approaches which have good accuracy. In order to find the best approaches for classification, researchers have to generally study a plethora of papers, so in this paper, we compare a set of algorithms used for hyperspectral image classification and compare their performance so that the researchers reading this text can analyses these algorithms and select the ones which are best suited for their particular application. Moreover, recommendations are also made in order to further improve the performance of these systems.

**Keyword:** Convolutional Neural Network, Classification accuracy, Hyperspectral imaging (HSI), Machine Learning, Crop

**References:**

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Authors: S. Ilavarasu, P A Aswatha Narayana, A. C. Niranjanappa

Paper Title: Estimation of Aerodynamic Load on Radome Structure Mounted on Top of a Surveillance Aircraft

Abstract: The design and development of radome external structure, requires aerodynamic forces acting on it and its distribution. This paper discusses the wind tunnel studies carried out for estimating the incremental effects due to the installation of large ellipsoidal radome along with the support structure pylons on the dorsal side of the fuselage. Effect of locations of radome at 36 m and 31.5 m from the nose of the fuselage is discussed. Further using the scan-valve pressure transducer, the pressure distribution on the radome measured at different aerodynamic angles required for the structural design of radome structure is also brought out. Flow visualization study which are useful for qualitative check for the effect of installation of the radome with support structure on the effectiveness of the empennage is attempted.

Keyword: Radome, Pressure distribution, Angle of attack, Surveillance


Authors: Ramadhan A. M. Alsaidi, Ayed R.A. Alanzi, Saleh R. A. Alenazi, Madallah Alruwaili

Paper Title: Using Derived kernel as a new Method for Recognition a Similarity Learning.

Abstract: A new technique for feature withdrawal by neural response is going to be familiarized in this research work by merging an entropy measure with Squared Pearson correlation Coefficient (SPCC) method. The process of choosing effective models on the basis of entropy measures was proposed further to enhance the ability to select templates. For more accurate similarity measure we used the statistical significant relationship between functions. The research illustrate that the proposed method is proficiently compared with the state-of-the-art methods.

Keyword: Feature Extraction; Hierarchical Learning; Entropy Measures; Pearson Correlation Coefficient; Pooling Operation; Sample.


Authors: Amjad Quazi, Sanjeev Kumar Gupta, Paresh Rawat

Paper Title: Impact of Hardware Impairment Analysis on Channel Capacity Bounds of MIMO Antenna Configurations

Abstract: with the increasing demand for higher data rates the utilization of the MIMO system have exponentially increased in the cellular communication systems. There are many reasons due to which the performance of the MIMO systems degrades in real time. The major challenge is the random noise or error in the system due to hardware issues and problems. The any kind of hardware error is called as hardware impairment in the systems. These impairments are represented by Kapa values in the systems. Paper is primarily focused to define and evaluate the impact of the hardware impairment on the system performance of MIMO. The paper first defines the basic MIMO systems antenna configurations and then the channel capacity performance is compared with and without hardware impairments. The antenna configurations depend on the number of input and output antenna in the system. As the number of antennas increases the probability of having hardware impairment also increases. This may reduce the capacity performance significantly. New channel capacity formulation is given for antenna configurations. Paper evaluated the performance under the different channel sizes on the capacity. Finally, the capacity of the channel is plotted as the function of the different Signal to noise ratios. It is concluded that the MIMO system performance is degraded under the presence of the hardware impairments.

Keyword: About four key words or phrases in alphabetical order, separated by commas.

References:
Authors: Tallapureddy Subba Reddy, Thimmasandra Venkataswamy Sreerama Reddy

Paper Title: Optimum Design of Shell and Tube Heat Exchangers using Modified Kinetic Gas Molecule Optimizer for the use of Low Temperature in Organic Rankine Cycles

Abstract: Shell and Tube Heat Exchangers (STHEs) plays a crucial role in an effective design of Organic Rankine Cycle (ORC) power plants. The main aim of this research work is to design a cost-effective ORC in order to exploit low to medium temperature geothermal fluid or low grade industrial waste heat. In this research work, modified Kinetic Gas Molecule Optimization (KGMO) algorithm was developed for optimizing the parameter settings of the power plant. In modified KGMO algorithm, feedback learning stage was included for improving the fitness of individual worst particles. In addition, the proposed optimization algorithm was tested on two dissimilar fluids such as R245fa and R134a in order to show the effectiveness of proposed scheme. The experimental investigation showed that the proposed scheme effectively improved the heat exchanger performance as related to the existing schemes. The enhancement factor Jx of proposed scheme was 2.8063 for R245fa fluid and 1.9346 for R134a fluid, which was better compared to the existing schemes; KGMO and Bell-Delaware method.

Keyword: Kinetic gas molecule optimization, organic rankine cycles, R134a, R245fa, and shell and tube heat exchanger.

References:

Authors: J. Vinolin, D. S. T. Ramesh, S. Athisayanathan

Paper Title: Skolem Mean Labeling of Four Star Graphs $K_{1_{\eta_1}} \cup K_{1_{\eta_2}} \cup K_{1_{\tau_1}} \cup K_{1_{\tau_2}}$ Where $\eta_1 + \eta_2 + 1 \leq \tau_1 + \tau_2 \leq \eta_1 + \eta_2 + 2$
Abstract: Skolem mean labeling of the four star \( G = K_{i+1, r_1} \cup K_{i, r_2} \cup K_{i, r_3} \cup K_{i, r_4} \) where \( \eta_1 \leq \eta_2 \) and \( r_1 \leq r_2 \) is a skolem mean graph if \( \sum_{i=1}^{2} r_i - \sum_{i=1}^{2} \eta_i \leq 2 \) is the main purpose of this article. Here we partition the four star into two pairs and then found the labeling function which proves the four star to be skolem mean using mathematical calculations.

Keyword: Mean graph, Skolem mean graph, skolem mean labeling, star graphs.

References:

Authors: Vishal Chandra, Vinay Singh, Pratay Guha Sarkar

Abstract: The purpose of this research is to automatically identify normal and abnormal mitral leaflets in an apical four-chamber view. One of the widely spread valvular diseases is mitral valve disease in underdeveloped countries. Still a burden for health sociality as well as countries. Around 80 percent of valvular diseases are mitral valve diseases. As far as World Heart Foundation Guidelines are concerned, it is totally based on mitral leaflets morphology. Due to the dependency on the sonographer's experience, it is highly subjective for argument. Measurement of thickness of leaflets, calcification detection, the pliability of leaflets required high experience about echocardiography as well as morphology. The motive of this research is to automatically identify the normal or abnormal mitral valve. If there is an abnormality in mitral leaflets then further investigation needed otherwise there is no further investigation that means measuring thickness, mitral valve area should not be required to measure. This research consists of two parts first automatically localize the region of interest second classifies the mitral leaflets whether normal or abnormal for localization yolo3 model mechanism with custom backend instead of darknet is used for taking area of interest automatically and for classification of normal and abnormal mitral leaflets, proposed pipeline is used, having f1, mAp score, and other matrices have measured. PR and ROC curves are drown to support the results in the evaluation, the motive of this research is to serve nonexpert to identify abnormalities in mitral leaflets and sonographers to assess more efficiently. We used the Apical four-chamber view for this research.

Keyword: Object detection, Mitral valve detection, classification, abnormalities.
Impact of Gender Discrimination on Professional life of Working Women in Education Sector of Haryana Universities

The Gender discrimination is a very live issue of remains current issues especially in concern of India. We proudly announces in today era both genders are equally treated on homes as workplaces also but it is a harsh reality of today’s women are not get equality on the workplaces. It is fact women come out from homes boundaries and financially support to their family. We all know about this fact education is a backbone of every developed country So mostly women make their career in teaching professions. In education sector treated unfairly female faculty as compare to male faculty. In India discrimination is started from birth of the girl child. Mostly women and girls spend their times to do the household work, caring children and kitchen work. Today era women to do the work as equal to men but women play a critical role to maintain the balance between their professional and personal life. Many factors and forms of discrimination affected the women personal and professional life. In education sector not rest from the discrimination. Female faculty facing the discrimination in case of recruitment, selection, salary and promotion. Gender discrimination Influences the women employees because in Indian society wrong perception about the women. According to society women are physically and mentally weak as comparison to male. Males are physically and mentally strong and they are take effective decisions. Females are full of emotions they can’t take effective decisions as compare to males. So in this research we focus on how working women facing the personal and professional problems in their life. How to women maintain balance between their personal and professional life.

Keyword: Gender discrimination, Working women issues and challenges, Status of women in society,
Working women in India.

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Authors: Bapuji Rao, Sarojananda Mishra

Paper Title: Detection of Sub-Community Graph in N-Community Graphs using Graph Mining

Abstract: Detection of sub-graphs in community graphs is an important task and useful for characterizing community graphs. This characterization leads to classification as well as clusterings of community graphs. It also leads to finding differences among a set of community graphs as well as buildings of indices of community graphs. Finally, this leads to finding differences of knowledge from sub-graphs. This proposed approach of detection of a sub-community graph from a group of community graphs using simple graph theory techniques. So, that knowledge could be discovered from the sub-community graph detected in a set of community graphs. The proposed algorithm has been implemented with two examples including one benchmark network and observed satisfactory results.

Keywords: community graph, community adjacency matrix, sub-community adjacency matrix, sub-community graph.

References:
15. Yan X., and Han J., "gSpan: Graph Based Substructure Pattern Mining," In proceedings of 2002 IEEE International Conference on Data Mining (ICDM'02), Page 721, IEEE Computer Society Washington, DC, USA, 2002.
Abstract: Vehicular ad-hoc networks VANETs are now greatly affecting our daily lives. Autonomous driving vehicles becomes a hot research topic in automotive industry. Deploying autonomous vehicles scenarios requires realistic network through which all vehicles can communicate safely and efficiently. Network simulation prior direct implementation saves a lot of time and money, due to the high implementation cost of the vehicular ad-hoc networks. VANET simulators are not as same as mobile ad-hoc network MANET simulators; they have different characteristics and different architecture design, where VANET simulators are rapidly changing network topology in a frequent basis with high-speed moving nodes. In this paper, we will discuss the full architecture design of VANET simulator, which consists of three main parts: mobility generator, network simulator, and a middleware framework that combine both mobility and network simulator together, followed by a comparative study of the different parts of VANET simulator.

Keyword: VANET, MANET, Mobility generator, Network Simulator, Frameworks, Simulation, Emulation, Federated and Integrated approach.

References:
Abstract: The complications that occurred in remote sensing image information and analysis algorithms growth of ioa ilarge iscale image segmentation haven't kept ia iplace wihthe irequirement ifor iithe methods which iwithe idevelop ithe ifinal iaccuracy ioi ofioject idection ias iwew iiais ithe recognition.

The iTraditional iLevel iset isegmentation imethods iwhich iare iChen-Vese i(CV), Image iand iVese iComputing ii(IVC) i2010, IACM iwith iSBGFRLS, iand iOnline iRegion-Based iACM i(ORACM) iare isuffered ifrom imore iamounts iiof iframe itime icomplexity, ias iwell iais ilow isegmentation iaccuracy idue iito ilarge intensity ihomogeneities iand iithe inoise iat iwhich iithe iregion ibased isegmentation iis impossiable. iSo ithis iitis ithe ireason, iwe iproposed ia inavel ihybrid imeethodology icalled iadaptive iparticle iswarm iioptimization ii(PSO) ibased iFuzzy iK-Means/iclustering ialgorithm. iThe iproposed iapproach isiidivereified intio iitwo istages; iin istage iione, ipre-processing iithe input image ito improve iithe iclustering iefficiency idon iovercome ihobstacles ipresent iin itradiational imeethods iby iusing iparticle iswarm iioptimization ii(PSO) iand iAdaptive iFuzzy iK-Means/iclustering ialgorithm.

With iithe ihelp iiof iithe iPSO algorithm, iwe igiet iithe i“optimum” iipixels ivales iare iextracted ifrom iithe input iSAR images, iitheese ioptimum ivales iare iautomatically iacted ias iclusters icenters ifor iAdaptive iFuzzy iK-Means/iclustering instead iof irandom initialization ifrom iithe ioriginal image. iThe ipre-processing isegmentation iresult improved iithe iclustering iefficiency ibut isufferers ifrom ifew i improves isuich iiais iboundary ileakages iand iiotliers iin iparticle iSwarm iioptimization ii(PSO).

The iapproach was iused inote iatomic images iviater ecretion of iparticle image sdominant isegmentation results itiwith iithe ihelp iiof iithe ilevel isegment method. iIt itutilizes iaian eicient icurve ideformation idriven iby iexternal iand internal iforces ito iaparture iithe iimportant istructures iusual iedges iin iimage. iThe icomputed iapproach iiof iboth ipre-processing iand ipost-processing iwhich iiis icalled iParticle iSwarm iOptimization ibased iAdaptive iFuzzy-K-Means ii(AFKM) iclustering ivia iithe ilevel isegment method. iThe iapproached iiprocessed itsuccessfully iimplemented ion ilarge icalse ilremote iseensing ihomogeneity and iithe idataset iare iextracted ifrom iithe iopen-source iNASA iearth ibioservatory idatabase ifor isegmenting iithe ioil isicker icreeps, iioil isicker iregions, itypoohoon, iisoulk iand iithe iGulf iof iAlabama, ietc. iSo there in ithis, ithe iproposed ine method ihad ifeasibility iand iience ifich icould iattain iithe ihigh iaccurate isegmentation iseults iwhen icompared iwithe iithe iiradiational ilevel isegment methods.

Keyword: iRemote iSensing ilImages, ilImage iSegmentation, iAdaptive iFuzzy-K-Means iclustering, iand iFast iLevel iSet imeethod.

References:


9. W. Cai, S. Chen, D. Zhang. Fast and robust fuzzy c-means clustering algorithms incorporating local information for image...

Authors: Deepali Y Loni, Shaila Subbaraman

Paper Title: A Longitudinal Ageing Analysis of Vocal Parameters of Singing Voice of Female Playback Singer

Abstract: Age-related changes to the vocal structure affect the singing ability of the singer. We present a longitudinal study of vocal ageing of a female professional playback singer having more than six decades of singing span (covering singer age from 19 to 80 years). The ageing analysis is performed on six vocal parameters like – fundamental frequency (F0), vibrato, formants and spectral features like spectral roll-off and centroid. Statistical variations in these vocal parameters over the entire singing span of the singer are discussed in the paper. Significant effects noted with the ageing voice were - decrease in F0, decreased vocal range, reduction in vibrato rate, increase in vibrato extent, decrease in F2 & F4 formants and rapid change in the spectral features. This investigation also studied the effect of ageing on singing voice quality through the measurement of singing power ratio (SPR). Increase in SPR measures was observed with ageing voice. The study of impact of vocal ageing with longitudinal data on singer identification (SID) is scare. The SID experimentation performed with 350 cappella songs covering entire singing span of the singer, showed a clear impact that change in acoustical parameters with ageing affected the performance of singer identification systems.

Keyword: Ageing, Singing voice, Vibrato, Formants

References:


Authors: Kouamé Abel Assielou, Cissé Théodore Haba, Tanon Lambert Kadjo, Kouakou Daniel Yao, Bi Tra Goore

Paper Title: Multi-Relational and Social-Influence Model for Predicting Student Performance in Intelligent Tutoring Systems (ITS)

Abstract: Recent studies have shown that Matrix Factorization (MF) method, derived from recommendation systems, can predict student performance as part of Intelligent Tutoring Systems (ITS). In order to improve the accuracy of this method, we hypothesize that taking into account the mutual influence effect in the relations of student groups would be a major asset. This criterion, coupled with those of the different relationships between the students, the tasks and the skills, would thus be essential elements for a better performance prediction in order to make personalized recommendations in the ITS. This paper proposes an approach for Predicting Student Performance (PSP) that integrates not only friendship relationships such as workgroup relationships, but also mutual influence values into the Weighted Multi-Relational Matrix Factorization method. By applying the Root Mean Squared Error (RMSE) metric to our model, experimental results from KDD Challenge 2010 database show...
that this approach allows to refine student performance prediction accuracy.

**Keyword:** Matrix Factorization, Student Performance Prediction, Intelligent Tutoring System, Social-Influence, Recommender Systems.

**References:**

Authors: Natalia Konkina

Paper Title: Design and Implementation of a Smart House System with Voice Control

Abstract: Smart House is an intelligent management system that integrates all equipment into a single complex. It solves various tasks in the field of security, life support, entertainment, and communication. This paper presents a complete design and implementation of a Smart House system with voice control, describes the...
hardware and software parts as well as the interaction between them. Voice control performed with simple instructions using Microsoft Speech Platform. Recognized commands will be encrypted on the software side and then will be sent via Bluetooth HC-06 module to the hardware side for execution. Among the developed features for the created prototype are lighting control, home temperature control, sleep mode control, the possibility of setting an alarm clock, security mode and gas leakage check. In case of problems, a user will receive a notification via email and/or SMS. Finally, this paper presents the results of experiments for voice control, which shows that voice control in Smart House is the next step in improving this intelligent system, is the next step in improving human-machine interaction and it provides great help for people with special needs and disabilities.

**Keywords:** Arduino, Smart Home, Smart House, voice control.

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19. Tony DCola. Embedded Linux Board Comparison

**Authors:** S. Santha Subbulaxmi, G. Arumugam

**Paper Title:** K-Means Cluster Based Undersampling Ensemble for Imbalanced Data Classification

**Abstract:** Imbalanced data classification is a critical and challenging problem in both data mining and machine learning. Imbalanced data classification problems present in many application areas like rare medical diagnosis, risk management, fault-detection, etc. The traditional classification algorithms yield poor results in imbalanced classification problems.

In this paper, K-Means cluster based undersampling ensemble algorithm is proposed to solve the imbalanced data classification problem. The proposed method combines K-Means cluster based undersampling and boosting methods. The experimental results show that the proposed algorithm outperforms the other sampling ensemble algorithms of previous studies.

**Keywords:** imbalanced data, classification, undersampling, ensemble; k-means clustering

**References:**
Development of an Innovative Education System Mathematical Model

Abstract: With the development of the scientific progress in the different spheres the countries all over the world need the highly educated and talented young people who will be able to develop the science and to achieve big results in it. Now, the major task of the educational system is to develop and implement such educational process that will allow achieving high academic results for the students and giving them the opportunity to find out at which sphere they will achieve the best results and for the teachers to find out the sphere of the lack of the knowledge.

In the current article, there is given the way to develop the student mathematical model (as a subject of the learning trajectory). The model was developed with taking into account the external variables that reflected the students’ characteristics influencing on the learning process and getting the education.

The usage of the student mathematical model for the individual education will allow reducing the expenditures for this kind of education and at the same time will give all the advantages of the individual studies. Also, the usage of the neural networks to study and predict the properties of the educational trajectory will provide the new and effective research methods in the field of learning theory.

Keyword: education, learning trajectory, student, educational process, mathematical model.

References:
Abstract: The Vehicle Industry is ascending with enduring development throughout the world. Hence, there is a high plausibility of growth in individuals getting their vehicles. Although various well-being measures are being utilized to make the framework of the vehicle significantly more adaptable, there is still a vast void in the post-accident reporting centers. Road accidents are inevitable, but many lives can be spared if the emergency services with appropriate data and help are provided in time. The proposed model offers another way to deal with this issue. Also, this paper presents a prevention method to avoid accidents occurred due to unnoticed speed breakers, blind turns, pits, stop signs etc.


References:

Authors: Vivek Upadhyay, Simran Gupta, Snigdha Chaturvedi, Dhirendra Singh

Paper Title: Integrated Accident Prevention Detection and Response System (IAPDRS)

Abstract: This paper is intended to exhibit the novel approach to improve the efficiency of the supervised learning models towards the accuracy of the predictions made to classify the autism from that of the normal

Authors: Roopa B. S., R. Manjunatha Prasad

Paper Title: Identification of Best Fit Learning Models Based on Calibration for Better Classification of Autism
subject. The state of the art is about 60-75% of Autism classification accuracy. The early prediction of autism plays a vital role as the rise of autism is alarming. The invasive way to analyze the problem at the earliest would render much support to the Autism Spectrum Disorder (ASD) community. In this work, various supervised learning models are first tested on 1101 subjects with 530 ASD subjects and 571 Normal subjects. The Datasets worked are collected from Autism Brain Imaging Data Exchange (ABIDE) repository. The performance measure is calibrated in terms of Brier score which is an accuracy measure of the predictions in probabilistic way. After assessing in probabilistic way, the statistically emphasized models are then evaluated for the same set of data to validate the prediction model efficiency with their statistical measures made and hence developing the confidence of the model selection for better classification based on probability calibration (CAL).

The performance evaluation of the model is tested with probability calibrated assessment and found that for given dataset the SVM and Logistic Regression provided better accuracy measure compared to other considered learning models. It is necessary to frame a hypothesis measure on the dataset before any model is deployed. This approach helps to identify the desired and validated supervised model for the given data samples.

**Keyword:** ASD, SVM, Calibration (CAL), Supervised Learning Models (SLM).

**References:**

**Authors:** Marwa M. Aly, H. A. Haggag, A. M. Abdel Fadil

**Paper Title:** Closure of Lake Nasser Khores by Different Types of Dams, using Satellite Images

**Abstract:** According to the agreement between Egypt and Sudan in 1959 for the full utilization of Nile water arriving Aswan, both countries agreed to build the High Aswan Dam (HAD) in 1964 to get benefits from the water which was flowing to the Mediterranean Sea. Therefore, Lake Nasser, the greatest artificial lake in the world, was created with large areas of shallow depths adjacent to the edges of the lake on both sides according to the topography of the surrounding area namely (khores). These khores increased the surface area; consequently, the estimated evaporation losses reach about 10 BCM/year in average.

Reducing evaporation losses from HAD Lake is an option to increase the Egyptian available water resources. Many studies were done in order to partially or completely closure of the Khores, where the surface area of the khores of Lake Nasser is about one third of the total area of the lake, which indicates the effectiveness of its closure in decreasing the evaporation. The objectives of the research are studying the Lake Nasser’s large area khores, evaluating the idea of closing these khores using different types of dams such as earthfill, rockfill and rubber dams, and the consequent saved water. Meanwhile, a preliminary cost study for the different types of dams was done to determine the most suitable dam type.

This research used the land sat 4 & 5 at years 1988 and 1999 in order to identify the surface area of the lake for the lowest and highest levels respectively. Also it gets benefit from the data available at Ministry of water Resources and Irrigation (MWRI), such as the Khores bathymetric maps and the evaporation rates of Lake Nasser. The results of the study show that Kalabsha khore is the most optimum for dam closure as its entrance is suitable for dam construction, and at high water levels it has the greatest area thus, reducing the evaporation. It is highly appreciated to use rubber dam either economically or environmentally. The amount of saved water reach about 1.0 Milliard m3 representing 11.11% of the annual total evaporation losses from Lake Nasser, the water saved may reach 1.53 Milliard m3 if the water level reaches 181.52 m for considerable time span.

**Keyword:** Evaporation Losses, Closure Dams, Khores, Lake Nasser, Satellite Images.

**References:**
Authors: Vuppula Prasanna, P. Ramesh Babu

Paper Title: The Effect of Process Parameters on Microstructural and Mechanical Properties of Friction Stir Welded Age-Hardenable Aluminium Alloy

Abstract: FSW has become the most effective technology in solving problems that have reached the profiled sheets with the continuation of material, particularly in the aerospace industry, with the use of different joining techniques that require high ductility and tensile strength. Current study, FS weldments AA6061-T6 were successfully obtained with varying processing parameters and were mechanically and metallurgically characterized. This paper illustrates macrostructure analysis, influence of tool geometry and process parameters, Fractography analysis microstructure analysis, microhardness of aluminium alloy AA6061-T6.

Keyword: AA6061-T6, Friction stir welding, Grain size, Mechanical properties, Microstructural studies, stir zone, Tool rotational speed, Travel speed.

References:

Authors: M. Nafees Muneera, P.Sriramya

Paper Title: Extractive Text Summarization for Social News using Hybrid Techniques in Opinion Mining

Abstract: Presently almost all enterprises are oriented into building text data in abundance savoring the benefits of big data concept but the reality is that it’s not practically possible to go through all this data/documents for decision making because of the time constraint. Here in exists intense need of an approach as an alternative for the actual content which can summarize the complete textual content. By adopting these summarizing approaches, the accuracy in data retrieval of summarized content via search queries can be enhanced compared to performing search over the broad range of original textual content. There are many text summarization techniques formulated having their own pros and cons. The present work focuses on a comprehensive news review of extractive text summarization process methods and also taking into account, data appended dynamically. The existing work recommends a technique of hybrid text summarization that’s a blend of CRF (conditional random fields) and LSA (Latent Semantic Analysis) which being highly adhesive with low redundant summary and coherent and in-depth information. The above hybrid techniques is being extracted in five types that being: Positive and negative, statement, questions, suggestions and comments. The technique of LSA extracts hidden semantic structures within words/sentences that being commonly utilized in the process of summarization. The statistical modeling technique of CRF adopts ML (machine leaning) for offering structured detection and providing multiple options for evaluation of opinion summarization thereby identifying the most appropriate algorithm for news text summarizations considering the heavy volume of datasets.


References:
Bipolar disorder is normally conceptualized as a progressive disorder with the expanding risk of repeat for each new full of the feeling scene and with expanding subjective handicaps over the span of ailment. Clinically, symptomatic limits between bipolar disorder alongside other mental conditions, for example, bipolar disorder are really not clear despite the fact that some mental and pharmacological treatment procedures very impressively. Patients with bipolar disorder are once in a while misdiagnosed as having bipolar disorder, transient psychosis, reaction to a psychoactive substance or stress/change disorder misuse, just as the mean deferral between beginning just as the conclusion is really 5 to 10 yrs. Emotional wellness, just as substance use disorders, as a rule, grow from the get-go in youthful adulthood and youthfulness. Bipolar disorders are rarely normal, handicapping, repetitive emotional wellness issues of flexible seriousness. The beginning is as a rule in early pre-adulthood or late childhood. Patients with bipolar conditions have more noteworthy paces of different other psychological wellness disorders and by and large wellbeing conditions. Early acknowledgment, just as treatment of bipolar conditions, improve results.

**Keywords:** Bipolar disorder, Patients, Ayurvedic

**References:**

of a single digital image for surveying and recording of architectural façades. So, the main objective of the current research is to develop a computer algorithm using least squares adjustment method for studying the practical visibility, applicability, and accuracy of using a single digital image captured by a digital camera in surveying architectural façades. To achieve the above-mentioned goal, simplified formulas obtained from collinearity condition, the basis of the Direct Linear Transformation model (DLT), to suit the architectural façades conditions, which is the façade lies in one vertical plane. The obtained formulas showed that eight transformation parameters are required (needed) between the architectural façade and the captured image. Hence, the eight parameters can be computed using four common points or more. So, two field experiments were made on two architectural façades to test the practical visibility, applicability, and accuracy of the supposed technique. The obtained results proved the success of the supposed technique and its related computer algorithm in the survey and the record of the vertical architectural façades.

Keywords: Computer Algorithm, Direct Linear Transformation, Façade Documentation, Photogrammetry, Single Digital Image, Surveying.

References:

Authors: Iyapparaja M, Manivannan S.S, Vinoth Kumar M, Thanapal P, Kamalakannan J

Paper Title: Future Prediction of Diabetics using XG Booster Classifiers

Abstract: Diabetes is a most common disease that occurs to most of the humans now a day. The predictions for this disease are proposed through machine learning techniques. Through this method the risk factors of this disease are identified and can be prevented from increasing. Early prediction in such disease can be controlled and save human’s life. For the early predictions of this disease we collect data set having 8 attributes diabetic of 200 patients. The patients’ sugar level in the body is tested by the features of patient’s glucose content in the body and according to the age. The main Machine learning algorithms are Support vector machine (SVM), naive bayes (NB), K nearest neighbor (KNN) and Decision Tree (DT). In the exiting the Naive Bayes the accuracy levels are 89 to 90%. In the proposed system the accuracy ranges are shown properly and this is only used mostly. But in XG boost classifiers even after the Naïve Bayes 74 Percentage and in Decision Tree prediction. The patients' sugar level in the body is tested by the features of patient’s glucose content in the body and according to the age. The main Machine learning algorithms are Support vector machine (SVM), naive bayes (NB), K nearest neighbor (KNN) and Decision Tree (DT). In the exiting the Naive Bayes the accuracy levels are 89 to 90%. In the proposed system the accuracy ranges are shown properly and this is only used mostly. A dataset of 729 patients can be stored in Mongo DB and in that 129 patients reports are taken for the prediction purpose and the remaining are used for training. The training datasets are used for the prediction purposes.

Keywords: diabetes mellitus, machine learning, Decision Tree prediction.
In Requirement Engineering, Requirements Management (RM) is one of the significant phases that can control the success of a software project. It manages deal between dependencies and requirements, modifications to the approved requirements and connection between other documents as well as the requirements document formed during the process of requirement engineering. In the world of software development, it is estimated that changes to requirements and poor requirement management are one of the major causes for project overrun and quality issues in software development. The practice of requirements management methodologies, with the support of traceability and quantification, is renowned as a substantial ability in the software maintenance and development process, and as an essential aspect for the quality of the final software product. The present study is accompanied by an acute assessment of the current methods for managing and resolving software requirements. It also highlights the management concerns that arise in the said process. Result analysis reveal that there are still numerous issues, which require immediate attention of research community in order to develop a quality software.

**References:**

References:


Authors: Seema Rai, Ashok Sharma

Paper Title: Research Perspective on Security Based Algorithm in Big Data Concepts

Abstract: Providing a robust security for large data is one in all the first concern for most of the researchers. This paper makes an attempt to uncover all the protection solutions associated with unstructured, structured and semi structured data. also, the main aim of this paper is to cover the information related with the several encryption algorithms used to provide confidentiality, integrity, privacy and data silos. Different algorithmic program and tools play an efficient role in playing significant analysis on huge volume, variety of big data.

Keyword: Big Data, Confidentiality, Data Integrity, IoT, Privacy, Data silos
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Speech Based Anti Stuttering Algorithm using Matlab

Abstract: Stuttering is one of the most occurring speech disorders. Usual onset of stuttering is from 2 to 5 years which can be cured in childhood but for 20% of cases it prolongs to adulthood. Its severity increases when a stuttered person faces public and when he/she gets anxious. It is a long-term disorder which cannot be permanently cured. This drawback will be externally overcome with the help of designed Speech based algorithm. This algorithm is implemented in five stages namely magnitude filtering, silence ejection, speech to text, text to speech, repetition removal and text to speech. The project aims at removing the repetition of words. This can be used in speech recognition systems. This system helps in encouraging the person who suffers from stuttering to give an open talk in public.

Keywords: repetition removal, silence ejection, speech to text, text to speech, magnitude filtering.

References:
42. Arya A Surya, Sarekha Marriath Vargheese, “Automatic Speech Recognition System for Stuttered Disabled Persons”, International Journal
Abstract: The distributed generation scheme with integration of renewable energy sources furnishes the feasible solution to acquire the stable power demand in grid-connected system under sudden load interruptions. Over the various compensation devices, the highly recognized multi-purpose Static Compensator is integrated to grid for attaining enhanced power quality features. A co-generation based grid-integrated renewable sources are used but, the output of these sources are maintained un-constant due to presence of variable source. In this paper, a novel current controller was developed to maintain output of co-generation system as constant and achieve the load demand continuously. But, this scheme has two major disadvantages, primary one is current controller; the second disadvantage is that the power quality controller is not controlled by intelligent based Fuzzy-Logic controller that is adopted. The second is, the regular 3-level voltage-source inverter is used in STATCOM which has square-wave output voltage requires high range of filter units, more common-mode voltage, high dv/dt stress, more switching losses, low efficiency, so on. These issues are counteracted by utilizing multilevel inverter with attractive modulation scheme. The performance evaluation of proposed Multilevel Inverter based STATCOM is verified by traditional PI and proposed Fuzzy-Logic current controller by using MATLAB/SIMULINK tool and results are conferred with comparisons.

Keywords: Advanced Current Controller, Fuzzy-Logic Controller, Multi-Level Inverter, Multi-Static Power Compensator, PI Controller, Power Quality Improvement.

References:
19. A CRITICAL EVALUATION OF PV+WIND CO-GENERATION SCHEME BASED STATIC COMPENSATOR FOR PQ IMPROVEMENT BY USING FUZZY-LOGIC CONTROLLERA CRITICAL EVALUATION OF PV+WIND CO-GENERATION SCHEME BASED STATIC COMPENSATOR FOR PQ IMPROVEMENT BY USING FUZZY-LOGIC CONTROLLER A CRITICAL EVALUATION OF PV+WIND CO-GENERATION SCHEME BASED STATIC COMPENSATOR FOR PQ IMPROVEMENT BY USING FUZZY-LOGIC CONTROLLER
Abstract: Today, skin cancer is a serious health problem and the quest for a correct clinical diagnosis has been an ongoing concern for dermatologists and for many researchers an important field study. Field Programmable Gate Array (FPGA) technology has become a key part of the current movement towards innovation. It provides a viable target for applying image processing algorithms. It presents a viable target for the implementation of algorithms suited to image processing even under real-time requirements, because of their flexibility and great potential. FPGAs have shown very high performance in spite of their low operational frequency and high parallelism in applications. In this paper, an embedded Content-Based Image Retrieval (CBIR) implementation based on FPGA is proposed to manage the image data efficiently and fastly. We describe the implementation of CBIR in image processing applications using FPGA. The main aim behind this implementation is to reach minimum timing by the maximum utilization of resources. We are conducting a study on the advantages of this embedded approach and discussed its effectiveness for a set of benchmark images publically available dataset PH2. The FPGA-based implementation shows the feasibility of the proposed methodology. The functional implementation of all processes using the Verilog code of FPGA has been compiled on the ALTERA QUARTUS-II software tool.

Keyword: Image processing, Feature extraction, CBIR, Verilog, FPGA.

References:

Authors: Pooja Khese, Rohit Patil, Swapnil N Jani

Paper Title: Force Calculation by Reluctance Method in Triangular Air-Gap Magnetic System

Abstract: Magnetic circuit in MCCB should be reliable as Reliability is the main concern if MCCB used as the protection to the main appliances. Air-gap plays critical role in any magnetic system as increase and decrease in it will cause shift in saturation level. In this paper we are going to see the effect of air-gap variation in case of triangular air-gap. Here, Ansys software is used for magneto static analysis of the magnetic system. Relation between analytic formulation and ansys data is given by variation factor, which is used to establish force in given triangular system by just mathematical formulation. This paper will help in driving force for any triangulate air-gap system and relation between system and simulating software. Formulation of force generation is very important at design point of view as it will help in analyzing required force generation.

Keyword: About four key words or phrases in alphabetical order, separated by commas.


Authors: Veena R, Manuel S M, Mathew S, Petra M I

Paper Title: Wake Induced Power Losses in Wind Farms

Abstract: With the steady growth in the wind power sector in the past decade and the projected expansions in the future, wind energy plays a significant role in the Global clean energy scenario. When wind turbines operate in clusters as in wind farms, downwind turbines experience wake losses caused by the upwind turbines. For the efficient design and successful management of wind energy projects, these wakes induced power losses within the turbine arrays are to be analyzed and understood. In this paper, we review different approaches, both based on kinematic and flow models, in quantifying the wake induced velocity and power deficits within wind farms. Under the kinematic approach, Jensen, Larsen and Frandsen models are described. Ainslie, RANS, DNS and LES models are covered under the CFD based flow approach. The deep array effect, which is being experienced in large sized
Keywords: Wind farms; Wake losses; Deep array effect, Computational Fluid Dynamics.

References:
28. 2006

Authors: Sahana D S, Dayanand Lal. N, Vidya J, Bhanujyothi H C

Paper Title: An Efficient Scheme for Vein Detection using Accuvein Apparatus Based on Near Infrared with Broadcom Chip

Abstract: Venipuncture has been considered as one of the main fitness analysis strategies. Even although venipuncture has been taken into consideration as one of the highest prioritized and commonly accompanied by healthcare professionals, the accuracy of venipuncture is still a challenge due to the need for skilled professionals and the risk associated with the procedure. The Accuvein Apparatus, which is a handheld device, uses near infrared technology to visualize veins, making venipuncture more accurate and less painful. This paper proposes an efficient scheme to improve the accuracy of venipuncture using the Accuvein Apparatus through the analysis of near infrared images. The proposed scheme can enhance the visibility of veins, providing better guidance for healthcare professionals to perform venipuncture with high accuracy. The findings of this study can contribute to the development of more efficient and effective techniques for venipuncture, reducing the risk of complications and improving the overall quality of care.
practised in hospitals is to carry out obtain the veins for small kids, elderly peoples, fat, anaemic, or darkish skin colored patients using infrared light have become today's trend. But those devices share a commonplace drawback, for visualizing deep veins or veins of a thicker part of subject like limb. This paper clarifies a vein-picturing device, Accuvein which uses Near infrared (NIR) light. The light inventory quickly extends straightforwardly to the chosen part of the skin. The camera sensor has been used to come across infrared radiation to take the vein photos. With the addition of an image processing process, the first-class of vein shape obtained is more desirable showing it extra as it should be. The implemented device has met the requirements of a desired output image when limb areas kept under Accuvein device obtaining the efficient images. The visibility of veins for the purpose of Cannulation increased by using Accuvein device.

**Keyword:** Cannulation, CCD Camera, Near-infrared light, Phlebotomists, Venipuncture.

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11. Sonjanya Ganesh, “Depth and Size Limits for the Visibility of Veins Using the ViewViewer Imaging System”, University of Tennessee Health Science Center.

**Authors:** Balasundaram A

**Paper Title:** Computer Vision based Detection of Partially Occluded Faces

**Abstract:** In today's world, security has gained utmost significance in every walk of life. With the recent advancements in image and video analytics, emphasis has been towards developing enhanced surveillance systems which perform complex tasks that include automated security incident detection, tracking and analysis in real time. The primary objective of this paper is to automatically detect the presence of any masked or occluded face in real time. A robust technique based on pivotal facial points has been developed. The paper discusses in detail how the pivotal points are observed and used in discovering masked faces in real time. Analysis of this algorithm's performance on test data sets gives positive insights for further enhancements towards occluded face detection in real time surveillance.

**Keyword:** Mask detection; face detection; eye detection; face occlusion; video surveillance; partial occlusion

**References:**


Authors: Ritu Sindhu, Neha Gehlot, Indu Malik

Paper Title: A New Compiler: Code Conversion at Assembly Level

Abstract: Ever switched programming languages? If yes, you know how difficult it is to learn the syntax and get familiar with new language. But what if we write the code in our preferred language and it can run as any other language’s code. The thing is, whatever we write ultimately gets converted to 0’s and 1’s, the only difference is how these 0’s and 1’s is shown to our machine. We may need different languages, but what if the code with the syntax of one language, runs reasonably well as if it was written with syntax of some other language. This is where a compiler comes in [1].

The aim of this paper is to develop a compiler which could create a new code for another language, based on the machine code developed by other languages. This compiler solves two problems Syntax issue and Universal Compiler.

Keyword: whatever different languages, languages.

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Authors: Abdul Raoof Wani, Q. P. Rana, Nitin Pandey

Paper Title: Machine Learning Solutions for Analysis and Detection of DDoS Attacks in Cloud Computing Environment

Abstract: Distributed denial of service is a critical threat that is responsible for halting the normal functionality of services in cloud computing environments. Distributing Denial of Service attacks is categorized in the level of crucial attacks that undermine the network's functionality. These attacks have become sophisticated and continue to grow rapidly, and it has become a challenging task to detect and address these attacks. There is a need for Intelligent Intrusion detection systems that can classify and detect anomalous behavior in network traffic. This research was performed on the cloudstack environment using Tor Hammer as an attacking mechanism, and the Intrusion Detection System produced a new dataset. This analysis incorporates numerous algorithms of machine learning: k-means, decision tree, Random Forest, Naïve Bayes, Support Vector Machine and C4.5

References:

Authors: Masharipov Otoboy Matyqubovich

Paper Title: On The Possibility of Improving the Reliability of Communication in Fiber-Optic Systems with Spectral Compaction

Abstract: In the article, the authors present a concrete example of a block diagram of a signal transmission device at WDM. Operation of this device with the representation of plots of pulse diagram of operation at standard characteristics of services and evaluation of their quality indicators depending on the fault tolerance in the whole system under study. Recommendations for practical use in various types of network topology are given. Spectral compaction technologies such as CWDM, DWDM, HDWDM, principles of construction of these technologies, as well as advantages and disadvantages are considered. The functional schemes of the signal transmission device and the functional scheme of the optical transceiver and the principle of operation of these devices are given. The frequency plan for CWDM systems is defined by ITU G. 694.2. The scope of CWDM technology is urban networks with a distance of up to 50 km. The advantage of this type of WDM systems is low (compared to other types) the cost of equipment due to lower requirements for the constituent equipment of the fiber optic network. The frequency plan for DWDM systems is defined by ITU G. 694.1. The field of application — backbone network. This kind of WDM systems has higher requirements for components than CWDM (radiation source spectrum width, source temperature stabilization, etc.). The impetus for the rapid development of DWDM networks was given by the appearance of inexpensive and efficient fiber erbium amplifiers (EDFA) operating in the range from 1525 to 1565 nm (the third window of transparency of quartz fiber). For simplicity, the model is limited to a frequency plan DWDM with a step of 100 GHz, and DWDM has eight main channels in the range of 1470-1610 nm. The calculations of reliability indicators of the basic version and the modified version of the signal transmission device are given.

Keyword: wdm, cwdm, dwdm, hdwdm, trigger, decoder, logic elements.

References:

Authors: G. Renukadevi, K Selvakumar, S. Tamilarasan, S. Venkatakrishnan

Paper Title: An Implementation of Genetic Algorithms in Big Data Processing for Medical Data

Abstract: The large amount of real time medical measurement parameters stored in the SQL server needs processing using a specific algorithm. One of the big data processing techniques is available for medical data is Genetic algorithm. The acquired medical parameters are combined together to predict or diagnose the disease using the genetic algorithm. In this paper, the genetic algorithm is used to process the medical measurements data. The medical parameters are posted temporarily in the Representational Structure (REST) Application Program.
Surface Composites

Tensile Behaviour of Aluminium Oxide and Zirconium Dibromide Reinforced Aluminum Alloy 6063

Authors: Binod Bihari Palei, Tapan Dash, Susanta Kumar Biswal

Abstract: In this work we successfully prepared aluminum-graphene composite (0.2 wt%) after 6 hrs of successful ball milling. The ball milling experiments were conducted between 2 and 6 hrs. The microstructural and spectroscopic comparison of aluminium-graphene composites were studied by evaluating properties by characterizing via XRD, FESEM, TEM, Micro Raman and microhardness. The second order disorder peak (2D) was found grow with milling time. In the Raman spectra intensity of 2D addresses about exfoliation take place of graphene in the composite. 0.2 wt% added graphene shows higher hardness than aluminium. Sintering of graphene composite (0.2 wt%) after 6 hrs of milling experiments were conducted between 2 and 6 hrs. The microstructural and spectroscopic comparison of aluminium-graphene composites were studied by evaluating properties by characterizing via XRD, FESEM, TEM, Micro Raman and microhardness. The second order disorder peak (2D) was found grow with milling time. In the Raman spectra intensity of 2D addresses about exfoliation take place of graphene in the composite. 0.2 wt% added graphene shows higher hardness than aluminium. Sintering of composites were done at 600 OC. Separation of stacking of carbon layers was confirmed from improvement of D peak in the ball milled samples. Sheet type structure of graphene was shown in TEM study. XRD confirms composite formation.

Keyword: Graphene-Aluminum Composite, Ball milling, Microhardness, Micro Raman

References:
Sudden Infant Death Syndrome also known as SIDS, is the leading cause of mortality in infants from a month to a year of age. Today's lifestyle is fast-paced. Most of the working parents find a bit of difficulty to manage their work along with their child. So, they leave their baby to the grand-parents of the child. Due to SIDS, the infants have abnormal breathing, body temperature and digestion. In recent years, they use an 'Eulerian magnification' technique to detect the motion of the child. In that, they use a light camera to detect the action of the child and generate an alarm in the cradle. So, we proposed a method to detect the action of the child. We use a motion sensor to detect the motion of the child. During infant's sleep their chest movement due to respiration is detected. When the SIDS occurs, infants would stop breathing. So, the sensor doesn't detect any motion. It immediately sends an SMS to the working parents and generates an alarm in the cradle. Along with this, it also determines the availability of doctor in the nearby hospital or their family child specialist and sends the availability message to their parents and guardians mobile by using cloud algorithm. By this we can reduce the mortality of the child due to SIDS.
to reduce buckling of columns thereby increasing the stiffness of the structure. During earthquakes, multi-storeyed buildings get damaged and as a result, large deformation occurs. Dampers reduce vibration and deformation of structural elements during an earthquake. Retrofitting buildings with fluid viscous dampers (FVDs) can improve Interstorey drifts and floor accelerations.

In the present study, an RC framed building is modelled and analysed under Southern Sumatra and Chile earthquakes to evaluate the performance of the structure and its elements with and without energy dissipators. For the study, a model (G+19) with and without energy dissipators is modelled in ETABS. The seismic force is applied based on the time history data of the models pertaining to Southern Sumatra and Chile Earthquake. Response Spectrum analysis has been carried out to find the lateral displacements, storey shear and Base shear for the model with and without dampers. The lateral displacement, storey drift, storey shear and Base shear are found to less for the model with Linear FVDs when compared to the model with Non-Linear FVDs and without FVDs.

Keyword: ETABS, Non-Linear FVDs and without FVDs.

References:

Authors: Md. Farid Shah, Aheibam Dinamani Singh

Paper Title: 25GHz - 40GHz Circularly Phase Array Microstrip Patch Antenna for Millimeter Wave Communication

Abstract: Millimeter wave technology will enable to provide high data rate. It is also expected to provide 2241-
continuous good quality, low latency video. For high-resolution video, wireless communication will require huge bandwidth. The present 4G spectrum will be unable to meet the demand of each mobile user. To solve bandwidth shortage millimeter wave technology is considered. In this paper present a circularly phase array designed. It is operating in the 25GHz to 40GHz. To enhance bandwidth the array used edge couple parasitic patch arrangement which provides dual resonance. The array is designed in circular phase array with the rotational feeding line. The designed used polyflon CuFlon(tm) low dielectric constant, $\varepsilon_r = 2.1$ and tangential loss, $\delta = 0.00045$ with height $h = 1.6\text{mm}$. The designed achieved 8.41dB gain. The array achieved good return loss, $S11$ bandwidth i.e. $11.83\text{dB} \leq S11 \leq -37.8\text{dB}$ (25GHz to 40GHz) and voltage standing wave ratio, VSWR $\leq 1.7$ (25GHz to 40GHz).

**Keyword:** Millimeter wave (mmWave), Inset feed Microstrip Patch Antenna (IFMPA).

**References:**


**Authors:** Mansi, Praveen Kumar Chakravarti

**Paper Title:** Miniaturized MPA with Asymmetric Z-Shaped CSRR Loading

**Abstract:** The work in the paper demonstrates a rectangular microstrip patch antenna with a Z-shaped CSRR loading in the ground plane. A Z-shaped CSRR created in the ground plane, shows a 63.3% miniaturization in the radiating patch size compared to conventional rectangular patch antenna, resonating at 6.5GHz frequency in C-band. The simulation results find a significant increase in the fractional bandwidth (5.54%), with the centre frequency of 6.5GHz). Furthermore, the antenna has simulated gain of 2.83dB and return loss of -26.33dB at 6.5GHz. The electrical size of proposed antenna is 0.325$\lambda_0 \times 0.260\lambda_0 \times 0.034\lambda_0$ (i.e., 15mm$\times 12\text{mm} \times 1.6\text{mm}$). The proposed antenna may find application in satellite communication systems in C-band and Wireless local area network (WLAN).

**Keyword:** Microstrip patch antenna (MPA), Complementary Split Ring Resonator (CSRR), Miniaturization, Fractional bandwidth.

**References:**

Authors: L. Jeganson Durai, L. Vijayakumar

Paper Title: Quantum-Assisted Retinal Drusen Detection Algorithm using Entropy-Based Image Processing Techniques

Abstract: Drusen identification is the fundamental operation in the automated diagnosis of eye diseases. Manual and automatic detection of the drusen in the retinal fundus images has been developed recently in the classical manner only. This work provides the quantum-based retinal drusen detection method using entropy-based image processing techniques. This algorithm is the composite system of two channels, classical and quantum channels for the preprocessing and drusen detection respectively. This research work has been evaluated with the databases of DRIVE, STARE, MESSIDOR, E-Optha-Ex and ONH-Hunter. This quantum-based approach will be analyzed with the results of the existing classical methods and proves its efficiency from the calculations of sensitivity, specificity, accuracy and execution time.

Keyword: Drusen, Quantum Information Processing, Entropy-based image processing

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10. Çalır Aytekı, Serkan Kiranya and Moncef Gabboji : Quantum Mechanics In Computer Vision: Automatic Object Extraction

Authors: S. Ravindra, U. P. Kumar Chaturvedula, M. Ravindra

Paper Title: Power Congestion Control Considering UPFC to Enhance Voltage Stability of the System

Abstract: This paper proposes a new FACTS device, i.e., Unified Power Flow Controller (UPFC) to relieve power congestion on power grid network. A simple model of a three phase AC–network of 500/230kV, 5-bus network with two transformers and two power generation plants (1000MW, 500MW) is designed. UPFC is designed with IGBT converters connected in shunt- series and both interconnected with DC bus and connected to AC side with transformer and coupling reactors. A contingency case is considered such that two transformers are considered instead of three transformers. The power flow of an UPFC installed at Bus-3 in 5-bus system is analyzed to show how the congestion of power on the grid is relieved through it. A bypass circuit breaker is installed at Bus -3 in the circuit to show the natural power flow without UPFC and power flow after installation of UPFC. The topology of series converter build in UPFC can introduce maximum of 10% of line-ground voltage in series. The simulation network of the 5-bus transmission network with UPFC connected at Bus-3 is designed with MATLAB/SIMULATION Software to estimate the power flow with UPFC connected.

Keyword: Congestion, FACTS, Power Flow, Power Grid, UPFC.

References:
Experimental Analysis on Performance and Emission Characteristics of C.I. Engine Fueled by Neem Oil Biodiesel with Additive

Abstract: In this present work, experiments were conducted on a VCR Diesel engine with diesel, Neem oil biodiesel and Di-ethyl ether mixed with neem oil biodiesel. The performance and emission characteristics were evaluated and compared. The study shown that the Brake thermal efficiency increased and the brake specific fuel consumption reduced but CO, HC and smoke were increased with the use of biodiesel compared to diesel. The addition of Diethyl Ether (DEE) further improved the performance and decreased the emissions of CO and CO2 of the engine at B20DEE20 blend compared to other blends of biodiesel and diesel.

Keyword: Neem oil, Diethyl Ether, performance, emissions, diesel, VCR Engine.

References:
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15. Performance Of 4 Stroke Diesel Engine Using Coconut Oil As Biofuel Material V. Varaprasad
17. The impacts on combustion, performance and emissions of biodiesel by using additives in directinjection diesel engine M. Vijay Kumar *, A. Veeres Babu, P. Ravi Kumar A comparative study on performance, combustion and emission characteristics of diesel engine fuelled by biodiesel blends with and without an additive M. Mohamed Mustafa *, T. Ashok Kumar, T. Mohanraj, R. Chandramouli
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50. An experimental study on using diethyl ether in a diesel engine operated with diesel-biodiesel fuel blend Amr Ibrahim
### Authors: Santhosh Kottam, Varghese Paul

**Paper Title:** Rule-Based Classification using Multi-Soft Set Theory

**Abstract:** One of the important data mining functionality is classification. Presently, different methods exist for implementing classification. Rule-based classification using decision tree induction method is a conventional and simple method for identifying an unknown class of a given object. This method has a set of demerits and to remove these demerits, we depend on a soft computing tool which is known as soft set theory. One branch of soft set theory is called multi soft set theory and it has a wide range of applications in the area of classification. We made a certain alteration in the rule-based classification using decision tree induction method by applying multi soft set theory. These changes will simplify the difficulties of the rule-based classification using decision tree induction method.

The first two sections of this research work discuss introduction and preliminaries. In the remaining sections, the authors describe the multi soft set theory and its applications in rule base classification. Lastly, the paper finishes with a new algorithm, which the research scholars implemented as software using python programming. The suggested work experts can use in data mining industry. It has massive use in the fields of business, agriculture, health, education and many more.

**Keyword:** Soft Computing, Soft set, Multi soft set, Decision tree induction, Information gain, classification, Rule-based classification.

**References:**
2. Jiawei Han, Micheline Kamber, “Data Mining: Concept and Techniques”, Elsevier, second edition, 2006.

### Authors: Rijwan Khan, Pawan Kumar Sharma, Sumit Raj, Sushil Kr. Verma, Sparsh Katiyar

**Paper Title:** Voice Based E-Mail System using Artificial Intelligence

**Abstract:** One of the mostly used forms of communication among the people is Email. Lot of confidential and urgent information is exchanged over emails in today’s time. There are about 253 million visually impaired people worldwide. These visually impaired people are facing a problem of communication. Since, technology is growing day by day these types to visually challenged people that they are more challenged. So authors proposed a Voice based Email System using AI that will make email system very easily accessible to visually challenged people and also help society. Accessibility is the most important feature that is considered while developing this system. Any system is called accessible only if both able and disable people can use it easily.

**Keyword:** Speech recognition, Text to speech, Voice mail, visually challenged people.

**References:**
<table>
<thead>
<tr>
<th>Paper Title:</th>
<th>Flexural Behaviour of Reinforced Rapid Hardened Concrete Beams</th>
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<tbody>
<tr>
<td>Abstract:</td>
<td>In the last decades, concrete technology has made it easier to reach early strength. Rapid Hardened Concrete is one of the construction concretes used widely. The use of rapid hardened concrete is increased due to the possibility to limit the construction time. The purpose of this paper is to investigate the mechanical properties of Rapid Hardened Concrete (RHC). Properties studied include compressive strength, tensile strength, and flexural behavior. Mechanical properties were evaluated based on the compressive, tensile, and bend test results for both normal and rapid hardened concrete. The effect of admixture percentages (Sikament-nn) on hardening properties of rapid concrete was studied. The experimental investigation indicated that the flexural and compressive strength of concrete increased with the addition of Sikament-nn at the age of 1, 3, 7, and 28 days and the optimal percentage of Sikament-nn was 2%. In addition, test results show that rapid hardened concrete exhibit ductile failure and significant displacement before failure. The ultimate displacement of rapid hardened concrete was an increase more 50% than control RC beams.</td>
</tr>
<tr>
<td>Keyword:</td>
<td>RHC Beams, Flexural Behavior, Tensile Behavior.</td>
</tr>
<tr>
<td>Authors:</td>
<td>Sarath P., Soorya M., Shaik Abdul Rahman A., S. Suresh Kumar</td>
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<tr>
<td>Paper Title:</td>
<td>Assessing Car Damage using Mask R-CNN</td>
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<tr>
<td>Abstract:</td>
<td>Picture based vehicle protection handling is a significant region with enormous degree for mechanization. In this paper we consider the issue of vehicle harm characterization, where a portion of the classifications can be fine-granular. We investigate profound learning based procedures for this reason. At first, we attempt legitimately preparing a CNN. In any case, because of little arrangement of marked information, it doesn't function admirably. At that point, we investigate the impact of space explicit pre-preparing followed by tweaking. At last, we explore different avenues regarding move learning and outfit learning. Trial results show that move learning works superior to space explicit tweaking. We accomplish precision of 89.5% with blend of move and gathering learning.</td>
</tr>
<tr>
<td>Keyword:</td>
<td>CNN, VGG-16, Deep Learning, Car Damage Detection</td>
</tr>
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</table>
Authors: Amrita Sahja, S. Rooban,

**Paper Title:** Design of 10 Bit ADC of SAR Type to Increase the Accuracy for Biomedical Applications

**Abstract:** In this paper a low power consuming 10 bit SAR ADC which is suitable for Biomedical applications is presented. It was designed with 180nm technology using cadence tool. SAR ADC is made of dynamic comparator, sample and hold circuit, SAR logic, and DAC block. The designed circuit works on a supply voltage of 1V. The proposed SAR design, with the use of dynamic comparator circuit will help to reduce power and even at the same time with the use of binary weighted CDAC also provides low power dissipation. In order to decide the next significant bit by the knowledge of previous bits the successive approximation algorithm runs over several clock cycles for analog to digital conversion. Power usage and complexity of the circuit is minimized by low conversion rate i.e permitting one clock for each bit in the proposed method.

**Keyword:** SAR [Successive Approximation Register] , low supply voltage, CDAC (capacitive digital to analog converter), low power.

**References:**

Authors: Bhutukuri Rajesh Khanna, Poonam Upadhyay, Munagala Surya Kalavathi

**Paper Title:** Electromagnetically Compatible and Virtual Flux DPC Control Techniques for 3-Phase Distributed Generation Fed by Active Rectifier

**Abstract:** This paper gives different control mechanisms comparison for active rectifiers fed grid connected 3-phase distributed generation systems from non-conventional energy sources. The control strategies presented here are Direct Power Control, 2 other DPC methods DPC to reduce CM voltage emissions that are EMC-I-DPC and EMC-II-DPC. Another two strategies are also presented with a concept of virtual flux i.e EMC-I-VF-DPC and EMC-II-VF-DPC. MATLAB/Simulink software is used to implement the so called techniques and the parameters like are injected current into electric grid, %Total harmonic distortion of current injected vs energy consumption, %Total harmonic distortion of current injected vs DC link voltage (Vdc) and %Total harmonic distortion of current injected vs CM voltages are shown.

**Keyword:** Voltage Oriented Control, Field oriented control Direct Torque Control, Electric grid, Direct Power Control, Common mode emissions, Active Rectifiers, Electro-Magnetically Compatible, Virtual Motor, Distributed Generation, Virtual flux, Reference Frame theory

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Authors: Mahmoud Sh. Mahmoud, Ahmed F. Khudhayer, Qusay J. Abdul-Ghafoor

**Paper Title:** Minimizing the Cosine Loss in a Solar Tower Power Plant by a Change in the Heliostat Position and Number

**Abstract:** Concentrating Solar Power (CSP) focuses sunlight in order to use the heat energy of the sun. In a central receiver system configuration, many mirrors (heliostats) individually track the sun and reflect...
concentrated solar energy onto a receiver on top of a tower. The receiver contains the working fluid which is heated by the concentrated solar radiation. The useful energy that absorbed by the water flows through the receiver in solar tower plant depending on the angle between the solar rays and the position of heliostat in the region of work. Heliostat will reflect the incident solar radiation in the direction of the receiver founded in the top of the tower, in order to get a maximum incident solar radiation on the heliostat reflection area. Because of the cosine factor loss effect due to the sun position is variable along the day from sunrise to sunset, which must be in a minimum value, therefore an automated tracking system with dual axes as a control system with sensors had been built and used to stare the sunrays incident on the receiver, and enable the heliostat to flow the sun where it was.

**Keyword:** Cosine losses, Solar energy, Tower power plant, Heliostat position.

**References:**

**Authors:** Suman Kumar Dey, Deba Prasad Dash, Mousumi Basu

**Paper Title:** Multi-Region Combined Heat and Power Economic Emission Dispatch

**Abstract:** Multi-Region Combined Heat and Power Economic Emission Dispatch (MRCHPEED) is an important chore in operational and planning problem. The valve point impact and restricted useful zone of regular thermal generators have been contemplated. In this work, Nondominated Sorting Genetic Algorithm-II (NSGA-II) is proposed for illuminating confounded MRCHPEED problem where power and heat generations have been distributed amongst the all committed units so that fuel cost and outflow echelon have been streamlined in chorus though gratifying every single operational requirement. The research consequence of a two-region investigation framework achieved from the prescribed technique are coordinated up to those acquired from Strength Pareto Evolutionary Algorithm 2 (SPEA 2).

**Keyword:** banished useful region; co-generation units; Multi-region; line imperatives; valve point effect.

**References:**

**Authors:** Bindhu V.S, D.M. Mary Synthia Regis Prabha

**Paper Title:** Control Strategies of Power and Power Factor using PID Controller in Hybrid Energy System

**Abstract:** Now a days maximum rise of power can be done by the usage of wind, solar and diesel system. To get reliable electricity supply and to control the interruption and contingency hybrid power systems are used.
The hybrid systems are more advantageous because both the wind and solar are renewable energies which is more convenient to the environment. The work presented in this paper consists of a combination of a wind system, a PV system and an AC load with a back up of battery source and a diesel generator. In order to reduce the transmission cost this system is applicable and it can be used in remote areas. PID controller with PLL technique is used to maintain the power factor constant even when one of the source is in OFF condition. The ON/OFF condition is given manually on the input side and accordingly the energy sources will produce the voltage/current output thereby power factor is maintained constant with the irradiance and temperature. One of the advantage of this system avoids penalty by maintaining the power factor constant.

**Keyword:** PID Controller technique, PV system, PLL technique, Wind System Permanent Magnet SG, Boost Converter.

**References:**


**Authors:** Ravindra D Nalawade, Pradip D Jadhao

**Paper Title:** Prediction of CBR Value of Stabilized Black Cotton Soil use for Road Construction

**Abstract:** Black cotton soils of India are categorized as expansive soil due to Montmorrillonite mineral. Replacement of expansive soils with non expansive material, then transport longer distance causes environmental degradation and uneconomical Stabilization of clay soil is more effective and eco-friendly option when the soil is used for construction purpose. Stabilization is the process of improving the properties of soil by changing its degradation. Expansive soil is with varies additive, makes an improvement of connections between granules and reduces the expansibility and contractility of soil California Bearing Ratio (CBR) is a measure of resistance of a material to penetration of standard plunger under controlled density and moisture conditions. Stronger the subgrade lesser the thickness of road pavement layers, and hence reduction cost of project. In this work attempt has been made to understand to estimate the effect of stabilizer on liquid, plastic limit Maximum dry density and optimum moisture content properties of black cotton soil, in order to determine the suitability of stabilizer in the treatment of black cotton soil for sub grade stabilization in road construction. Main objective of the present study was to develop regression based model for estimating CBR, considering other properties of a soil so that developed models were used to predict the CBR from other properties. It has been observed from lab test stabilizer alter the properties of soil by reduce the plasticity characteristics and imprve load carrying capacity. Regression analysis shows that good aggreement with experimenter results.

**Keyword:** Black cotton soil, Plasticity, Compaction, California bearing ratio, Stastical model. Regression
The main objective of this experimental investigation was to develop inexpensive and safe methods of fluoride removal. The adsorbents used in this investigation are amla powder and tamarind powder which are inexpensive and nontoxic materials and are available easily in nature and locally at village level. Some of the adsorbents are very effective in removal of fluoride ions, can be used as defluoridating agents but they are inexpensive and nontoxic materials and are available easily in nature and locally at village level. Some methods of fluoride removal. The adsorbents used in this investigation are amla powder and

**References:**

Advancements in health informatics pave the way to explore new medical decision making systems which are characterized by an exponential evolution of knowledge. In the medical domain, disease prediction has become the centre of research with the increasing trend of healthcare applications. The predictive knowledge for the diagnosis of disease highly depends on the subjective knowledge of the experts. So the development of a disease prediction model in time is essential for patients and physicians to overcome the problem of medical distress. This paper explores a hybrid approach (Cooperative Ant Miner Genetic Algorithm) for classifying the medical data. Three benchmarked Type II diabetic datasets (US, PIMA, German) from the UCI machine learning repository were used to analyze the effectiveness of the disease prediction model. The devised classification algorithm with a Soft-Set approach was deployed in a Multi-Cloud environment for enhancing the storage and retrieval of data with reduced response and computation time. The cooperative classification algorithm in the cloud database distinguishes the diseased cases from the normal ones. The soft set theory analyzes the severity of the diseased cases by calculating the percentage of diabetic risk using soft intelligent rules and stores them in a separate knowledge base. Thus the proposed model serves as a suitable tool for eliciting and representing the expert’s decision which aids in prediction of Type II diabetic risk percentage leading to the timely treatment of patients.

**Keyword:** Disease Prediction, Ant Miner Algorithm, Genetic Algorithm, Soft Sets, Multi cloud storage

**References:**
27. Durgadevi M and Kalpana R, Medical Distress Prediction based on Classification Rule Discovery using Ant-Miner Algorithm, in
Performance Characterization of IEEE 802.11s Compatible MAC Protocols

Abstract: Wireless Mesh Network (WMN) [1] deployment based on IEEE 802.11s [2] standard is a popular choice in setting up cost-efficient alternative to support broadband internet services to a larger population. They can provide network connectivity over large geography when compared to WLANs. WMN makes use of Distributed Coordination Function (DCF) Medium Access Control (MAC) protocol with Binary Exponential Backoff (BEB) algorithm to avoid collision due to simultaneous transmissions by more than one user at the same time. These collisions bring the network performance drastically down if not handled properly. Thus this work tries to evaluate the suitability of the better efficient CA algorithms (EIED, EILD, MILD, PB, CCW, EBO, HBA...) which can replace BEB to support higher throughput for IEEE 802.11s networks (WMNs). The NS-3 [3] simulation results indicate that Polynomial Backoff (PB) performs better than others against the BEB algorithm in about 52% of network scenarios and it is suggested to operate with TWO radios enabled with all access points.

Keywords: IEEE 802.11s, WMN, BEB, MAC, HWMP, MRMC

References:
unsettling influence of lipid digestion, starch digestion, additionally protein digestion. Glipizide, a second-gen sulfonylurea, is utilized with diet to bring down blood glucose in patients with diabetes mellitus type II. The essential method of activity of glipizide in exploratory creatures seems, by all accounts, to be the incitement of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets. In human's glipizide seems to bring down the blood glucose intensely by invigoration of insulin emission from the beta cells of pancreatic islet tissue and is in this way reliant on working β-cells in the pancreatic islets.

Keyword: Diabetes mellitus, Glipizide, IDDM

References:

Authors:
Rajni Yadav, Chandra Shekhar Rai, Kanika Agarwal

Paper Title: L1-Norm Constrained Minimum Error Entropy Algorithm

Abstract: This work proposes a linear phase sparse minimum error entropy adaptive filtering algorithm. The linear phase condition is obtained by considering symmetry or anti-symmetry condition onto the system coefficients. The proposed work integrates linear constraint based on linear phase of the system and l_1-norm for sparseness into minimum error entropy adaptive algorithm. The proposed l_1-norm linear constrained minimum error entropy criterion (l_1-CMEE) algorithm makes use of high-order statistics, hence worthy for non-Gaussian channel noise. The experimental results obtained for linear phase sparse system identification in the presence of non-Gaussian channel noise reveal that the proposed algorithm has lower steady state error and higher convergence rate than other existing MEE variants.

Keyword: Constrained adaptive filtering, Information theory, non-Gaussian noise, sparse system

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Authors: Md Mirazur Rahman, Md. Abdullah-Al-Mamun, Rizal Fathoni Kabir, Abidur Rahman, Subaha Mahmuda

Paper Title: Bit Error Rate Performance Analysis of a Multiple Amplify and Forward Relaying Aided Cooperative MIMO-OFDM System

Abstract: In wireless systems the orthogonal frequency division multiplexing (OFDM) is one of the most influential means of transmission technique. Data channel having higher speed are converted into some parallel channels by OFDM. For better performance of wireless network, cooperative communication using multiple relay is widely used. Substantial improvement can be achieved in case of reliability and throughput for wireless network if multiple relays are implemented between the source and destination by developing cooperative communication with multiple input multiple output (MIMO) OFDM. A mathematical model has been developed based on amplify and forward (AF) multiple relay for the system of cooperative MIMO-OFDM. Along with the detection system based on minimum mean squared error, the cooperative MIMO-OFDM, with multiple relays, can provide better performance than transmission system using single relay, which can be found from analyzing simulation. A considerable amount of deterioration was also noticed in the color image with changing the number of relays. Signal salvation is better for multiple relay than single relay.

Keyword: Multiple input multiple output, Bit error rate, Orthogonal frequency division multiplexing, Amplify and forward, Minimum mean square error and Zero forcing.

References:
Authors: Rahimi M.I., Abd Ghafer N.H., Mohd Jai Z., and Ibrahim Z.

Paper Title: Ambient Vibration Response of Precast Hollow Core Floor System

Abstract: Prestressed precast hollow core is known as a long span slab with a void along its length. The void has a big influence on the weight of the slab. In vibration theory, a lightweight slab with a long span is very sensitive to vibration. In this study, the ambient vibration response of precast hollow core is investigated using the finite element method and modal analysis. Numerical analysis is used to predict the floor vibration and modal testing is used to test the vibration performance of floors on the actual site. The prediction data is obtained by using SAP2000 to determine the vibration behaviour and compared with the modal testing result of the floor located in Kuala Lumpur. The 1st mode shape appeared for 12 natural frequencies between 8.36 Hz to 9.29Hz in the prediction analysis. For modal testing, the vibration behaviour of the actual hollow core floor is determined using an ambient test. The data was obtained using an accelerometer and analysed using Artermis software to determine natural frequencies, damping ratio and mode shape. The 1st mode of natural frequencies for floor area A and area B were 8.45Hz and 9.34Hz. The results from the analysis show that the range of natural frequency between the predicted analysis and that of the modal testing is acceptable. The limitation stated that 10Hz is the cut-off frequency to determine the class of the floor. From the analysis, it is shown that the prediction and the modal testing results are accepted where both floors are classified as low-frequency floors.

Keyword: hollow core floor, vibration, modal testing, ambient vibration, prediction analysis, floor serviceability, low frequency floor

References:

Authors: B. Sriharsha, P. Sudhakar Rao

Paper Title: Design Considerations for Connecting Rod

Abstract: Connecting rod is one of the engine’s key components which connect the piston to the crankshaft and converts the piston’s reciprocating motion into the crankshaft’s rotation. Connecting rod must be sufficiently strong to withstand the thrust from the piston during the combustion process. During its lifespan, it faces a lot of tensile and compressive loads. The objective of this paper is to modify the connecting rod design and changing the material of connecting rod for weight reduction possibilities. Model of the connecting rod designed with the help of INVENTOR and analysis was performed by using ANSYS.

Keyword: ANSYS, Connecting rod, INVENTOR, Piston.

References:
Authors: Viswanathan Ganesh, S. Senthilmurugan, Akash Prabhu, Nirmal.A, Balajiav Varun V

Paper Title: Installation And Implementation of Energy Management System in the Residential Buildings for Sustainable Development

Abstract: This paper presents the details of the installation of the energy management system in the buildings of a typical Residential Building Residential Building in India and consequently the reduction of electrical energy consumption. Increasing People intake, the introduction of new courses, research centers and laboratories, and the rapid expansion of Residential Building infrastructure, are rapidly increasing the demand for electricity in universities. Most of the electrical energy consumed in universities in India is for air conditioning and lighting purposes. Established Building Energy Management System (BMS) continuously monitors the electrical load demand of air handling units (AHUs) and adjust the load demand by fitting the AHU thermostats based on the work schedule. One day and on / off control of occupancy based on occupancy in different rooms from remote server rooms via Ethernet. Preliminary findings suggest that a significant reduction in load demand can be achieved in any Residential Building in India through the implementation of BMS, thereby contributing to the reduction of domestic oil consumption. If most universities in the country installed BMS on their Residential Buildings, it would be possible for electric utilities to use real-time meter data, technology-enabled dynamic pricing, and decisive direct load control for fuel management. There are Residential Buildings. This paper also highlights the future trend in BMS implementation in universities, as the Residential Building's DSM has a secure Residential Building area network that can effectively use demand response when enabled by high-bandwidth, two-way, end-to-end. Can. Communication in a smart grid environment.

Keyword: Area Network, Building Energy, Demand Side Management, India Introduction, Management System

References:
Abstract: Intense rainfall produces flooding even on dry soil. As heavy rainfall is one of the causes for flooding it is necessary to predict the Rainfall to take necessary precautions for people who are living in risk zone areas. Prediction of Rainfall tomorrow is done accurately using Machine Learning regression and classification Techniques. For Rainfall prediction multiple attributes like Windspeed, Precipitation, Cloudcover, Humidity, Temperature and Rainfall Today are considered to predict Rainfall Tomorrow. An ensemble approach is used where predictions from Regression models such as Linear Regression, Polynomial Regression, Ridge Regression and Lasso regression are stacked together and fed as new attributes to Meta Regressor along with Support Vector Regression for making final predictions. Also, predictions from classifications models such as Gaussian Naive Bayes, K-nearest neighbor, Support vector Machine and Random Forest are stacked together and fed as new attributes to Meta Classifier along with Logistic regression which is a binary classifier for higher predictive performance.


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14. B Kumar, Sowmya, Kumar Nadh and Ranjan S “An Application of Data Mining Techniques for Flood Forecasting: Application in Rivers Daya and Bhargavi, India” The institute of Engineers 2018

Authors: Hemlata Kohad, Sunil Kumar, Asha Ambhaikar

Paper Title: Scalability Issues of Blockchain Technology

Abstract: In last decade crypto currencies become popular as there is no third party involvement while doing the transactions. Blockchain is the technology for using crypto-currencies. It attracts the attention of researchers and academicians, along with different features of Blockchain it is having the major issue of scalability which can be categorized into throughput, cost, capacity and networking. Improvement in Scalability affects the application of blockchain in business. Scalability depends to some other factors like block interval time and block size which also may reduce the security. System may become vulnerable to different attacks if we blindly modify the scalability. In this paper we analyze the different ways to improve the performance then we compare the features of blockchain with respect to different algorithms used to solve the scalability issue.

Keyword: Blockchain, scalability, throughput

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5. L.M.Bach, B. Mihajiljevic, M. Zagar “Comparative Analysis of Blockchain Consensus Algorithms” MIIPRO 2018

Authors: B. Pavan Kumar Reddy, M.Sujatha

Paper Title: Smart Irrigation System using Arduino Uno And Control of Paddy Plant Diseases

Abstract: These days, the increase in population has led to water scarcity in India. A large amount of water is wasted in Horticulture. Horticulture is the backbone of India. Most of the population in India depends on agriculture mainly in villages. This paper proposes an automatic irrigation system and control of paddy plant diseases by using pesticides. It monitors environmental parameters such as temperature, soil moisture, and also monitors paddy plant diseases. The functioning of motors is mainly based on the soil moisture. The digital image processing technique is used to find plant diseases. Crop production can be increased by detecting the disease as early as possible and providing proper pesticides. It also detects the intruder in the field by using the ultrasonic sensor. By using the GSM module the message will send to the farmer.

Keyword: Soil moisture, GSM module, temperature, paddy, humidity.

References:

Authors: Shaik Rahimunnisha, Ghatma Sudhavani

Paper Title: Low Power FPGA Implementation of Multi-View Video Coding with Hybrid Compression and Decompression Algorithm

Abstract: The video is one of the most useful and most appealing medium to represent some information. More usage of digital multi-media via communications media, wireless communications, intranet, internet and cellular mobile leads to the uncontrolled growth of data in media. The video compression technique is used in this research work to improve the processing speed of the entire system. In this work, Low Cost - Multi Video Coding - Hybrid Compression and Decompression (LC-MVC-HCD) method is used to reduce computation complexity. The combinational of Discrete Wavelet Transform (DWT) and Discrete Cosine Transform (DCT) algorithms are denoted as hybrid algorithm. Based on this hybrid algorithm, the compression process is performing which improves the video coding efficiency of MVC. The LC-MVC-HCD method was implemented in the Matlab, Xilinx and Cadence tool. In Application Specific Integrated Circuit (ASIC) implementation, the area, power, and delay minimized by using the cadence encounter tool with 180nm and 45nm technology. In Field Programmable Gate Array (FPGA) implementation, the number of Lookup Tables (LUTs), slice, and flip-flop are minimized based on two different kinds of Virtex devices such as Virtex -6 and Virtex-7. In Matlab, Peak Signal to Noise Ratio (PSNR), computational time and bit error rate were analyzed for the LC-MVC-HCD method. The experimental outcome showed that the proposed methodology has improved performance ASIC and FPGA up to.
2-3% compared to existing methods like Direct mode decision MVC and LC-MVC-DWT.

**Keyword:** Hybrid Compression and Decompression, Multi Video Coding, Two Dimensional Discrete Wavelet Transform, Discrete Cosine Transform.

**References:**

**Authors:** Muktevi Srivenkatesh

**Paper Title:** Prediction of Cardiovascular Disease using Machine Learning Algorithms

**Abstract:** Background/Aim: Healthcare is an unavoidable assignment to be done in human life. Cardiovascular sickness is a general class for a scope of infections that are influencing heart and veins. The early strategies for estimating the cardiovascular sicknesses helped in settling on choices about the progressions to have happened in high-chance patients which brought about the decrease of their dangers. Methods: In the proposed research, we have considered informational collection from kaggle and it doesn't require information pre-handling systems like the expulsion of noise data, evacuation of missing data, filling default esteem as if applicable and classification of attributes for prediction and decision making at different levels. The performance of the diagnosis model is obtained by using methods like classification, accuracy, sensitivity and specificity analysis. This paper proposes a prediction model to predict whether a patient has a cardiovascular disease or not and to provide an awareness or diagnosis on that. This is done by comparing the accuracies of applying rules to the dataset taken in a region to present an accurate model of predicting cardiovascular disease. Results: The machine learning algorithms under study were able to predict cardiovascular disease in patients with accuracy between 58.71% and 77.06%. Conclusions: It was shown that Logistic Regression has better Accuracy (77.06 %) when compared to different Machine-Learning algorithms.

**Keyword:** Cardiovascular disease, Machine Learning Algorithms, Performance Evaluators, toxins

**References:**
Authors: Suganya N., Thirugnanasambandam S. T.

Paper Title: Durability of Geopolymer Concrete with Scrap Steel Slag Coarse Aggregate

Abstract: Use of environmental friendly materials in concrete to make concrete sustainable is gaining importance, as the growth of the construction sector is rapid and massive in India. Such a sustainable concrete is the geopolymer concrete with scrap steel slag coarse aggregate. The concrete replaces cement and natural coarse aggregate by fly ash and scrap steel slag. Mechanical Strength of the concrete of M20 grade was evaluated and found suitable. Concrete strength has no role without the concrete being durable. Experimental tests were carried out to check the durability of the concrete and the results are presented in this paper. M20 grade geopolymer concrete with scrap steel slag coarse aggregate was tested after ambient curing for 28 days and the results are compared with M20 grade cement concrete with conventional Coarse aggregate. Durability was checked based on Water absorption, Acid resistance, Sulphate resistance and Sorptivity. The experimental results indicate that geopolymer concrete exhibit excellent durability than conventional cement concrete.

Keyword: Durability, Short – term, Geopolymer, Ambient Curing, Scrap Steel Slag Coarse Aggregate.

References:

Authors: Aghila Rajagopal, R. T. Subhalakshmi, Arunachalam, D. Deepika, N. Balaji

Paper Title: Smart Surveillance Security Systems 4s for Detection using SIFT and SURF in Image Processing

Abstract: Surveillance video is used for security purpose in our daily life in various places. It is used to observe the unusual activity that is taking place around us. Today in most of the shop owners have CCTV cameras to record, the uncertain activities and even it is used in houses in remote places. A system must be smart enough to detect. This paper uses SIFT and SURF algorithm for detection. Image registration is a development in which more than two images from various imaging equipment are reserved at various angles and at various times from the identical prospect and geometrically aligned for further exploration. Data may be from different sensors, CCTV taken at different times, depths, or perspective. Feature-Detector-Descriptor plays a vital role in feature matching application for selection of feature; this paper presents a comparative analysis of SIFT, SURF, algorithms. Experiments have been conducted on a wide range of images taken from datasets. A quantitative comparison is presented. This paper gives an useful ideas for making important decisions and it also helps in providing a smart security system.

Keyword: SIFT; SURF; image registration; nearest neighbor distance ratio; feature matching; scale invariance; rotation invariance; affine invariance; image matching; feature detection;

References:
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Authors: Thomas George, V. Ganesan

Paper Title: An Effective Technique for Tuning the Time Delay System with PID Controller-Ant Lion Optimizer Algorithm with ANN Technique

Abstract: Nowadays, the PID controller is very common controller as well as very important controller in industrial utilizations. In the paper, proposed an ALO algorithm and ANN controller is utilized to enhance PID controller performance and control the tuning of TDS. TDS stands for Time delay system. ALO stands for Ant lion optimizer and ANN stands for Artificial neural network. In terms of parameters controlling, the time delay system is controlled and for different delay events low overshoot and fast time settling is reached. The novelty of the presented method is enhancing the PID controller performance by optimizing the PID gain parameters and controlling the high-order TDS. The performance of time delay system can be enhanced through decreasing error, tracking, time delay & error, rapid and exactly for their corresponding reference values. For parameter controlling of time delay system along
optimal values, can be significantly enhanced the performance. To analyze the characteristics of the presented method, the various time delay systems are analyzed. The input and gain parameters were utilized to evaluate the objective function from tuning system. Based on proposed method, the optimal result is achieved and evaluated the increase time, settling time, overshoot as well as steady state error in TDS. The suggested controller is executed in MATLAB/Simulink work site and the presented technique performance examined through performance indexes and time domain specifications are evaluated using presented method compared to previous methods like ABC (Artificial Bee colony) algorithm, GSA (Gravitational Search Algorithm), FA (Firefly Algorithm).

**Keyword:** PID Controller, Time Delay System, Optimal values, parameters.

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Authors: Alimova Feruza Abdukadirovna, Primkulov Bekzod Sheraliyevich


Abstract: The article presents a model for treatment information when performing a cultivator technological process, presents the results of the probabilistic characteristics of the processes in the functioning models of cultivating aggregates.

A mathematical model of the system “tractor-cultivator with working bodies-soil” has been developed. The hypothesis that the error of the additional protective zone obeys the law of normal distribution has been chosen. An algorithm has been developed for calculating the statistical series of deviations from the protective zone. For acceptance or rejection of reliability, the initial hypothesis that the deviation of the additional protective zone obeys the law of normal distribution can be selected and verified by the Pearson criterion. Constructed graphs of normalized spectral densities of the width of the protective zone and analyzed the probability of damage to plants. A histogram of the distribution of deviations of the width of the protective zone and a graph of the theoretical distribution density are constructed.

The results obtained during experiments with a cultivator model, the hypothesis is confirmed or refuted. If this is confirmed, an acceptable value for the width of the protection zone is presented. Therefore, based on these studies, it is possible to determine the width of the protective zone by inter-tilling of row crops.

Keyword: cultivator aggregate model, protective zone, agrotechnical assessment, tests, plant lines.

References:


A system of machines and technologies for integrated mexicanization of agricultural production on 2001...2010 gg. Tashkent, 2002g, 168p.


Abstract: As the population on the earth is growing, the long-ranging planning of health and medical facilities are affected. Especially with old-aged people, health issues are more compared with other aged people. The medication given by the doctors to old age people to those health issues is not rememberable. People need to take the pills with a specified dose at a recommended time and frequency especially in case of diabetes and high blood pressure. To overcome the problem an IoT device is designed to remember about their medication time to the old people and their caretakers. The IR sensor present in the system will be continuously monitoring whether medicines has been taken properly by the patient or not. By using the GSM, the caretakers have been notified to their smart phones and watches. So, we design a pillbox which acts as a safety net for patients. The main objective of the system is to inform the patients to take their medicines in time that is prescribed by the doctor and to inform their family members which reduces their work.

Keywords: Medication, Disease control, Safety, Pills, IoT, Arduino Nano, Smart Watch and Smart Phone.

References:

Authors: R V Manjunath, K. Karibasappa

Paper Title: Segmentation of CT Images to Extract Liver using Algorithms

Abstract: In all ways of our life advance development in technology is growing. To expand the medical fields has become necessary, including the investigation on which action is made, by understanding the inner complicated arrangement of the abdominal organs example liver and exactly localizing the surface of the liver and its swelling, thereafter successful treatment will be done. Several numbers of algorithms projected to do the automatic liver segmentation. Different published works will be discussing here for liver segmentation. For each work the methods, datasets, outcomes and limitation will be discussing and conversing. A complete relative study is conducted here.

Keyword: Liver Segmentation, CT, CNN, FCN, Deep Learning, Machine Learning.

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Authors: Gattu Vijaya Kumar, Prasanta Kumar Sahoo, K.Eswaran

Paper Title: A Recommendation System & their Performance Metrics using several ML Algorithms

Abstract: Recommendation systems are subdivision of Refine Data that request to anticipate ranking or liking a user would give to an item. Recommended systems produce user customized exhortations for product or service. Recommended systems are used in different services like Google Search Engine, YouTube, Gmail and also Product recommendation service on any E-Commerce website. These systems usually depends on content based approach. In this paper, we develop these type recommended systems by using several algorithms like K-Nearest neighbors(KNN), Support-Vector Machine(SVM), Logistic Regression(LR), MultinomialNB(MNB),and Multi-layer Perceptron(MLP). These will predict nearest categories from the News Category Data, among these categories we will recommend the most common sentence to a user and we analyze the performance metrics. This approach is tested on News Category Data set. This data set having more or less 200k Headlines of News and 41 classes, collected from the Huff post from the year of 2012-2018.


References:

Authors: M. Sivasubramanian, Parasuraman Kumar, M. Sivajothi

Paper Title: A Novel Segmentation Techniques for Red Blood Cells using Clustering Algorithms

Abstract: RBC called Erythrocytes is one of the important element in blood composition which is main responsible in all living cells for its gaseous exchanges with the environment externally. In general, at the physiological maintained conditions, RBC in view provides circular in the front and also looks bi-concave at side. One of serious disease with reference to blood cells is Cancer where the healthy RBC are affected. This reduces the body's immunity factors. To identify the cancer cell various methods are employed but it does not provide the proper detection of blood cells. In this method, proper identification of the cancer cells from the unaffected RBCs was identified in which are presented in blood samples using various imaging tools and also with the techniques. The proposed novel method called Online Region Based Segmentation (ORBS) method is done which is used to discover the areas of the boundary of the unaffected corpuscles. By using properties of region, a suitable metric is formulated to determine the shape which is abnormal in the blood cells. Overall accuracy of 96.9% is obtained using proposed ORBS methods and deep learning classification (DLC) method is accurate as 97.1% that helps to diagnose cancer cell using the feature extraction process which is done automatically. The computation time was found to be less when related to the other existing method which is 22 seconds. Closeness of Proposed method in relative to True Positive values at ROC curves indicates the performance which is higher than other methods. Experimental results prove proposed systems effectiveness when compared by means of other detection methods.

Keyword: Red Blood Corpuscle(RBC); Proposed Online Region Based Segmentation; Deep learning based classifier.
References:
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Abstract: Advancements of recent technology allows the delivery of educational materials to be highly interactive. Augmented reality (AR) is one of the most promising technology that augments reality with computer generated imagery, objects, information etc. and allows user interaction. By providing visualization and interactive 3D models, it allows students to understand any abstract concept on any time, at any place easily. In this work we have developed an AR based mobile application that can create an interactive 3D view of human skeleton and nervous system by using a target image captured by a mobile phone camera. The main motive of this application is to help the medical students and school level science students to learn human anatomy and nervous system in an interactive way so that they can enhance their learning procedure. This research narrates the concept, application development and results of the pilot test. This test is conducted by the medical students of different medical colleges of Bangladesh. We have done this pilot test to get the users’ experiences from technical viewpoint. According to this test we can concluded that students were satisfied with this application in terms of the features, usability, feasibility and understandability.

Keyword: Augmented Reality, Anatomy Learning, Mobile Augmented Reality, Nervous System.

References:

Abstract: Node localization is an important problem considered among the researchers in the area of Wireless Sensor Networks (WSN). The WSN is formed by a group of sensor nodes having limited energy and other resources that transfers data among each other or to a base station in an ad-hoc fashion. The estimation of the geo location (coordinates in the two-dimensional space) of the sensor nodes is essential for ensuring the QoS within the network. The different applications of WSN require varied level of accuracy in the estimation of the location of the sensor nodes. Different localization schemes are adopted in the literature for better estimation of the node location and each of them has both merits and demerits. This paper focuses on analyzing the different node localization mechanism used in the WSN and to identify various issues and challenges in the estimation of the node location. This paper also proposes an optimal approach with less computational effort and high accuracy in prediction based on trilateration algorithm and the RSSI (Received Signal Strength Indicator) values extracted from the target nodes antennas. The network is segmented into different blocks of unequal size and the block number in which the node is present will be identified using the naive bayes classifier.

Keyword: RSSI, naive bayes classifier, trilateration, node localization, wireless sensor network

References:


Concrete is one of the most popular construction materials in the present world. Cement is the binding material used in concrete and its production requires large quantity of natural raw materials and generates enormous volume of greenhouse gases like CO2. In developing and under developed countries, the primary sector forms the crucial part of the economy. The management of waste generated from agricultural sector is becoming a major concern due to their negative impact on the environment. Under this scenario, several researchers have developed supplementary cementitious materials (SCMs) from these by products that can be used as a cement replacing material in concrete.

Keywords: Supplementary Cementitious Material, Pozzolanic Material, Agricultural Waste, Concrete.
References:


Authors: Akmal Husain, V. K. Singh, Syed Aftab Haider

Paper Title: An Efficient Analytical Solution of Blast Wave Problem in Real Gas Flow under the Influence of Dust-Laden Particles

Abstract: In the present paper, we investigated the problem of the propagation of blast waves governed by a nonhomogeneous quasilinear hyperbolic system of partial differential equations (PDEs), describing one-dimensional unsteady motion with generalized geometries in a real gas flow (van der Waals gas) in which the influence of the dust particles is significant. An efficient analytical approach has been used to the governing hyperbolic system with respect to the Rankine-Hugoniot (RH) conditions to obtain an exact solution in terms of flow parameters density, velocity and the pressure, which exhibits space-time dependence. Further, an analytical expression for the total energy influenced by real gas effects (consisting of non-ideal gas and small solid dust-laden particles) is derived. The results obtained significantly explore the effect of dust-laden particles on the propagation of blast waves in a van der Waals gas.

Keywords: Blast waves, Conservation laws, Dust-laden particles, Gas-dynamics, Rankine-Hugoniot jump conditions, Van der Waals gas

References:
Authors: S. Kavyapriya, R. Krishna Kumar

Paper Title: Modeling and Simulation of DC-DC Converters for Fuel Cell System

Abstract: This paper deals with the modeling and simulation of suitable DC-DC converters for Fuel cell system. In the field of renewable energies, power electronics and fuel cell technologies play an important role. As the fuel cells become the main power source for portable applications, demand for fuel cells will increase. A highly efficient converter is an essential requirement in this application and a core parameter of the device as a whole. Therefore, a high efficient converter has to be designed for fuel cell system as the output voltage of fuel cell is low. In this paper, various DC-DC converters such as Boost converter, SEPIC, LUO converter and ZETA converter with fuel cell as an input source are designed and the same is simulated using MATLAB. Total Harmonic Distortion analysis of all the DC-DC converters is carried out and the suitable converter for fuel cell application is selected based on the low Total Harmonic Distortion value.

Keyword: Fuel cell, Boost converter, SEPIC, LUO converter, ZETA converter, Total Harmonic Distortion

References:

Authors: Arpana Niranjan, Pallavi Gupta

Paper Title: Modeling and Simulation Software in MEMS Design

Abstract: Micro-Electro-Mechanical Systems (MEMS) is a process technology that combines mechanical and electrical components to make micro-scale range devices. A considerable cost of the device can be reduced if we simulate the design. There are many available simulation software to choose from, which in turn is one of the major challenge. The paper explores the functional and technical features of some software used in MEMS designing. It further presents the keypoints which we should acknowledge while selecting software. Basic features are available in all MEMS Simulation software. However, if the design involves specific physics, geometry, material or meshing, the search must be done to find the appropriate software. If the user intends to fabricate the device then software with virtual fabrication tool need to be selected.

Keyword: MEMS, MEMS Simulation Software, MEMS Software, COMSOL, Coventerware, Ansys, Intellisuite

References:
required by the availability of the Internet is the cloud facing distributed data centers. Providing the required level of security, approaching adopting various security components such as security watchdogs, IDS / IPS system, security framework, access control framework, security management and so on. In this proposed system to improve the data transmission security to introduce proposed algorithm Elastic virtualized network security (eVNS) for extended security service which utilizes the progressive route scheduling (PRS) and promotes the security consumption for Inbound rule to the data center. We have presented a virtual cloud for a network that is secure and robust security group protocols by any compromised or faulty node in the network. In contrast to the traditional snapshot aggregation approach in data centers, the eVNS-PRS proposed algorithm resembles the uncasting it's sensed information to create a new target security group based on the routing table. This makes the system more fault-tolerant and increases the availability of information in the network. Simulations performed with the proposed algorithm have demonstrated its effectiveness.

Keywords: cloud computing routing, data center, network security, security groups, target group, virtual load balancer

References:
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Keywords: Microcontroller, Light intensity, Energy efficient, lighting control system

References:
Abstract: Classification is a technique used to predict group membership or label for data samples (instances). In order to predict the result, the classification algorithm processes the training set, which contains a set of attributes and corresponding results. One of these classification technique is implemented in order to predict divorce in Turkey. This research is executed by Yöntem, M. K. et al. in 2019. In this research, Yöntem, M. K. concluded that the ANN algorithm combined with correlation-based feature selection has the best performance with an accuracy of 98.82% and Kappa value of 0.9765. Nevertheless, unlike any previous research, ANN is not considered very good in terms of the required training time. In several previous studies, it was also concluded that other classification algorithms, such as SVM, have better prediction accuracy compared to ANN. In this study, prediction accuracy and Kappa value between ANN and SVM algorithms are compared using the same dataset and feature selection as the research done by Yöntem, M. K., to ensure a fair comparison between both of the algorithms. The result obtained from comparing both algorithms is that the SVM algorithm performs better than ANN with an accuracy of 99.8235 and a Kappa value of 0.9964. The training time required by SVM is also better than the ANN training time.

Keyword: classification, support vector machine, artificial neural network, divorce prediction.

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Authors: Noor Hafidz, Sfenrianto, Yogie Pribadi, Evita Fitri, Ratino

Paper Title: ANN and SVM algorithm in Divorce Predictor
15. Muhammad Hussain, Sumrnina Kanwal Wajid, Ali Elzaart, Mohammed Berbar1 Department of Computer Science, King Saud University, Riyadh, KSA; Alyamamah University, Riyadh, KSA.2, A Comparison of SVM Kernel Functions for Breast Cancer Detection. 2011 Eighth International Conference Computer Graphics, Imaging, and Visualization

Authors: Ariffin Nugroho, Ricky Risnantoyo, Saifurrachman Chohan, Nuraeni Herlinawati, Sfenrianto

Paper Title: Hepatitis Patient Classification using Random Forest Algorithms with Cost-Sensitive Method

Abstract: Hepatitis is a common worldwide public health problem that attacks almost every population in various countries. Machine learning has been widely used to classify various diseases, including hepatitis. In this research, the Random Forest algorithm will be used along with the dataset of patients with hepatitis to classify whether the patient's condition will live or die. Missing value and imbalance class exists in this dataset. In that class, the sample of healthy and sick patients that often occurs in the disease dataset. We replace missing values using mean and median and to deal with this imbalance of class, we use cost-sensitive methods to put penalty in classification. A manual selection feature process is also carried out to look for features that can be removed while still maintaining the quality of accuracy and classification. The validation method used is 10-fold Cross-Validation and using Random Forest Algorithm with tuned parameter to find the best result in classifying the class. This research prioritizes classification results by considering the small amount of data and the imbalance of the class, so it can classify the class more successfully and accurate for hepatitis patients. The accuracy value obtained is 85.80%.

Keyword: machine learning, random forest, hepatitis, imbalance

References:

Keywords: machine learning, random forest, hepatitis, imbalance

2532

Authors: Sulphikar A

Paper Title: Terminal Wiener Index of Fibonacci trees

Abstract: The terminal Wiener index of a tree is defined as the sum of distances between all leaf pairs of T. We derive closed form expression for the terminal Wiener index of fibonacci trees. We also describe a linear time algorithm to compute terminal Wiener index of a tree.

Keyword: Terminal Wiener index, fibonacci tree, Pendant vertex, distance in graphs.

References:
Abstract:
The permanent growth of the population in smart cities has increased the number of vehicles. Consequently the problem of traffic congestion has become one of the main problems to be solved by today's traffic control systems, especially at traffic intersections. In fact, the traditional method which avoids the congestion in a crossroads is the classic command (Timing) by means of traffic lights. However, the traffic light management modes are sometimes based on classic models which make them unsuitable for the treatment of different experienced situations in traffic (either dense or fluid traffic). Fortunately, thanks to the significant progress made, especially the use of New Information Technologies and Communications for example Wireless Sensor Network, for the regulation of traffic, are solutions become central in the field of urban traffic management. They have made it possible to propose more effective control mechanisms to reduce the effects of traffic congestion.

In this article, we will present the continuation of our work [1], the objective is to offer to the users of the road a crossing time as long as possible, while preventing the car cap to propagate over a distance that is set between two wireless sensors, to do this, we can act on the setting of the traffic light to regulate traffic in intersections.

Keyword: Regulation models, Traffic congestion, smart cities, wireless sensor network, Crossing time, fluid mechanics.

References:
References:
Social Network Analysis of Terrorist Networks

Abstract: Terrorist Activities worldwide has led to the development of sophisticated methodologies for analyzing terrorist groups and networks. Ongoing and past research has found that Social Network Analysis (SNA) is the most effective method for predictive counter-terrorism. Social Network Analysis (SNA) is an approach towards analyzing the terrorist networks to better understand the underlying structure of a network and to detect key players within the network and their links throughout the network. It is also need of the hour to convert available raw data into valuable information for the purpose of global security. Comparative study among SNA tools testify their applicability and usefulness for data gathered through online and offline social sources. However, it is advised to incorporate temporal analysis using data mining methods, to improve the capability of SNA tools to handle dynamic social media data. This paper examine various aspects of Social Network Analysis as applied to terrorism, taking empirical data, and open source data based studies into account. This work primarily focuses on different types of decentralized terrorist networks and nodes. The nodes can be classified as organizations, places or persons. We take help of varied centrality measures to identify key players in this network.

Keyword: Social Network Analysis, Terrorist Networks, Counter-Terrorism, Centrality, Investigative Data mining.

References:

Medical Data Classification Based on SMOTE and Recurrent Neural Network

Abstract: Medical data classification analysis the medical data of the patients to predict the diseases risk. Data mining techniques were highly used in the medical data classification and predicted the diseases. Many existing methods were use the various classifier and feature selection to improve the performance of the classification. Although data imbalance problem is need to be solved for increases the performance. In this research, Synthetic Minority Over-sampling TEchnique (SMOTE) techniques is used for
solving the data imbalance problem and Recurrent Neural Network (RNN) was used for the classification. The SMOTE method based on the k Nearest Neighbor (kNN) for the over-sample and under-sample the attributes. The RNN process the instance independent of the previous instance for the classification. Four medical datasets of University of California, Irvine (UCI) were used to evaluate the effectiveness of the proposed SMOTE-RNN method. The proposed SMOTE-RNN method has the accuracy of 85 % while existing method has 82 % accuracy.

**Keyword:** Data Imbalance, k Nearest Neighbor, Medical data classification, Recurrent Neural Network and Synthetic Minority Over-sampling Technique.

**References:**


**Authors:** A. Navya, A. Panduranga Rao, L. Shanmukha Rao

**Paper Title:** Performance of Interline Unified Power Quality Conditioner (IUPQC) With PI, Fuzzy and ANFIS Controllers

**Abstract:** Several artificial intelligent control schemes are highly used in several applications, in that ANFIS controller has been greatly recognized due to enhanced performance over the classical PI and Fuzzy controllers. At present the multi-feeder power distribution system is deteriorated with continuity of supply and poor power quality standards. In this multi-feeder distribution system, it is a regular consumer related issue which is acquired due to malfunctioning of massive non-linear loads. These loads create the voltage or current imperfections on distribution networks which disrupts the power quality of distribution system. An efficient and reliable active compensation scheme is used for attaining enhanced power quality features at PCC of multi-feeder distribution system with effective control functions. The Multi-Feeder Unified Power Quality Compensator (MF-UPQC) is optimal choice for attaining enhanced power quality features and it is a combined shunt or series compensator driven by common DC-link. This paper recommends the Adaptive Neuro-Fuzzy Intelligent Controller (ANFIS) based prediction technique for generation of optimal switching states to enhance performance of proposed MF-UPQC to compensate all voltage-current PQ imperfections. The performance of proposed MF-UPQC is verified by classical PI, Fuzzy and proposed ANFIS control functions by using MATLAB/SIMULINK tool and results are conferred with proper comparisons.

**Keyword:** Adaptive Neuro-Fuzzy Inference System, Hybrid-Fuzzy Logic Controller, Multi-Feeder Distribution System, Fuzzy-Logic Controller, Power Quality Improvement; PI Controller, Total Harmonic Distortion (THD).

**References:**


15. A critical evaluation of pv+wind co-generation scheme based static compensator for pq improvement by using fuzzy-logic controller critical evaluation of pv+wind co-generation scheme based static compensator for pq improvement by using fuzzy-logic controller critical evaluation of pv+wind co-generation scheme based static compensator for pq improvement by using fuzzy-logic controller


Authors: Shivanjali, Mitushi Singh, Tripti Singh, J.K. Sharma

Paper Title: Retention Strategies in the Leading ITeS Organizations of Delhi NCR

Abstract: The IT sector in India is at times having a lot of trouble in providing technical services to the organizations spread across the country. The task is more challenging due to the scarcity of competent engineers in comparison to the number of organizations. A lot of the professionals prefer to serve overseas instead of serving in India. There are a lot of factors that affect the employee retention in the IT sector. The objective of this paper is to study the factors such as Promotion, compensation, conditions of works of the employees, and the type of work that has an effect on the job satisfaction of the employees and that are the causes of reduced employee retention in the IT companies in India. The sample size consists of 200 IT professionals working in different IT companies in Delhi NCR. Out of total 240 Questionnaires distributed to the employees 200 questionnaires were received and were further they have been used for the purpose analysis. For doing the data analysis/results the SPSS 20.0 and SPSS AMOS 23 has been used.

Keywords: Employee retention, job satisfaction, IT sector, Engineers.

References:
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6. Borstorf, P. C., & Marker, M.B. (2007), Turnover Drivers and Retention Factors Affecting Hourly Employees distrubuted to the employees 200 questionnaires were received and were further they have been used

Authors: Neeetu Goyal, Sanjay Mathur

Paper Title: Throughput Maximization in Cognitive Radio Network Under Constant Fading using Hierarchical Neural System

Abstract: Cognitive radios (CRs) predominantly reuse the spectrum holes to proficiently utilize the scarcely available radio spectrum. In the CRs, the throughput limitation is a major difficulty among the key limitations such as energy consumption, processing resources, cost, and quality of service limitations, that affects a wide range of telecommunication applications nowadays. Moreover, attaining high throughput will overcome the bottleneck of CRs' applications. To overcome this emerging throughput limitation issue in the CRs, this paper proposes the best channel prediction algorithm using Multilayer Feed forward Neural Network (MFNN) which tackles the throughput limitations.

Keyword: Cognitive Radios, Constant Fading, Multilayer Feed Forward Neural Network, Channel Prediction,
Abstract: A discrete time queuing model $\text{Geo}^X/\text{G}/\infty$ with bulk arrival rule is considered to estimate the number of customers in the system. The arrivals, which are in groups of size $X$, inter-arrivals times and service times are distributed independently. The inter-arrivals follow a geometric distribution with parameter $p$ and service times follow a general distribution with parameter $\mu$, we have derived the transient state solution along with their moments and numerical illustrations in this paper.

Keyword: Discrete time, Customers, Group size, Inter-arrival, Transient distributions, Geometric distribution.

References:
the transmission within and between clusters. The majority of the clustering approach selects the cluster head using a threshold based approach. Nodes having energy level higher than the threshold are the candidates for the cluster head selection. In the proposed approach the nodes remaining energy and the sum of distance between individual nodes to the cluster head node is considered. Optimal cluster head selection will help to increase the overall life time of the network. The distance between the sensor nodes is estimated using RSSI (Received Signal Strength Indicator) and other parameters measured from the physical layer. Experiments are conducted with simulation environment created with the NS-2 simulator and efficiency of the approach is analyzed in detail.

**Keyword:** cluster based routing, RSSI (Received Signal Strength Indicator), NS-2 simulator, cluster head selection, thresholding.

**References:**

**Authors:** Jonathan Laddlingiana, Pabitra Kumar Biswas

**Paper Title:** ANSYS Based Simulation of Single and Double Coil Axial Active Magnetic Bearing using Finite Element Method

**Abstract:** For the successful design of an AMB system, proper material selection and actuator design is a must. The strength of the magnetic force depends upon the current density of the winding, actuator dimension and the gap between the actuator and the rotor. This paper presents the design of a U-O type single-actuator and a double-actuator Active Magnetic Bearing (AMB) utilizing ANSYS Maxwell 17.1 software. In double actuator AMB the actuators are placed at 180 degrees apart. In this study, Finite Element Method (FEM) based simulation has been performed for two different structures and their magnetic properties for instance- flux pattern, force, flux density and inductance are obtained for various air-gaps. Analysis has also been done with the change in current density by varying in the coil turns. The comparative results of single and double coil AMB are illustrated in 2-D and 3-D D plots.

**Keyword:** Electromagnetic field, flux pattern, active magnetic bearing (AMB), finite element method (FEM), ANSYS Maxwell.

**References:**

**Authors:** Jeevanandam Jotheeswaran, Surbhi Jain

**Paper Title:** Deep Neural Network model for convergence of Visual Fatigue and Computer Vision Disability

**Abstract:** The expanded utilization of blue screens in the work environment and home has realized the advancement of various health concerns. Numerous people who uses blue screens such as Computers, Tablets, Mobiles and Etc., report an elevated level of occupation related grievances and side effects, including visual fatigue and stress. The complex of eye and vision issues identified with close to such usages are called as "computer vision syndrome". In this research work, we study and understand the flow level of a user, while using a smart phone. The study of the flow level will majorly depend on the eye-activity of the user. The data mentioned below is carefully recorded after
examining the activity of eyes including the size of the pupil, blink rate, and blink duration. The purpose of this study is to understand the connection between the flow level and the activity of the eyes. A clear understanding of this connection could prove to be very useful information in the computer vision field. Additionally, this can also help a lot to understand about Visual Fatigue caused by Digital Medium


References:

Authors: B. Paulchamy, K. Kalpana, J. Jaya

Paper Title: An Efficient Architecture of Vedic Multiplier using FinFet Based Pass Transistor Logic

Abstract: Multiplies is an important component in Digital Signal Processing (DSP) and communication systems. It is utilized in signal and image processing applications including convolution, Fast Fourier Transform (FFT) and correlation. Therefore, it is necessary to develop a multiplier with power efficient and speed to reduce the cost of the system. Vedic multiplier has been introduced to solve the problems of existing multiplier. It is based on 16 algorithms. These algorithms use algebra, arithmetic operations and geometry. Urdhva Tiryabhyam is widely employed formula which provides high speed and efficient. Vedic multiplies generates partial sums and products in single step. It has been designed using pass transistor logic which reduces the number of components utilized to build logic gates by removing unwanted transistors. This paper design a vedic multiplier with FinFET based pass transistor logic. The developed multiplies provides better performance and suitable for high speed applications. 2x2 and 4x4 vedic multipliers are developed and executed 180nm approach with Tanner EDA Tool 3.0.

Keyword: Vedic Multiplier, FinFET based Pass Transistor, High performance, Low power optimized circuit.

References:
Automatic Land Usage Identification is one of the most demanded research areas in Remote Sensing. One of the primitive sources for Land Usage Identification is Aerial images. Automatic Land Usage Identification is implemented by exploring different feature extraction methods whereas, these features are categorized into local and global content description of image. Fusion of local and global features may be a potential approach for land usage identification. Accordingly, the major contribution of work presented here is fusion of global color features extracted using TSBTC n-ary method (applied on entire image) and local features extracted using Bernsen thresholding method applied on 3*3 windows of image for land usage identification. Consideration of more than one machine learning classifiers as an ensemble has shown better results than that of individual machine learning classifiers. In proposed work here, Thepade’s Sorted n-ary Block Truncation Coding (TSBTC n-ary) is explored in aerial image feature extraction with nine variations from TSBTC 2-ary till TSBTC 10-ary. The performance appraise of proposed Land Usage Identification technique is done using UC Merced Dataset having 2100 images categorized into 21 land usage types. In consideration performance measures like Accuracy, F Measure and Matthews Correlation Coefficient (MCC); the TSBTC 10-ary global features extraction method has given better land usage identification as compare to Bernsen thresholding local feature extraction method. The proposed method enhances the identification of land usage through feature level fusion of TSBTC 10-ary global features and Bernsen thresholding local features. Along with nine individual machine learning algorithms, ensembles of varied machine learning algorithms are used for further performance improvement of the proposed land usage identification technique.

**Abstract:**

**Keyword:** Aerial Image, Bernsen, Land Usage Identification, Fusion, Machine Learning Algorithms, Thepade Sorted Block Truncation Coding.

**References:**


**Authors:** Kiran Malipatil, Varunashree Meti, Siddramappa Itti

**Paper Title:** Toughness Characterization of Fiber Reinforced Concrete Beam using Fracture Mechanics

**Abstract:** The study of fracture mechanics was very much essential because it gives clear idea of arising and propagation of cracks, cause for failure, life of structure, etc. The main aim of this research was to study the fracture behavior of fiber reinforced concrete which was reinforced with polypropylene fiber. The fiber used in concrete with different volume fraction like 0.5%, 0.75% and 1% of total volume of cementitious material. The specimens were prepared with different grades of concrete with different dosage of fiber and then subjected to three point bending test. Using test results the fracture properties like fracture energy, flexural strength; stress intensity factor, fracture toughness and stiffness were found. The experimental results showed that effectiveness of polypropylene fiber for different grades of concrete that is normal, medium and high strength concrete increases with increase in fiber volume and also the fracture properties of fiber reinforced concrete increases with increase in fiber volume and effectiveness of fiber was found for dosage of about 0.75-1% volume.

**Keyword:** Fracture mechanics, fracture property; effectiveness of fiber, polypropylene fiber, Stress Intensity factor

**References:**

Effect of Parapet Lattice on Alteration of Airflow for Convective Cooling of the Roof Surface

Abstract:
For reducing the thermal stress in the environment, studies are being conducted to articulate the building elements for increasing their efficacy. These elements, which are like shading devices, balcony, veranda, walls, windows, etc. are associated with superstructure but are positioned below the roof level[1][2][3]. Here, parapet, which is primarily designed for safety and aesthetics, has been explored for its ability to reduce roof surface temperature. Any modification in the design of a parapet directly influences the amount of solar gain or the pattern of airflow on the roof surface. One of the limitations of a parapet does not have much influence on the amount of solar gain or shade, it can alter the incoming airflow. Traditionally voids have been provided in parapet to facilitate passing air to get in touch with roof surface for convective cooling. So, the paper focuses on designing and evaluating an array of generic voids with classic conditions, choice of building material, contemporary designs of parapet etc. have been taken consideration. Sixteen generic modules were formed, which were examined in two phases; these include CFD simulation and three-dimensional physical model study. The results established a notable difference in the rate of heat loss among themselves with respect to the timeline. On this basis, the sixteen scenarios were rearranged and grouped following the descending order of the physical loss. The application of this outcome will not only enhance the rooftop living environment but will also facilitate enhanced thermal comfort, especially to those who have no access to or have limited economic resources to manage mechanical appliances.

Keywords: Parapet, Lattice, Passive Convective Cooling, CFD, Thermal Imaging, Affordability

References:
Abstract: The network attacks become the most important security problems in the today’s world. There is a high increase in use of computers, mobiles, sensors, IoTs in networks, Big Data, Web Application/Server, Clouds and other computing resources. With the high increase in network traffic, hackers and malicious users are planning new ways of network intrusions. Many techniques have been developed to detect these intrusions which are based on data mining and machine learning methods. Machine learning algorithms intend to detect anomalies using supervised and unsupervised approaches. Both the detection techniques have been implemented using IDS datasets like DARPA98, KDDCUP99, NSL-KDD, ISCX, ISOT. UNSW-NB15 is the latest dataset. This data set contains nine different modern attack types and wide varieties of real normal activities. In this paper, a detailed survey of various machine learning based techniques applied on UNSW-NB15 data set have been carried out and suggested that UNSW-NB15 is more complex than other datasets and is assumed as a new benchmark data set for evaluating NIDSs.


References:
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<th>Authors:</th>
<th>T. Srikanth, Sateesh Nagavarapu, K. Umapavankumar, Narahari D</th>
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<tr>
<td>Paper Title:</td>
<td>Commonly used Algorithms in Data Science Along with Internal Logics and Implementations through R Programming</td>
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<tr>
<td>Abstract:</td>
<td>The terms machine learning, deep learning and data science are buzz words now a days. The usage of these techniques with some technologies like R and Python is most common in the industry and academics. The current work is dealing with the inherent logics existing in the algorithms like Classification, Dimensionality reduction and Recommender systems along with the suitable examples. Some of the applications mentioned here like Facebook, Twitter and LinkedIn to exploit the usage of these algorithms in their daily usage. The discussion about online platforms like Amazon, Flipkart are other areas where the recommender systems were most commonly used algorithms. The outcome of the work is the logical things hidden in the usage of the algorithms and the implementation wise are packages and functions helpful for the implementation of the algorithms. The belief is the work will be helpful for the researchers and academicians in the context of algorithmic perspective and they can extend the work by contributing their thoughts and views on the same work. Unlike in the normal programming, R/Python simplifies the logic of algorithms so that the lines of code and understanding of the problem is bit simple when compared with general programming languages. The work explains the mail respondents related to the allocation of the house by the company as a response to their considering Urban, semi-urban and rural areas of the customers, the income range of the customers also observed in the allocation of the house. The implementations are with R by using classification and the corresponding results were published in the explanation of the values found in the implementation.</td>
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<td>Keyword:</td>
<td>R, Mail respondents, classification, rpart, Factor Analysis</td>
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<th>Authors:</th>
<th>P. S. D. Bhimaraju, K. V. S. Ramachandra Murthy, K. Ravindra</th>
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<tr>
<td>Paper Title:</td>
<td>Effect of Penetration of Wind DGs on Transient Stability of Captive Power Generation Units</td>
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<td>Abstract:</td>
<td>This paper presents the analysis of transient stability for industrial generators and the effect of distributed generator units on transient stability has been studied. Here we considered IEEE 39 busses system having one utility bus and 9 captive generation units. It is observed that the voltages at all the buses, decreased when Wind Power DGs are connected. Voltages at all the buses in the system are reduced because of reactive power demand by Induction Generators. The total load of the system is 121.57 MW + j 56.6 MVAr. Critical Clearing Times (CCTs) are obtained without introducing any DG and later, CCTs are obtained with four Wind Power DGs. Their capacities are 7.0 MW, 8.0 MW, 9.0 MW and 5.0 MW with 0.8, 0.85, 0.9 and 0.95 power factors respectively. The Induction Generators used in Wind DGs inject active power and reactive power.</td>
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**References:**

consume reactive power.
It is observed that the voltages at all the buses, decreased when Wind Power DGs are connected. Voltages at all the buses in the system are reduced because of reactive power demand by Induction Generators. LLLG faults at seven load buses and nine Generator buses and are considered for obtaining Critical Clearing Times (CCT). It is observed that transient stability of system is improved by placing DGs. DGs used in this system improves the critical clearing time (CCT) for faults at load buses by 30% and faults at generator buses by 15.5%. The detailed results are tabulated in this paper.

**Keyword:** Critical Clearing Time, Distributed, generators, Transient Stability.

**References:**
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**Authors:** R. Ramprakash, K. Subbareddy, P. Praveen

**Paper Title:** Design of Digital Secured box using IoT with Raspberry Pi

**Abstract:** With expansion of crimes in public, Safety and security have turned into an essential worry for all. It is prudent to have the money, adornments and different assets under safe authority since criminals nowadays are very technically knowledgeable and they have a great deal of current gear's with them. Thieves are currently outfitted with instruments and they can demolish the greater part of the traditional wellbeing storage frameworks. Advanced Secure Box is a verified box where we can put in the requests into the container securely and get to it with the nonattendance of the client. At the point when the request came to the conveyance address, conveyance individual calls the client and requests the secret word to open the Digital Secured Box. This crate comprises of two layers where first layer is utilized to put the item into the container and the second layer is utilized to verify the online items. At the point when the conveyance individual calls the client, there produces an arbitrary OTP without fail. OTP is given to the conveyance kid that is composed through a keypad which is set on the case.

**Keywords:** IOT, OTP.

**References:**

**Authors:** SSSR Sarathbabu Duvvuri

**Paper Title:** Non-invasive State Estimation for Slip-Ring Induction Motor using Discrete-time and Continuous-time Extended Kalman Filters

**Abstract:** In this manuscript, a modified extended slip-ring induction motor model using reference frame theory is presented. State estimation is carried using derivative - free and derivative non-linear Kalman filters. The results show the advantage of the proposed state estimation in realistic applications from the rotor side.

**Keywords:** Autocorrelation coefficient (ACC), Nonlinear Kalman filter (EKF), reference frame theory, slip-ring induction motor (SRIM).

**References:**

Authors: Pavan M N, Vijayendra V K, Shashikala M S

Paper Title: Self-Sustainable off grid Electric Vehicle (EV) Charging Station with Integration of Renewable Sources

Abstract: Electric Vehicles (EV) are the world’s future transport systems. With the rise in pollution and its effects on the environment, there has been a large scale movetowards electrical vehicles. But the plug point availability for charging is the serious problem faced by the most of Electric Vehicle consumers. Therefore, there is a definite need to move from the GRID based/connected charging stations to standalone off-grid stations for charging the Electric Vehicles. The objective of this paper is to arrive at the best configuration or mix of the renewable resources and energy storage systems along with conventional Diesel Generator set which together works in off-grid for Electric Vehicle charging. As aconclusion, by utilizing self-sustainable off-grid power generation technology, the availability of EV charging stations in remote localities at affordable price can be made and mainly it reduces burden on the existing electrical infrastructure.

References:

Authors: N. Kalpana, M. Venu Gopala Rao

Paper Title: Optimal Allocation of UPFC to Minimize Real Power Losses using Firefly Algorithm

Abstract: Reducing the loss of real power and maintaining the system voltage under limits are challenging and major problems in a power system network. Thus, it is desired to adopt an effective method that could clear up these problems or reduce it to the minimal level. Controllers with FACTS, for instance Unified Power Flow Controller (UPFC) can effectively enhance the various power system parameters. This paper proposes a new meta-heuristic algorithm known as firefly algorithm (FA) which is used to select the optimal location and sizing of UPFC, which minimizes the total real power losses and to maintain the voltage under limits, there by maintaining the power system stability. On the IEEE 14 bus system the performance of the proposed method is examined by taking into account the 125%, 150%, 175% and 200% overloading cases.

References:
customers to properly communicate system funds or attain excellent service quality. Scheduling is essential for hardware resources like processors. The planning operation is performed by matching a task with a machine where it can be processed.

Authors: Chetana Tukkoji, Boosi Shyamala, Archana S. Nadhan, Rashmi K.

Paper Title: Distribution of Data Handling in Cloud Asset

Abstract: In Cloud computing, task scheduling is one of the techniques of specifying and assigning job to assets that finish the job. It may be virtual computing elements like threads & processors or data flows, which is planned on hardware resources like processors. The planning operation is performed by a scheduler. Schedulers are enabled various customers to properly communicate system funds or attain excellent service quality. Scheduling is essential for computing and the notion of planning allows multitasking computers with single CPU as inner portion of a computer system's execution model. Preference will be provided based on the requirements and goals of the user. Multiple computing parts comprise of many parallel applications while duties of execution are relied on other duties. We have studied few related articles in this paper, which is presented in the following section.

Keywords: Task Scheduling, Threads, Multi-tasking.

References:
Factors Influencing Passengers’ use of E-Hailing Services in Malaysia

Abstract: The landscape of transportation services has changed for the better since the introduction of e-hailing companies. In general, e-hailing applications on smartphones can assist users in performing the following tasks: 1) locate taxis available; 2) allow drivers to identify passengers who require taxi services; 3) book a taxi; 4) allow drivers to receive taxi bookings; and 5) make payment online. It is easy to install e-hailing applications on any type of mobile device. Nevertheless, it is crucial to assess the efficiency of e-hailing applications as they are still new to the market. The efficiency of the system can be evaluated through the factor that contributed to the adoption of e-hailing. Thus, this study aims to investigate the factors that influence the passengers’ towards the use of e-hailing services. The independent variables of this research are trustable, comfort, promotion and coupon redemption and fare; and the dependent variable is the passengers’ perception. A survey was conducted among e-hailing users in Kuala Lumpur, the capital of Malaysia. With the use of a survey questionnaire, 107 targeted respondents provided valuable feedback. The surveys were carried out by boarding e-hailing passengers’ on working days. Therefore, the respondent population corresponds to all types of e-hailing passengers’ in the city. The survey consisted of two parts; the first part contains general questions about gender, age, ethnic, employment, gender and frequency of usage. The second part is the major part of the questionnaire which consists of travel attributes. In previous literature, most relevant studies show that factor influences the users to influence the e-hailing services were found to be trustable, comfortable, promotion and coupon redemption and fare. Therefore, the questionnaire has been built according to those significant factors. The correlation analysis was used to identify the relationship between independent variables and dependent variable. Through the results obtained, the linear regression shows that the trustable, comfortable, promotion, and coupon redemption and fare provided a positive significant association with the factor that influences the passengers’. Among the variables studied, comfort shows the most significant factor in passengers’ satisfaction towards e-hailing services in Malaysia with Cronbach’s Alpha of 0.892. In conclusion, this study shows some important information and provide benefits particularly to e-hailing services company to be more competitive in this industry by understanding the needs and concerns of passengers’ when they adopt the e-hailing services.

Keywords: e-hailing, passengers’ satisfaction, trustable, comfort, promotion and coupon redemption, fare.

References:
Abstract: This paper takes a deeper look at data breach, its causes and the linked vulnerability aspects in the application development lifecycle. Further, the Vulnerabilities are mapped to the software development life cycle (SDLC) involving requirement elicitation, design, development, testing and deployment phases. Being aware of exact SDLC life cycle where the vulnerabilities are injected, suitable security practices (countermeasures) can be adopted in delivery methodology, which can control the eventual data breaches and safeguard the application from security perspective.

Our research focuses on Evolution of Vulnerabilities through the application development life cycle, and we have leveraged “Inverted Tree Structure/Attack Tree” and “Affinity Principles” to map the vulnerabilities to right Software Development Life Cycle.

Keyword: Vulnerability, SDLC, Data Breach, DevSecops, Security Requirements.

References:

Authors: M. Satish Kumar, K. Navya Sri, U. V. Koteswara Rao, P. Deekshitha, SK. Nadeem

Paper Title: Drinking Water Quality Scenario at Kallam’s Green City, Ameenabad, Guntur District, Andhra Pradesh

Abstract: Groundwater is the basic and prime component to be considered, as it is directly linked with the developmental activities of any area in the whole world. In the current scenario the availability of groundwater for future generation is biggest problematic question to be asked by every nation. In the actual scenario its availability is minimum and the dependency on groundwater is maximum to meet all the requirements of water demand and this situation has been continuing years long due to excessive and abnormal increments in the growth of population [6] and it becomes more worse especially in the developing countries as well as in the urban areas [8], at one side the population is increasing and at the same time the availability of natural resources like soil, clean air and portable water keep on polluting due to the natural activities like floods, droughts etc apart from manmade activities in order to improving living standards. Water in the aquifers of earth crust depends on the soil porosity, pore size and the geological conditions [10] with respect to the holding capacity of water, even though groundwater is the source to consider as one of the rechargeable resource but it is completely depends on the measures to adopt for recharging such as recharging pits and the average rainfall of that particular area. In this study all the parameters of IS drinking water quality standards 10500 – 2012 are examined for the collected groundwater samples of three cycles and the average values of three cycles were

447.

Authors: Thejasvi N., Shubhamangala B. R.

Paper Title: Detection of Vulnerability Injection Point in Software Development Lifecycle for Effective Countermeasures
Abstract: Road safety has become more concern due to the number of accidents that keeps increasing every year. The safety system includes from simple installation such as seat belt, air bag and rear camera to more complicated and intelligent system such as braking assist, lane change assist and blind spot monitoring. This paper proposed a Smart Vehicle Blind Spot Detection System (VBSD) to observe the blind spot region based on ISO 17387: 2008(E). This system is mounted with two programmable 24 GHz radar sensors on the left and right rear side of the car. In addition, this system provides an audible and visual alert to the driver if the system senses any vehicles in the blind spot region using buzzer and LED, respectively. To analyze the performance of the system, test had been conducted at different demography condition. The accuracy of the system is analyzed by comparing number of vehicles detected within blind spot region and ground truth data. This system will alert the driver automatically to ensure the driver safety and reduce road accident. As conclusion, the system had been proofed applicable to use at different demography condition.

Keyword: Blind spot; ISO 17387:2008(E)

References:

Authors: M. Nor, Mz Hassan, N. Ab Wahab, S. M. Najib, Khairel Anwar Abu Kassim

Paper Title: Development of Smart Vehicle Blind Spot Detection System Based on 24 GHz Radar Sensors


References:
Paper Title: Determining the Scope of Recovery from Physically Damaged Micro SD Card

Abstract: Today’s use of secondary devices like cloud storage, Hard Disk, Pen Drive, SD, CDs, DVDs is constantly growing. Data might be deleted, loss or device is formatted accidentally or intentionally by various means. It’s a myth that “once secondary storage devices are damaged then there is no access to data too”. This article gives the detail investigation that from damaged devices too data can be recovered.

Keyword: Cyber crime, Data Loss, MICRO SD CARD, Recovery software’s.

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Authors: Mojgan Mirzaei Hotkani, Seyed Alireza Seyedin, Jean-Francois Bousquet

Paper Title: Underwater Object Localization using the Spinning Propeller Noise of Ships Based on the Wittekind Model

Abstract: The purpose of this article is to localize underwater objects based on the noise reflection of the propeller rotation in cavitation mode. In the proposed method, the propeller noise, which plays the role of pings in active sonar, is modeled by the Wittekind model. As such, an echo is continuously received by a vertical and uniform linear hydrophone array due to reflection from the underwater targets. The challenges associated with the underwater channels are simulated by the ocean model in COMSOL. Specifically, to model the propagation of underwater acoustic in this channel, the Helmholtz equation is solved using COMSOL. Finally, localization is performed by comparing the Delay & Sum algorithm and the multiple signal classification (MUSIC) algorithm in MATLAB. According to the simulation results, the proposed method is able to detect the position of the target and the propeller approximately, although the multipath phenomenon causes adverse effects on the results. The narrowband MUSIC algorithm is used in the proposed method at the frequency of the strongest intensity.


References:
The rise in the demand for multimedia digital products has led to significant copyright challenges, which concerns proof of ownership and copy control. Digital watermarking method provides a solution to the problems associated to copyright protection and control. Considerable quantities of multimedia content are printed, edited or distributed unlawfully without the legal consent of the owner. Digital piracy in the movie and music industry contributes to severe economic losses annually. The problem of digital piracy has led to the urgent need for digital watermarking as a method to counter the piracy. The protection of digital content is currently the main responsibility of the content owner since piracy is evident in all levels of multimedia industry. Therefore, for multimedia information, protection of content copyright has increasingly become the sole focus of the content owner. Digital watermarking is a vital technology, which is applicable in protecting the contemporary multimedia digital contents.

**Abstract:**

Authors: A. Al Embaby, Mohamed A. Wahby Shahaby, Khaled Mostafa Elsayed

**Paper Title:**

Digital Watermarking Properties, Classification and Techniques

**Keyword:** copyright protection, digital watermarking, visible watermar.

**References:**

Authors: Ruchika Malhotra, Samarth Gupta, Sarthak Katyal, Ronak Sakhuja

Paper Title: User Targeted Offline Advertising using Recognition Based Demographics and Queue Scheduling

Abstract: Offline advertisements are static in nature. Advertising companies use billboards for advertising. These billboards display advertisements in a random fashion depending on the investment made by the advertiser. Advertisers pay a fixed amount of money for displaying their advertisements and not on the basis of relevant viewership. The technology proposed in the paper ensures that this disparity is handled where offline advertisements are targeted to the relevant audience. The technology has been named TARP which is an abbreviation for Target. Advertise. Revolutionise. Promote. TARP uses built in cameras on offline advertising platforms such as billboards & TV Screens in malls, restaurants, metro & airports to target advertisements based on gender, age and other relevant demographics. The technology is a boon for the advertising industry and benefits both advertisers and viewers. It displays what viewers want to see and who the advertisers want to reach out to. Convolutional neural networks are used to generate demographics of viewing population. Centroids of the viewing population are maintained for each billboard. Advertisements search for the most relevant billboard for display. Display of advertisements is monitored by a queue scheduling algorithm. The research paper proposes an algorithm to generate demographics, search most relevant billboard for each advertisement as well as generate priority queues.

Keyword: offline, advertisements, targeting, queue, age, gender.

References:
# Big Data for Health Care Analytics using Extreme Machine Learning Based on Map Reduce

**Abstract:** A large volume of datasets is available in various fields that are stored to be somewhere which is called big data. Big Data healthcare has clinical data set of every patient records in huge amount and they are maintained by Electronic Health Records (EHR). More than 80% of clinical data is the unstructured format and reposit in hundreds of forms. The challenges and demand for data storage, analysis is to handling large datasets in terms of efficiency and scalability. Hadoop Map reduces framework uses big data to store and operate any kinds of data speedily. It is not solely meant for storage system however conjointly a platform for information storage moreover as processing. It is scalable and fault-tolerant to the systems. Also, the prediction of the data sets is handled by machine learning algorithm. This work focuses on the Extreme Machine Learning algorithm (ELM) that can utilize the optimized way of finding a solution to find disease risk prediction by combining ELM with Cuckoo Search optimization-based Support Vector Machine (CS-SVM). The proposed work also considers the scalability and accuracy of big data models, thus the proposed algorithm greatly achieves the computing work and got good results in performance of both veracity and efficiency.

**Keyword:** Map reduce, Machine Learning, Big Data Analytics, EHR, CS-SVM.

**References:**
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**Authors:** Ramu Bhukya, SSSR Sarathbabu Duvvuri

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# Solar Electric Bicycle using Permanent Magnet Direct Current Motor: A Realistic Prototype

**Abstract:** For human beings, travelling is quite common. In order to sustain in this world, he/she should travel from place to place. In this paper, a new solar electric bicycle based on permanent magnet direct current motor hard ware set up is proposed. The presented prototype is experimentally verified in real-time scenarios.

**Keyword:** Electric bicycle, permanent magnet direct current motor.

**References:**
Abstract: Path stability of the mobile nodes in MANET plays a vital role in effective data dissemination as it depends on factors such as mobility, energy, signal strength. Several studies reveal that the prediction of path stability might provide solutions thereby routing performance can be increased. In most of the protocols route selection is based on metrics namely hop count, energy, etc. The metric namely mobility factor “MF” is used in some of the protocols. These protocols include nodes with less energy or nodes with high mobility which results in loss of path in a short period of time. Since it preserves the neighbor’s history, more control overhead and maintenance complexity exist. Hence, a new metric namely Active Interactive new Neighbor Rate (AINR) has been considered for optimum path selection. In scenarios of path loss, there is an immediate need for alternative paths for continuous data transfer. From literature it is evident that fuzzy logic is more significant in exploring different possible states under path stability determination. Hence a new prediction mechanism based on fuzzy logic has been proposed by considering the Residual Energy (RE), Hop count (Hop) and proposed metric Active Interactive new Neighbor Rate (AINR) as the factors for the prediction of the optimal path. This prediction mechanism is leveraged in MANET scenarios where alternate paths should be available on hand in situations such as battlefield and natural disaster. From the simulation, it has been proved that fuzzy logic prediction model provides better results in terms of various performance metrics such as Throughput, Packet delivery ratio, End-to-end delay, Energy consumption and routing overhead than the existing protocols.


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location of the bull to the user. This device will help the user to always keep an eye on their bull.

Keyword: Arduino, GSM module, GPS module.

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Authors: Seno Joseph, I. Shyam, K. Salai Mathiazhagan, R. Vishnu

Paper Title: FFT Implementation using Modified Booth Multiplier and CLA

Abstract: In the field of digital signal and image processing the Fast Fourier Transform (FFT) is one of the rudimentary operations. Telecommunication, Automotive, Hearing devices, Voice recognition systems are some of the applications of Fast Fourier Transform. DFT is implemented using FFT which is a type of algorithm that computes DFT in a fast and efficient manner. This project concentrates on the development of the Fast Fourier Transform (FFT), based on Decimation In Time (DIT) domain, Radix2 algorithm, using VHDL as a design entity. The objective of this project is to establish an efficient design that computes FFT in a faster way. In this project FFT is implemented using modified booth multiplier and CLA and simulated on Xilinx ISE.

Keyword: Modified Booth Multiplier, CLA, FFT, Wallace Tree dder

References:

Authors: From Squatter Slums to Modelled Dwellings in Anthropocene: Bhubaneswar, India

Paper Title: Saswat Mishra, Gopal Ch. Sahoo, Siba Prasad Mishra, Kumar Ch. Sethi, Mohammed Siddique

Abstract: Slums, the poor men paradise, are an informal settlement in Cosmopolis but part to the urban development process. Anthropocene has summoned exodus from rural to urban for food, family education and livelihood. Bhubaneswar, the capital city Odisha was established in 1949 with zero slums till1960’s, now has about 436 slum clusters in 67 wards with 304140 slum dwellers comprising 34.30% of the total population. After declaration as smart city, 2015, interalia initiatives are taken by federal bodies for the development and resettlement of shantytown dwellers to make it slum less. The Kargil slum is significant due to its positioning, profession and living standards of inhabitants in the heart of the metropolis between airport and EC rail lines needs immediate resettlement. Present work pictures survey of slum in-situ using GIS and total station for demography, sex ratio and socio-economic status. About 1000tenements in 25blocks over an area of 6.23 Acres in the outskirt shall be accommodated in G+4 buildings. The geographical and ground water studies of the new housing area have been done. The design, drawing and scheduling by using Building Information Modelling (BIM) by Auto Cad, and DASSULT software, MS Office , MS Project, E-tabs, Safe, and D modelling by Sketch up. The scheduled period of completion from land acquisition to final handing over shall be 40months at an affordable cost of 400K to 500 K INR per tenement.

Keyword: Advanced Survey, BIM Architecture, GIS Housing Scheme, Resettlement, Slum

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With the rapid technological advancement the increasing cell phone dependency has led to set up cell towers in numerous communities. These towers are known as base stations, have antennas and electronic equipment that transmit and receive RF (radio-frequency) signals. Various experimental and epidemiological analysis have been done for searching the potential effect of BTS (Base Transceiver Station) establishment in residential areas and result shows significant health issues, as the RF radiation can mess with the human body’s own EMFs. Therefore, for ensuring public safety it is essential to ascertain the minimum safe distance of establishing BTSs from locality. In this calculation based empirical work, on the basis of SAR (Specific Absorption Rate) mentioned by the World Health Organization, ELF Health Criteria Monograph. Neurodegenerative Disorders, p187, 2007. the analysis minimum reasonable distance of nine major human tissues for being radiation.. [Last Accessed: 23–Nov- 2019].


Expert Group to study the possible impacts of communication towers on Wildlife including Birds and Bees.


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Authors: Keeradit Saiapattalung, Thongchai Thongyoo, Hattaya Netayarak, Lakkana Ruekkaesaem, Pasura Aungkulanon

Paper Title: Design and Development of Automatic Water Level and Quality Warning System of Latphrao Canal Community Bangkok, Thailand

Abstract: The objectives of this research were to design and develop an automatic water level warning system for communities living along Klong Lad Phrao (Lad Phrao Canal) in Bangkok. The development of the system was divided into the following four main parts: 1) a water level measurement system; 2) a precipitation measurement system; 3) a water quality testing system covering dissolved oxygen, pH, turbidity and electrical conductivity and 4) an internet alert system utilizing the LINE application and web-based application information display. The first three parts were to be solar-powered. The design and development effort showed that the system successfully measured water levels along with water quality with speed and precision. Moreover, the system was easy to measure results and was able to alert through the LINE application when water in Klong Lad Phrao approached critical levels, thereby reducing demand from water levels. Precision testing of the developed water level and quality measurement systems found that precision was in the range of 99.74-99.77%.

Keyword: Water quality, Water level measurement equipment, and Internet alert system.

References:

Authors: K. N. Apinaya Prethi, M. Sangeetha, S. Nithya, G. Priyadharshini, N. Anithadevi

Paper Title: An Electric Eye for Human Activity Recognition: A Hybrid Neural Network

Abstract: A real time detection of human movements is a practical solution to monitor aged people or mentally challenged people with the permission of their family. Household person is needed to monitor the elder and differently abled people. Instead of monitoring their activities with the help of other people, smart phones are used as a remote to monitor their activities and simultaneously send the message to their family members. The accelerometer sensor placed in the mobile phones. It is used to identify the activities of the person who holds the mobile phones. The most commonly used classifier technique is Naive Bayes classifier which has a limitation of handle with the large set of data. To overcome this defect, the proposed system classifies the data using k-nearest neighbor (K-NN) technique and Neuroevolution. This system recognize some representative human movements such as walking, climbing upstairs, climbing downstairs, standing, sitting and running using a conventional mobile equipped with a single tri-axial accelerometer sensor.
Keyword: K-NN, Naive Bayes classifier, Neuroevolution, tri-axial accelerometer sensor

References:

Authors:
Pravinkumar Patil, Meenakshi Patil, Santosh Itraj, Uttam Bombale

Paper Title:
Optimal Combination of Transmission Parameters for Maximizing the Throughput of WLAN

Abstract:
In wireless local area networks (WLANs), the data transmission rate is highly varying concerning time according to changes in the channel environment. The traditional link adaptation algorithms, which rely on channel state information (CSI) estimation for selecting an appropriate modulation-coding scheme (MCS) does not thrive with madly varying channel conditions. To uphold this problem, in this paper we contemplate the link adaptation problem in IEEE 802.11n based WLAN by evaluating the performance under different combinations of transmission parameters or transmit modes. The evaluation results show that an optimal selection of transmission mode on a per-packet basis according to the current channel state maximizes the throughput performance of WLAN. Simulations over a wide class of TGn fading channel model shows that significant improvement in the throughput is possible by selecting an optimal combination of transmission parameters adaptively on a per-packet basis according to SNR estimation made at receiver.

Keyword: BER, IEEE802.11n, MIMO, OFDM, Throughput, TGn channel model, WLAN.

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Authors:
Anish Mathew Kuriakose, V. Umadevi

Paper Title:
Multi-Documents Extractive Text Summarization using Node Centrality

Abstract:
The advancement of technologies produce vast amount of data over the internet. The massive amount of information flooded in the webpages become more difficult to extract the meaningful insights. Social media websites are playing major role in publishing news events on the similar topic with different contents. Extracting the hidden information from the multiple webpages are tedious job for researchers and industrialists. This paper mainly focuses on gathering information from multiple webpages and to produce summary from those contents under similar topic. Multi-document extractive summarization has been developed using the graph based text summarization method. Proposed method builds a graph between the multi-documents using the Katz centrality of nodes. The performance of proposed
Abstract: This Present study attempt to highlights the ability of Geospatial Technology to explore the changes in the coastal tract. The study also find out some major changes in terms of erosion and deposition of 33 Years (1972 to 2013) through the topsheet and satellite data. Arc GIS software used to address the amount of changes in the study area. The satellite data includes Landsat, IRS P6 LISS 4M, TM and ETM has been used to bring out the shorelines. Changes were noticed from the imageries and a comparative study was undergone using GIS. The shoreline taken a length of 9.3 km and it buffered 3 km which contains 19.1 km2 of land and 22.62 km2 of sea in part of Cuddalore district, Tamil nadu. For the given study area base map (Fig. 1) expose details of coastal plain. Along with that Digital Shoreline Analysis System the tool provided by USGS can Work with GIS platform help to identify and classify the rate of change in terms of High or Low Erosion and Accretion based on Linear Regression Rate (LRR). It was a statistical approach in software carried out by fitting least square regression line to all shoreline points for a particular transect. The study area is under erosion with an average of -2.63m/year.

Keyword: Shoreline, Accretion, Erosion, Arc GIS, LRR, Cuddalore.

References:

Authors: Gurugnanam B.

Paper Title: Remote Sensing and GIS Application for Shoreline Change Measurement in South East Coastal region of Tamil Nadu, India
**Authors:** Malaya Nayak, Tariq Abdullah

**Paper Title:** Short –term Prediction of Risk Management Integrating Artificial Neural Network (ANN)

**Abstract:** The IT industry has boomed in the past few years with an ever increasing number of risk management applications being developed. There are inherent risks in software development projects and failure to deliver software projects within deadline or failure to develop software according to specifications can be costly. The software risks may occur during the project process. The management process of software risks consists the risk refinement, risk identification, risk monitoring, risk maintenance, risk estimation and risk mitigation. Neural Network has ability to stimulate hidden pattern recognition skill. The primary study of this paper is to focus on various risk management models and how risk tools may help in mitigating software risks during the project development. With the application of Neural Network, We propose short term risk management model which can predict the risk involvement with the upcoming project risks, analyzing from the previous projects causing serious loss in the IT project in terms of values on certain risk factors. Neural Network model can also enable to evaluate the assessment of risks in software development and acts as an effective instrument in analysis and minimizing risks that enable continuous improvement in software processes and products.

**Keyword:** Cost risk, Schedule risk, Performance risk, User risk, Complexity risk, Artificial Neural Network (ANN).

**References:**

**Authors:** M. C. Swami, B. M. Dabade

**Paper Title:** Effect of Salt Spray on Behavior of Flexural and ILSS Properties of Composite Laminates

**Abstract:** the objective of this paper was to determine the durability under accelerated salt-fog exposure of nine commercially available composites. These composites included glass reinforced vinyl esters, Iso Superior Glycol and an epoxy. Durability was measured mainly in terms of the loss of flexural strength and ILSS (inter laminar shear strength) after exposure. In order to accelerate aging, the specimens were subjected to temperatures of 95°F (35°C) for 552 Hours each while exposed to a salt-fog spray. A previous research had determined that among the common marine exposures, salt-fog was a major cause for degradation of composites used in the retrofit of the water front infrastructure. Flexural and ILSS tests were performed. Once the aging effects were determined, comparative study between these laminates will be done to find out which is the best Resin fiber compositions. To enable predictions beyond years, additional and
longer lasting testing would be necessary.

**Keyword:** salt spray; Flexure; ILSS; Vinyl Ester; Iso superior glycol; Epoxy; Glass fiber.

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Authors: Kamal Bisht, Deepak Kumar, Kuldeep Singh Bedi

Paper Title: Enhancement of Power Transfer Capacity and Transmission Efficiency using SSSC

Abstract: The power demand is increasing globally at a higher rate than the possible increase in the generation. The increased demand requirements put additional burden on the existing transmission lines and sometimes burdened beyond their power carrying capacities. Increase in power demand either due modernization of power system, industrialization leads to congestion problem and abruptly affects the stable and reliable operation of power system. Redesign and reconstruction of power system according to load requirements everytime is not an economical and viable solution. Other possible solution to the problem is use of FACTS devices. The use of FACTS devices the problems like increase in load demand, high losses in transmission line and dip in receiving end voltage can be eliminated or easily tackled. In this paper, Static Synchronous Series Compensator as one of FACTS device has been used for improvement of voltage profile of different buses and power carrying capacity of the transmission lines. The main objective of this paper is to make a comparative investigation between compensated and uncompensated power system in terms of enhancement of power carrying capacity with low losses and improvement of voltage profiles of buses in the transmission network. The performance of uncompensated power system has been compared with compensated power system with the use of MATLAB/ Simulink software.

Keyword: Flexible alternating current transmission system, static synchronous series compensator, power carrying capacity, available transfer capacity.

References:

Authors: Nirmla Sharma, S. K. Gupta, Olfa Ben Said

Paper Title: Design the Connection Creation Bluetooth Techniques using Packet Switching

Abstract: An existent result from the exchange is working. However, we are sharing unique practices to fast our creativity; it develops controlling partners by the people it abuts to, with our unhindered and the creation about us. Three-Way Handshake strategy has used in this paper to the connection creation method. TCP and affiliation creation strategies have recycled related to formal progress outline connection creation. Now every course utilizing parcel exchanging systems and 4-areas are generally required that is Finish (FIN) and Acknowledgment (ACK). Opening the reason for existing techniques is about used handset toward training. It is indicating an association to make in this paper. FIN exchanging has been powerful not only in refining the accounts of information correspondences, but also it might be in allowing consistency or reasonable versatility. Bluetooth rules are utilizing affiliation development for this paper. When we share original practices and rapid our originality, we construct controlling associates by the individuals we’re adjoining to, with our unrestricted and the creation about us, and through ourselves. Ordinary procedure is creating and linking among TCP client with server includes 3- phases consumer refers SYN communication; server refers...
communication that associations ACK used for consumer’s SYN and encloses server’s SYN; then consumer directs ACK for server’s SYN. It is named TCP Three Way Handshake. It is joining formation connectionless communication to comparative features. Difference among connectionless combine connection oriented broadcast could proceeds residence at numerous coatings of Open System Interconnection Orientation Model. TCP has connection oriented carrying protocol. UDP has connectionless protocol

**Keyword:** Bluetooth, connection, client, techniques and packet switching.

**References:**

**Authors:** V. V. Ramalingam, Paras Yadav, Prakash Srivastava

**Paper Title:** Detection of Phishing Websites using an Efficient Feature-Based Machine Learning Framework

**Abstract:** Phishing is a cyber-attack which is socially engineered to trick naive online users into revealing sensitive information such as user data, login credentials, social security number, banking information etc. Attackers fool the Internet users by posing as a legitimate webpage to retrieve personal information. This can also be done by sending emails posing as reputable companies or businesses. Phishing exploits several vulnerabilities effectively and there is no one solution which protects users from all vulnerabilities. A classification/prediction model is designed based on heuristic features that are extracted from website domain, URL, web protocol, source code to eliminate the drawbacks of existing anti-phishing techniques. In the model we combine some existing solutions such as blacklisting and whitelisting, heuristics and visual-based similarity which provides higher level security. We use the model with different Machine Learning Algorithms, namely Logistic Regression, Decision Trees, K-Nearest Neighbours and Random Forests, and compare the results to find the most efficient machine learning framework.

**Keyword:** Machine Learning, Blacklist, Whitelist, Cyber-attacks, Logistic Regression, K-Nearest Neighbours

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**Authors:** Hasymuddin Othman, Norathirah Nabila Abd Mutalib, Reyanheelame Rohanai

**Paper Title:** The Impact of Vocational Teacher Training Program (BIGV) Towards the Development of Interpersonal Communication Skills Among Prospective Vocational Teachers

**Abstract:** Malaysia is generally one of the earliest countries in designing a higher education system that highlights the elements and challenges of Industry 4.0 issues, as already outlined and addressed in the 2015-2025 Malaysian Education Plan (Higher Education). As such, the self-development of teachers’ human resources especially in the aspects of teacher communication skills has been developed and fully implemented in this Vocational Teacher Training Program (BIGV) curriculum. This program is a compulsory subject that must be taken by Bachelor Degree Teacher program in all Malaysia’s Universities. The sample of the study consists of 200 respondents divided into two groups that refers to the design of the experimental quasi study which is an experimental group of 158 prospective vocational teachers undergoing a comprehensive Bilingual Vocational Teacher Training (BIGV) program from the second semester student at the Faculty of Technical and Vocational Education, UTHM and control group of 42
prospective vocational teachers from second semester student in the Faculty of Technical and Vocational, UPSI. This research aims to study the effectiveness of Vocational Teacher Training (BIGV) Program towards developing the interpersonal communication skills acquisition level among the prospective vocational teachers. The researchers analyzed pre-test and post-test findings from both groups using the T-Test analysis. The results of the analysis showed that there was no significant difference in the number of min scores in pre-test and post-test for the two groups. Therefore, a further comprehensive action is needed to ensure that the implementation of the Vocational Teacher Training Program (BIGV) is successful to meet its objective in producing a more credible and sustainable teacher in the future.

**Keyword:** Program Bina Insan Guru Vokasional (BIGV), prospective vocational teacher, Quasi-experimental, Interpersonal Communication Skills.

**References:**


Authors: V. Santhiya, T. Ravichandran, G. Yamuna, K. Harini

Paper Title: Developmental Strategies in Diagnosing Obstructive Sleep Apnea

Abstract: A key mission in medical science is diagnosing a disease due to its criticality and accuracy in examining whether a patient is suffering from particular disease or not. Then, the most appropriate side of treatment can be decided. Obstructive Sleep Apnea (OSA) syndrome is the most widespread sleep disorder characterized by chronic episodes of reduction in the airflow or stoppage in airflow during sleep, being caused by blockage of upper airway. The intention of this review is to analyze already existing algorithms for detecting apnea all the way through usage of different sensors that have not been implemented on hardware. This study offers an exhaustive literature research value from 2003 to 2019 and setting a roadmap for bio-engineers and medical doctors thereby reducing research period and improving medical service efficiency concerning obstructive sleep apnea diagnosis.

**Keyword:** Algorithms review, diagnosis approaches, obstructive sleep apnea, Sleep disorder.

**References:**

2. S.V. Kellelsarian, V.R. Malignaggi, C. Feng and F. Javed, “Association between obstructive sleep apnea and erectile dysfunction: a systematic
Abstract: Revelation to adverse air pollutants attributed harmful effects in humans health. This research targets to evaluate the influence of atmospheric pollutants via determining the number of hospitalization underlying pulmonary complication in Chennai, Tamil Nadu. This tropical metropolitan city and also capital of Tamil Nadu have recently endured with the atmospheric pollutants. Due to rapid urbanization, followed by installation of numerous industries over the years have gradually affected the air quality. Chennai has respiratory illness in maximum record owing to pollutants. Data completed pre-processing phase to assist condition of demonstrating procedure. With respect to conclusion, association rules mining had performed by Apriori, Eclat and FP growth algorithm the results showed that the latter was much accurate and consumes lesser time.

Keywords: Pulmonary complication, association rule, atmospheric pollutants, apriori, data mining, Eclat, FP growth

References:

Authors: S. Kanageswari, D. Gladis
Paper Title: Generation of Association Rules of Data Mining for Lung Cancer by Air Pollution

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Authors: Mohd Hasril Amiruddin, Sri Sumarwati
Paper Title: The Distance Monitoring Tools Between the Ends of the Nozzle for Gas Metal Arc Welding

Abstract: Gas Metal Arc Welding (GMAW) is a welding process that combines an arc between the continuous electrode, which produces a mixing by heat generated by the arc melting the base metal electrodes. This process uses an inert gas as a protective element in the welding area. This study aims to analyze the welding quality level produced by students using the application in terms of monitoring the distance, angle, and speed between the ends of the nozzle with the workpiece for GMAW. In this study, one of the actual experimental designs used as the pre-test and post-test design. The experimental group in this study was using distance monitoring tools, while the control group was using traditional teaching strategies that commonly used. The contents of the control group teaching were identical to the experimental group. The selected 22 respondents via purposive sampling consisted of students of the welding field, specifically metal...
fabrication. In this study, the research instrument used is through pre-test and post-test evaluation rubric. In this study, data were collected through a quantitative approach using Statistical Package for the Social Science (SPSS) version 22.0 software. The analysis of this study was carried out by conducting a descriptive analysis of data obtained by using statistics, such as per centage, mean, and standard deviation. Inference analysis was then performed to interpret the scores before and after treatment based on the test score data obtained in groups using the built-in distance monitoring tool. The inference statistics used in this study was two-way ANOVA. The findings of this study demonstrated the effectiveness of the distance estimation method by using distance monitoring tools between the ends of the nozzle and the workpiece for GMAW. This was attributable to the built-in distance monitoring tool, which could assist respondents in determining the proper distance between the ends of the nozzle and the workpiece to obtain a good and perfect welding result. Based on these results, there was a difference in the level of welding quality produced by the control and experimental groups.

Keyword: Welding Quality, Distance Monitoring Applications Tools; Nozzle; Gas Metal Arc Welding.

References:

Authors: Pooja D. Taralgatti, R. S. Pawar, G. S. Pawar, Majeed Hazza Nomaan, C. R. Limkar

Paper Title: Water Quality Modeling of Bhima River by using HEC-RAS Software

Abstract: The River has got religious importance in India. The Bhima River is beginning from Bhamashankar hill and it flows through some parts of Maharashtra and Karnataka state. The assessment of water quality for the development of the places near the bank of River is important. These is controlled by various manmade activities. The quality of river water resources is facing problems because of the continuous agricultural runoff, development and urbanization. Due to mixing of nutrients causes algal blooms, which results eutrophication. The modeling of water quality can be deliberated as useful tool for assessing river water. Bhima River is demarcated as a major and important water body located in Pandharpur, dist. Solapur, Maharashtra. As Pandharpur is having historical background and known as one of the famous holy places in Maharashtra, this place is facing huge population fluctuation due to migrated pilgrims and rapid growth of urbanization. These two things detrimentally affect River water quality. The main objective of current study was to develop a hydrodynamic model combined with river water quality model for the Bhima River to measure and recognize the processes harmful for the River. For Bhima River a hydrodynamic model was constructed using the HEC-RAS 4.1 software combined with a river water quality model to estimate the amount, distribution and sources of algae, nitrate and temperature. The river model has standardized with the help of previous water levels near the Pandharpur region. It has standardized and calibrated for the assessed parameters by competing with them the present data. The result showed a relationship between DO and temperature range. DO level in Pandharpur and Gopalpur were observed to be fluctuating with respective temperature and during Varri season. However, wastewater discharge from Nalha in sample station 3 i.e. Gopalpur shows silt changes in DO and due to this there is necessity to learn other parameters also.

Keyword: Hydrodynamic, Water Quality Modeling, Bhima River, Pandharpur, etc.

References:
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475.
Paper Title: A Reliability Model for a Two Dissimilar Units System with Repair Time-Dependent Standby

Abstract: The present paper stochastically analyze a system comprising two dissimilar units (unit-1/unit-2) working in series configuration. System fails completely when either of the units gets failed. The repair time of unit-2 is considered to be much more as compared to the repair time of unit-1. So, to minimize the breakdown period of the system, a standby unit is provided against the second unit. Regenerative point technique (RPT) is used to develop a semi-markovian reliability model for the mentioned system. Optimum cut-off points concerning the profitability of the system have also been obtained. The model has applications in industries, particularly in aluminum industry.

Keywords: Dissimilar units, Optimum cut-off points, Repair time dependent standby, semi-Markov process, Series configuration

Authors: Jai Bhagwan, Amit Manocha, Anil Taneja

References:

Authors: Krupa Tatiana

Paper Title: Vectorization and Optimization of User Behavior Data in E-Learning Systems

Abstract: At the first stage, an applied scientific research developed a procedure for collecting data on the parameters of user interaction with the user interface. This input procedure receives many heterogeneous messages about the actions of a particular user in the interface, while the output represents a vector that describes the user in aggregated form. The set of vectors for different users, in turn, was then used as input for the k-means clustering algorithm, the result of which is the user's attitude to one of the k clusters.

Authors: E. M. Aref, H. M. A. Alkhalidi, and G. A. A. Alhejji

Paper Title: A Generalized Context-Based Reliability Model for a Two Dissimilar Units Series System

Abstract: This paper presents a generalized context-based reliability model for a two dissimilar units series system using Gumbel distribution. The model is developed by considering the repair time, degradation, and repair time dependent standby service for the failed units. The model is solved using the Markovian reliability approach and the optimization is performed using K-means clustering algorithm. The results show that the model is capable of providing a more accurate and efficient reliability analysis for the system.

Authors: S. M. Alshawi and R. A. Alshawi

Paper Title: A Reliability Model for a Two Dissimilar Units Series System with Repair Time-Dependent Standby

Abstract: The present paper stochastically analyze a system comprising two dissimilar units (unit-1/unit-2) working in series configuration. System fails completely when either of the units gets failed. The repair time of unit-2 is considered to be much more as compared to the repair time of unit-1. So, to minimize the breakdown period of the system, a standby unit is provided against the second unit. Regenerative point technique (RPT) is used to develop a semi-markovian reliability model for the mentioned system. Optimum cut-off points concerning the profitability of the system have also been obtained. The model has applications in industries, particularly in aluminum industry.
that distinguish the user by the type of behavior.

User interface interaction data is available to 67.8% of GlobalLab platform users. There is no such data for the Diary.ru electronic diary. Considering that not all users of the GlobalLab platform took measures to create a project, ideas, work with questionnaires and educational materials, the total number of students for whom the value of all 4 variables differs from the neutral one was 9.7 thousand.

**Keyword:** education, learning trajectory, student, educational process, mathematical model.

**References:**


**Authors:** Arpan Chakraborty, Krishna Kriti, Yatendra, M.S. Bennet Praba

**Paper Title:** Polymorphic Malware Detection by Image Conversion Technique

**Abstract:** This model implements ways to detect polymorphic malware. This model uses a dynamic approach to detect the polymorphic malware. The objective is to increase the accuracy and efficiency of the detection as this malware can morph themselves, making it difficult to trace through anti-malware systems. As the tracing is going to be difficult the detection and classification system needs to be flexible that can able to detect the malware in every possible environment. This objective can be achieved by giving the system a superintelligence, this can be done by using the Convolutional Neural Networks (CNNs) in our system. This method records the pattern or the traces made by the polymorphic malware. The pattern is in the form of the image which is formed by converting the binary format of the hash codes. The generated images are then sent to the training module, based on this training module the Convolutional Neural Networks gives the result for any testing data.

**Keywod:** Convolutional Neural Network, Image Processing, Metamorphic viruses

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24. Object detection through search with a fooved visual system by(Enre Akbas, Miguel P. Eckstein) url:https://journals.plos.org/ploscompbiol/article.clr?id=10.1371/journal.pcbi.1005743

Authors: Krupa Tatiana

Paper Title: Stages of a Mathematical Model Developing of the Educational Trajectory

Abstract: The model is based on the use of interactive teaching methods. A characteristic feature of the use of interactive technologies is the organization of training that takes into account the inclusion of all the students of a group without exception in the learning process. Joint activity means that each participant makes his or her own individual contribution, whereby in the course of work there is an exchange of knowledge, ideas, and methods of activity. An environment of educational communication is created that is characterized by openness, interaction of participants, equality of their arguments, accumulation of common knowledge, and the possibility of mutual evaluation and control.

The limits of neural networks to study and predict educational assets will provide research and development organizations and teams with innovative and effective ways of conducting research in the field of educational theory, modeling of the cognitive processes related to formation of different student competencies, and devising more appropriate methods for estimating student educational outcomes.

Keyword: mathematical model, machine learning, GlobaLab, educational trajectory, Jupyter Notebook, GNU Octave

References:
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Authors:  

Krutilova Tatiana

Paper Title: Identification Features of External and Internal Variables in the Mathematical Model of Educational Trajectory

Abstract: The article describes the main stages of identification and formation of variables which are included in the developed mathematical model of the student’s educational trajectory. Analyzed are such groups of external variables as geographical location, age and gender, learning style and parameters of user interaction with the user interface, academic performance, level of possession of complex skills. The numerical values of the variables in different conditions are determined. The types of sessions in which information is collected are highlighted. Data arrays from such information sources as the GlobalLab online platform and the electronic diary Diary.ru were analyzed. Using the studied variables, a mathematical model of the student's educational trajectory is presented, which takes into account many properties. The aim of the project is to create a technological model for the application of machine learning methods to predict the optimal educational trajectory of the student. Achieving this goal and using the scientific and technical results of the Project will provide a number of useful technical, technological and technical and economic effects.

Keyword: mathematical model, machine learning, online training, GlobalLab, educational trajectory

References:


How Blockchain Make Better the Supply Chain in the Automotive Industry

Abstract: The traditional SC is a model that meets the supply expectations of intermediaries. There are gaps in this model, such as relationships between members of the supply chain or consumers' ignorance of information about the source of the products. This article presents a new SC model with Blockchain. To do this, we carried out a comparison between the traditional supply chain and the new chain with the Blockchain in order to design a model that meets our needs. This BKC method is a new technology that offers effective and confident solutions in businesses. This new model reinforces the reliability of the system based on transparency and traceability in all chain operations, assets and financial means and removes many of the disadvantages of the traditional supply chain. In addition, the Blockchain coordinates all transactions and multi-agents in the SC.

Keywords: Supply Chain, BKC technology, SC Model

References:
Abstract: This paper presents news video retrieval using text query for Gujarati language news videos. Due to the fact that Broadcasted Video in India is lacking in metadata information such as closed captioning, transcriptions etc., retrieval of videos based on text data is trivial task for most of the Indian language video. To retrieve specific story based on text query in regional language is the key idea behind our approach. Broadcast video is segmented to get shots representing small news stories. To represent each shot efficiently, key frame extraction using singular value decomposition and rank of matrix is proposed. Text is extracted from keyframes for further indexing data. Next task is to process text using natural language processing steps like tokenization, punctuation and extra symbols removal as well as stemming of words to root words etc. Due to unavailability of stemming and other methods of pre-processing of text in Gujarati language, we have given basic stemming technique to reduce dictionary size for efficient indexing of text data. With proposed system 82.5 percent accuracy is achieved on Gujarati news video dataset ETV.

Keywords: Key frame extraction, Gujarati OCR, stemming, video retrieval, text query

References:
Abstract: The Visual Secret Sharing is the technique in which secret information is hidden in the form of image which then divided into shares and these shares are used to decrypt the secret information. The number of shares required is given by the creator of the secret. Minimum those many shares are needed in order to decrypt the secret. If a single share is missing then the secret cannot be decrypted. The Quick Response (QR) code gives quick access to the information contained in it. QR code is 2D representation of the barcode which has capability to store information and can be easily read by machine. Due to easy access to the information stored in it, it is necessary to use some encryption or other protection to the data. Proposed approach to visual secret sharing scheme divides a secret QR code into different shares. In addition, the secret message is recovered by using XOR operation of the shares. This can effortlessly be achieved with the use of smartphones or different QR scanning gadgets. Using optimal partitioning methods the decryption of the message is made difficult to the hackers giving additional security to the data. The message accuracy can be checked by comparing the original message with shared message using hashing techniques. Because the QR code is small in size and has high data storage capacity, it is also resistant to damage so that is information is not lost even if some portion of the QR code is damaged it is best image to be used in visual secret sharing. The proposed approach reduces the risk of data transmission attacks.

Keywords: Advanced Partitioning, Hashing, Quick Response code, VSS.

References:

Authors: G. Dhanasekar, A. Sivakumar, L. Madhumitha, P. Karthikeyan

Paper Title: Effective Selection of Resources for Construction using Program Tool

Abstract: In the Indian scenario construction industry facing a major problem is cost and time overrun. Effective time performance and cost performance are very important to execute the project in a successful manner by keeping them within the prescribed schedule and cost. Overall cost and duration of construction projects affected by the effective resource selection factor. This paper's objective is to rectify the improper selection of resources by using a programming tool. Field survey and codebook study did collect the needed data to feed in the programming tool. The prepared tool get distributed and making to access by every stakeholder of construction projects. This may result in the selection of construction resources as effectively. The term cost overrun in the resource part will be reduced.

Keywords: Cost overrun, Time overrun, Program tool, Android mobile application.

References:
**Abstract:** Reactive powder concrete (RPC) is the ultra-high strength concrete made by cementitious materials like silica fumes, cement etc. The coarse aggregates are completely replaced by quartz sand. Steel fibers which are optional are added to enhance the ductility. Market survey has shown that micro-silica is not so easily available and relatively costly. Therefore an attempt is made to experimentally investigate the reduction of micro-silica content by replacing it with fly-ash and mechanical properties of modified RPC are investigated. Experimental investigations show that compressive strength decreases gradually with addition of the fly ash. With 10 per cent replacement of micro silica, the flexural and tensile strength showed 40 and 46 per cent increase in the respective strength, though the decrease in the compressive strength was observed to be about 20 per cent. For further percentage of replacement, there was substantial drop in compressive, flexural as well as tensile strength. The experimental results thereby indicates that utilisation of fly-ash as a partial replacement to micro silica up to 10 per cent in RPC is feasible and shows quite acceptable mechanical performance with the advantage of utilisation of fly-ash in replacement of micro-silica.

**Keyword:** Reactive powder concrete, RPC, Micro-silica, partial replacement, mechanical properties, fly-ash.

**References:**
get the similarity between the program code components, it is necessary to have an efficient retrieval method. The retrieval phase can then proceed on the program code components as classes, methods, and interfaces depending on components selection by the user. A purely case-based approach is adopted for revising or reusing the existing cases to solve the new problems. Case Based Reasoning (CBR) is the process of solving new problems based on the experience coming from similar past problems.

**Keyword:** reusability, retrieval, similarity measure, CBR

**References:**


**Authors:** K. Vimala Kumar, V. Ganesh

**Paper Title:** Fractional Order Sliding Mode Controller Fed Load-Frequency Control of Multi-Area Deregulated Power System Network

**Abstract:** This paper presents a Fractional Order Sliding Mode Controller (FOSMC) for load frequency control of multi area power system in deregulated environment. In deregulated power system the design of controller is more complicated due to contracted and un-contracted load demands. This proposed controller shall take care of system nonlinearities and uncertainties under bilateral contract scenario for sudden load disturbances. The performance of proposed controller compared to PI controller and without any controller.

**Keyword:** Load Frequency Control, Multi-Area Deregulated Power System, Fractional Order Sliding Mode Controller, PI Controller

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Authors: Shikha, Paramjeet Singh, Rahul Malhotra

Paper Title: Effective and Secure e-Health Cloud Model using Identity Based Cryptography

Abstract: Now days for storing the data and information through World Wide Web only and only one of the most popular applications is cloud computing. Due to availability of cloud computing, users are rapidly increasing in recent years. The cloud computing provides better effective application with adequate cost in a satisfied way for users. Therefore it is necessarily to keep health services data as safe and secure because the exposure of health services data may cause severe effects for the patients. Hence, the employment of a framework for security and privacy is must to store and process extreme sensitive data. So far patients had the owner of personal health records, it encrypted and stored with cipher text in the cloud server. To ensure privacy and security in cloud computing environment is a big issue. The medical system has been designed as a standard, access of records and effective use by medical practitioners as required. In this paper, we propose a novel algorithm along with implementation details as effective and secure e-health cloud model using identity based cryptography.

Keywords: Cloud computing, E-health Cloud Model, EHR Data, Identity Based Encryption

References:

Authors: Rajul Jain

Keywords: Mobile Cloud Computing, Issues and Applications, IJCST Vol. 8, Issue 4, 2017
**Paper Title:** Assessment Cost Estimation for Component Based Software: A Tool Based Technique

**Abstract:** Assessment cost of the software component contributes a major part in software cost estimation and it is one of the major cost of the software out of integration cost i.e. the cost of glue codes, assessment costs and tailoring cost. Many researchers have proposed formulas for evaluating assessment and tailoring costs theoretically. Assessment cost is very often considered to be theoretical cost which involves cost of component selection and composition. According to Moguel Goulao et. al assessment cost for overall component can be measured qualitatively and quantitatively both. He has suggested that qualitative measurement is mostly based on views provided by the experts whereas the quantitative measurement is more subjective and repetitive in nature. Various metrics has been suggested by different authors to quantitatively measure the assessment cost for software components. In this work we applying the metrics on case study of UCRS and developed a tool for evaluating the assessment cost which can be used in calculating the overall cost of the software.

**Keyword:** Software Metrics, Assessment Metric, Component-based software systems, Assessment Cost, Integration Cost, Tailoring Costs.

**References:**

**Authors:** Pooja B. Puse, N. R. Bhasme

**Paper Title:** Performance Analysis of Three Phase Multilevel Inverter with SPWM Techniques used in Railway System

**Abstract:** The medium voltage & high power converters are used in electrical railway system because of its high efficiency. Due to the use of heavy weight in the railway system, conventional inverters causes power quality issues such as harmonic distortion, low power factor, etc. In this paper, new cascaded multilevel inverter (MLI) using cascaded H-bridge is introduced. The advantage of the proposed method is to mitigate power semiconductor switches in number which reduces the cost of the circuit as well as the complexity. The analysis and evaluation of various Sinusoidal Pulse Width Modulation (SPWM) Methods with different levels of an inverter has been modeled and simulated using MATLAB/Simulink.

**Keyword:** Induction Motor, LC filter, Three-phase inverter, SPWM techniques.

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The first step in diagnosis of a breast cancer is the identification of the disease. Early detection of the breast cancer is significant to reduce the mortality rate due to breast cancer. Machine learning algorithms can be used in identification of the breast cancer. The supervised machine learning algorithms such as Support Vector Machine (SVM) and the Decision Tree are widely used in classification problems, such as the identification of breast cancer. In this study, a machine learning model is proposed by employing learning algorithms namely, the support vector machine and decision tree. The kaggle data repository consisting of 569 observations of malignant and benign observations is used to develop the proposed model. Finally, the model is evaluated using accuracy, confusion matrix precision and recall as metrics for evaluation of performance on the test set. The analysis result showed that, the support vector machine (SVM) has better accuracy and less number of misclassification rate and better precision than the decision tree algorithm. The average accuracy of the support vector machine (SVM) is 91.92 % and that of the decision tree classification model is 87.12 %.


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Authors: Soumya P. Panda, Vikash K. Pandit, Rohit Kumar, Sudhanshu Chaturvedi, Akash Das

Paper Title: Natural Language Query Based Question Answering System

Abstract: Development of natural language query based automatic question answering system is in huge demand these days and is a rapidly growing field. It is considered to be the most powerful application for answering different user queries not only on limited domains but also in multi domain environments. In this work, a natural language query based intelligible question answering system is presented that extracts relevant answers from the documents and present the answer in a pre-defined format to the user. A comparative study of the presented model with the traditional techniques is also presented.


References:
Abstract: Time, cost and quality predictions are the key aspects of any software development system. Loses that result due to wrong estimations may lead to irrevocable damage. It is observed that a badly estimated project always results into a bad quality output as the efforts are put in the wrong direction. In the present study, author proposed ABC-COCOMO-II as a new model and tried to enhance the extent of accuracy in effort quality assessment through effort estimation. In the proposed model author combined the strengths of COCOMO-II (Constructive Cost Model) with the Artificial Bee Colony (ABC) and Neural Network (NN). In the present work, ABC algorithm is used to select the best existing effort estimation models. The simulation results had shown that the proposed combination outperformed in terms of quality estimation with small variation of 5-10% in comparison to the actual effort, which further leads to betterment of the quality. More than 90% projects results into high quality output for the proposed algorithmic architecture.

Keyword: Effort estimation, Artificial Bee Colony (ABC), Neural Network (NN), Constructive Cost Model (COCOMO-II)

References:
To further the progress of sustainable development and solve real-life problems we have seen many processes are applied in our life, like artificial intelligence and decision-making. Morocco is one of the countries that rely heavily on agriculture and food production. So, food production is considered the basic needs of a human being for that we have seen fast advancements in agriculture productivity to meet the projected demand. However, with the time passing by, all species of plants are subjected to various types of diseases that cause huge damage. Although the observation of variation in the infected part of the leaf plant is very important but not enough because the perception of the human eye is not so much stronger. The identification of plant diseases is a very important task in the agriculture area. So, the best identification means there is a huge gain on agricultural productivity, quality, and quantity. To detect plant diseases in an earlier stage we require efficient and precise techniques to assist farmers in decision-making. This article presents, first, an overview of plant diseases from leaves images and different detection methods.

**Keywords:** Smart agriculture, Computer vision, Image processing, Plant leaf diseases detection, Classification, Agriculture productivity, Computer vision, Image processing, Plant leaf diseases detection, Classification

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Authors: Assia Ennouni, My Abdelouahed Sabri, Abdellah Aarab

Paper Title: Plant Diseases Detection and Classification Based on Image Processing

Abstract: To further the progress of sustainable development and solve real-life problems we have seen many processes are applied in our life, like artificial intelligence and decision-making. Morocco is one of the countries that rely heavily on agriculture and food production. So, food production is considered the basic needs of a human being for that we have seen fast advancements in agriculture productivity to meet the projected demand. However, with the time passing by, all species of plants are subjected to various types of diseases that cause huge damage. Although the observation of variation in the infected part of the leaf plant is very important but not enough because the perception of the human eye is not so much stronger. The identification of plant diseases is a very important task in the agriculture area. So, the best identification means there is a huge gain on agricultural productivity, quality, and quantity. To detect plant diseases in an earlier stage we require efficient and precise techniques to assist farmers in decision-making. This article presents, first, an overview of plant diseases from leaves images and different disease classification approaches that can be used for plant leaf disease detection.
Abstract: In the present work multi-walled carbon nanotubes (MWNTs), the highly anisotropic, promising nanofillers used as additional structural reinforcement to improve the tensile, fatigue and damping capabilities of glass fiber reinforced composites (GFRP) for the Micro Air Vehicle (MAV) application. Further, the GFRP nanocomposites have been strengthened by making use of strong anisotropy of MWNT’s by aligning them on each layer of GFRP laminate. GFRP nanocomposites have been prepared for very low weight percentage (0.5 wt%) of MWNT, with alignment and without alignment. The alignment has been done with the newly developed in-house electrode-fixture assembly, which can be scalable to any size. The result shows that the alignment of MWNTs on GFRP lamina has a significant effect over GFRP lamina without MWNT alignment and the neat GFRP (without any nano reinforcements) without sacrificing any of the mechanical properties.

Keyword: Multi-Walled Carbon Nanotubes (MWNTs), Glass fiber reinforced composites, Nanotube Alignment, Fatigue, Structural Damping.

References:

Authors: Chandragiri Radha Charan, Palla Tejaswini

Paper Title: Design of Net Energy Metering System for a Hybrid Energy Storage System

Abstract: The expectation for everyday comforts and success of a country fluctuate legitimately with the expansion in the utilization of intensity. The power necessity of the world is expanding at a disturbing rate because of mechanical development, expanded and broad utilization of electrical device. As per world vitality report, around 80% of our vitality is received from regular non-renewable energy sources like oil, gaseous petrol and coal. It is evident from the current scenario that world will have to face the shortage of resources within no time. Hence, it is a call for an alternative vitality source search and there are many such attempts in recent times. The best elective source is sun powered vitality. This targets in structuring a hybrid Energy Storage System with Net Metering billing methodology to make the client profit from Variable Rate Electricity. Net energy metering system is an uncommon charging game plan that furnishes acknowledge to clients for sun powered PV frameworks for the full retail estimation of the power their framework creates. Under NEM, client’s electric meter monitors how much power is devour ed by the client and how much abundance power is produced by the framework and sent go into the electric utility lattice.

Keyword: Energy storage systems [ESS], net energy metering [NEM], time-of-use [TOU], Vitality.

References:


Authors: Sunaina Sharma, Aparna N. Mahajan, Ramesh C. Poonia

Paper Title: SA-DSR: a Bandwidth Optimizing Technic for Dynamic Source Routing Protocol

Abstract: An assortment of wireless mobile nodes with no fixed infrastructure is known as Mobile Adhoc NETwork (MANET). MANETs found its application where quick sharing of data is desired without any fixed infrastructure such as online conferences, emergency search during natural disasters management operations, defense, and online meetings and many more. In MANET all the nodes are permitted to change their geographic locations arbitrarily [3]. These networks have dynamic topology which faces the challenge of limited bandwidth wireless network. This is because of the shared nature of MANET which has limited bandwidth, transmission power, limited range of wireless devices and battery limitation. This paper proposed a new protocol namely SA-Dynamic Source Routing Protocol (SA-DSR).

Keyword: DSR, SA-DSR, Bandwidth, Battery Saving, Route Discovery, NS-3.

References:

Authors: Anagha Kulkarni, A. Ramakrishna

Paper Title: Physical Layer Security Requirements and Solutions for Device to Device Communication

Abstract: Device-to-Device (D2D) communication is used for cellular networks. D2d communication is the direct communication from one mobile station to other mobile station, without the involvement of the base station. By using the device to device communication lesser delay is possible. By using d2d communication along with 5G network improves the bit rate. 5G network provides the communication with more data rate and lesser delay. Security and privacy are very important for communication. In this paper we secure privacy requirements of device to device communication and physical layer privacy solutions are discussed.

Keyword: D2D communication, security, 5G

References:
3. Authors Michael Haus, Muhammad Waqas, Aaron Yi Ding, Yong Li, Senior Member, Susa Tarkoma, and Jörg Ott, published a paper on ‘Security and Privacy in Device-to-Device (D2D) Communication: A Review’, IEEE, DOI 10.1109.

Authors: S. Parameswari, K. Kavitha, P. Elango

Paper Title: Distribution of Data Dissemination Model using DTN Routing Protocols
Abstract: In this research paper, we compare the protocol’s performance together with the experimental results of optimal routing using real-life scenarios of vehicles and pedestrians roaming in a city. In this research paper, we conduct several simulation comparison experiments (in the NS2 Software) to show the impact of changing buffer capacity, packet lifetime, packet generation rate, and number of nodes on the performance metrics. This research paper is concluded by providing guidelines to develop an efficient DTN routing protocol. To the best of researcher (Parameswari et al.) knowledge, this work is the first to provide a detailed performance comparison among the diverse collection of DTN routing protocols.

Keyword: DTN, Fog Route, IoT, Delay Tolerant.

References:

Authors: Romayln H. Gomez, John Leslie M. Dizon, Christine Ann S. Teodoro, Joeme Carl Demegillo, Noel T. Florencio

Paper Title: Electrical Percent Loading Assessment for the Distribution Transformers Residential-Used of a Barangay

Abstract: Proper rating of transformer is important to maximize the useful life and efficiency of the equipment. A higher or lower rating of the transformer can provide either a higher system loss or disconnection of consumer to an electricity provider. In this study, assessment of residential transformer of a barangay was considered. The percent loading of each transformers was evaluated by the use of the standard set by National Electrification Administration (NEA). The software used in the study is Microsoft Excel 2016 for determining the percent loading of each residential transformer. After the percent loading was identified, clustering of transformers was made according to the loading conditions. Changes in rating were also performed to correct the percent loading of the transformer. From 2017 to 2019, 13 transformers or 48.14% were underloaded while 6 or 22.22% were found to be overloaded. By changing the rating of the transformer in the barangay, the percent loading of the 6 overload transformers were corrected. For the 13 underloads, 12 of which were amended. Moreover, there is still an underload unit RT19 considering the change in rating the available lowest rating of the transformer was already reached. The researchers recommend using load centering to minimize the number of transformers. To compare the monthly kWhr consumption, the monitor of the daily basis kWhr ingestion using Automated Mapping/Facility Management/ Geographical Information System or AM/FM/GIS was endorsed to identify the peak load of each transformer.

Keyword: kVA Rating, Residential Transformers, Overload, Underload

References:
Abstract: Permanent-magnet synchronous motors (PMSM) are becoming day by day due to its advantages like better efficiency, good power factor, higher torque density and easy availability of efficient semiconductor devices and low-cost micro-controllers. The advantages of PMSM and availability of state art semiconductor technology has made PMSM a better choice for electric vehicle. The implementation of energy recovery scheme further enhances PMSM use in e-vehicle. Authors presented an innovative regenerative braking scheme for energy recovery in e-rikshaw which enhances E-rikshaw running per charging by 20%. Battery charging is made possible by an innovative logic, derived in real time, to boost the back emf of PMSM. The proposed concept is verified by simulation results in PSIM software-a software for power electronic converter simulation.

Keyword: E-Rikshaw, Permanent magnet synchronous motor (PMSM), Inverter, Battery, Regenerative braking.

References:

Abstract: Microorganisms and algae growth on surface water are stimulated in surface water in the presence of effluent wastewater from edible oil industries. This leads to depletion of dissolved oxygen (DO) by eutrophication process result in negative impact on aquatic environment. The new regulation in environment agency and increasing market demand are forcing the industrial sectors to consider finding new solutions and sustainable techniques of the wastewater treatment. In this study, reverse osmosis (RO) membrane filtration has been applied to assess the removal performance of emulsified oil from wastewater. Polysorbate 20 (Tween 20) was used as an oil/water emulsifier. Effect of oil concentrations in terms of chemical oxygen demand (COD) and activated carbon unit on removal efficiency and permeate flux have been studied in details. The results elucidated significant improvement in removal efficiency reached to “98%”. The obtained results show promising application of RO membrane (polyamide membrane) at flux “17 L/m2 hr-1”. The experiments showed that membrane filtration of wastewater from edible oil is a convenient technique for a possible removal of high concentration of oil (up to 6000 mg/L) with “98%” removal efficiency at permeate flux “17 L/m2 hr-1” and low fouling rate.

Keyword: Edible oil effluent, Reverse osmosis, COD, Removal efficiency.

References:
5. S. Deng, G. Yu, Z. Jiang, R. Zhang, Y.P. Ting, Destabilization of oil droplets in produced water from ASP flooding, Colloid Surf. A:
In this research paper, a modern framework is presented to detect anomaly in medical wireless body sensor network systems that are incorporated in distant observation of patient's vital signs. The suggested framework affects analysis of data in a sequential manner using a mini gateway utilized as a root station to discover abnormal alterations and to deal with inaccurate computations in gathered medical information minus advance awareness of irregular occurrences or consistent data patterns. The suggested perspective relies on Principal Component Analysis (PCA) utilized in spatial analysis and dimension reduction for gathered medical details. The key goal is distinguishing alterations and to deal with inaccurate computations in gathered medical information minus advance awareness of effects analysis of data in a sequential manner using a 

Keywords: WSN, WBSN, Anomaly Detection, Dimension Reduction, PCA,

Authors: Aaradhya Shukla, Ayush Singh Chauhan, J. Kalaivani

Paper Title: Round Robin Load Balancer for the Three Node Swarm Cluster for Hosting a Service on the Cloud

Abstract: In this project we will be creating an application which uses socket programming for communication and all of the data/metadata are saved in mongo DB. We will be taking this application and hosting it on a 3 node swarm cluster. This cluster will be using Docker swarm technology to create a private network through which each of the nodes can talk to each other along a specified RPC port. So, based on this concept we will be making a Docker container which will handle the execution of multiple processes which lead to working of different projects concurrently. Docker is a PC program that performs working framework level virtualization otherwise called containerization.

Keyword: project, programming for communication, called containerization.

References:
4. K. S. Akshay, K. J. Anish, K. Amit, K.
9. The Docker Book | John Martin and James Turbull, 2016 publications

Authors: O. P. Sheoran, Vinay Kumar, Hemant Poonia, Komal Malik

Paper Title: Principal Component Analysis - Online Statistical Analysis Tool

Abstract: An online module to deal with PCA has been developed in ASP scripting language based on Server-Client Architecture. The module produces descriptive statistics via sub-program. Descriptive Stats, computes eigenvalues and eigenvector using MxEigen Jacobisub-program, order eigenvector through MxEigsrtsub-program and finally produces eigenvalues, eigenvectors, output loadings and components scores through Output Eigenval, Output Loadings, Output Scoressub-programs. A user friendly interface has been developed for entering or pasting the data, entering various parameters such as number of variables, number of observations and selection of covariance/correlation matrix. A complete procedure for how to perform principal component has also been provided in help file.


References:
Authors: Y. P. Patil, H. G. Patel

Paper Title: Robust Control Design using Discrete Sliding Mode Control for Higher-Order Uncertain Systems

Abstract: This paper considers a tracking problem on discrete-time higher-order linear time-delay systems. The improved observer-model following sliding mode controller (OMF-SMC) is proposed. The combination uses a classical Luyenberger observer based controller to achieve predefined process output and sliding mode controller is added to assure the robustness despite of uncertainty and external disturbances. To show the effectivity of proposed method, four error performance indices, maximum peak overshoot and settling time are considered rigorously. The simulations results on the non-oscillatory, moderate oscillatory, integrating, unstable and non-minimum phase system demonstrates that the proposed approach performs better compared with classical PID controller, continuous and discrete sliding mode controllers.

Keywords: Discrete-time sliding-mode control, higher order delay time process, observer, model following control.

References:
31. J. E. Ackerman, Pole Placement Control, Control Systems, Robotics and Automation, vol. III.
Abstract: Due to the pressure of decreasing the carbon emission and inadequate sources of fossil fuels being a major reason, Renewable Energy is being incorporated rapidly throughout the globe. Smart grids have a substantial prospective towards tapping the non-conventional energy sources in their grid-connected mode or stand-alone mode [2]. Such limited systems across the sectarian domains of distributed generation systems despite the fact of tapping non-conventional energy sources, stay expected to be the advanced networks which may assist in transmuting the power and energy segment through not only delivering energy to distant and isolated communities, but also through better safekeeping and dependability of electrical energy resource in the urban zones [2][3].

Predominantly, due to a very large or bulk dispersion of non-conventional energy, the system units are expected to practice substantial encounters in sheltered and steady state process, very prominently on advanced stages of inconsistent and spasmodic non-conventional sources (solar and wind).

This paper is aimed to investigate the influence of the distributed generation like Wind and PV on the power system due to the large diffusion of non-conventional sources.

Keyword: Non-Conventional Energy Sources, Uncertainty, penetration level, optimization techniques, Constraints, Optimal location.

References:
5. Jingxiao Zhu 1,*, ID; Jiacai Li 1, Dingge Chang 2, Guanjun Zhang 2 and Jiming Chen 1, Optimization of Antenna Array Deployment for Partial Discharge Localization in Substations by Hybrid Particle Swarm Optimization and Genetic Algorithm Method, Energies 2018, 11, 1813; doi:10.3390/en11071813
6. Weizhe Zhang 1,*, Hui He 1 , and Xuehui Wang 1 , Solving Energy-Aware Real-time Tasks Scheduling Problem with Shuffled Frog Leaping Algorithm on Heterogeneous Platforms, sensors, ISSN 1424-8220 www.mdpi.com/journal/sensors.

This paper is aimed to investigate the influence of the distributed generation like Wind and PV on the power system due to the large diffusion of non-conventional sources.

Keyword: Non-Conventional Energy Sources, Uncertainty, penetration level, optimization techniques, Constraints, Optimal location.
References:
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Authors: B. Shankarlap, P. D. Sathy

Paper Title: Detection of Abnormal Tumor Regions in Ultrasonic Thyroid Images using SVM Classification Method

Abstract: Detection of tumor or abnormal regions in thyroid gland is difficult task in human. The following methods are presently used for detecting the abnormal regions in thyroid gland as blood test, sample testing from thyroid gland and image processing method. This paper develops a methodology to detect the tumor regions in thyroid images using image registration and image enhancement technique. The Support Vector Machine (SVM) classifier is operated in two modes as training pattern generation and testing mode. The generation of training pattern from both normal and abnormal ultrasonic thyroid images. This proposed method for thyroid tumor region detection obtains 96.54% of sensitivity, 97.57% of specificity and 98.56% of average tumor segmentation accuracy.

Keyword: Tumor, thyroid, images, SVM, mode.

References:

Authors: Abdullah A. Alshehri, Soundararajan Ezekiel

Paper Title: DCNN Optimization using Wavelet-based Image Fusion

Abstract: We propose to develop image fusion algorithms and architecture for enhanced deep learning and analysis of large sets of data. Usually, images captured from different perspectives, using different types of sensors, different frequencies, etc. must be considered separately and interpreted by human operators. Using image fusion techniques, different forms of sensor information into a single data feed for a neural network to interpret and learn from can be implemented. This will increase the accuracy of neural network classification, as well as improve effectiveness in situations involving suboptimal conditions, such as obstructed or malfunctioning sensors. Another disadvantage of current deep learning technique is that they often require massive datasets to train to an acceptable level of accuracy, especially when situations involve potentially thousands of classification categories. Increasing the size of the dataset exponentially increases the amount of time to train, even when training on relatively simple neural network architectures. In protection scenarios, where new classes of threats can emerge frequently, it is unacceptable to have to take down the security system for long periods of time and train it to identify new threats.

Keyword: Image Fusion, Multifractal Analysis, Convolutional Neural Networks, Heterogeneous DCNN Fusion.

References:
Mill scale is a valuable waste material that contains high amount of iron, little impurities and also is chemically stable composition. It is produced from the hot rolling processing in steel industry. The second waste is Elkheim pellets fine waste that produced as the results of handling in the El-Dekheila plant, West of Alexandria on the Northern coast of Egypt. This paper studies the recycling of mill scale and El-Dekheila pellets fine waste in iron and steel industries by reduction using coke breeze in the form of pellets. Characterization of raw materials were performed which are XRF, XRD and screen analysis. Reduction of pellets consisting of El-Dekheila pellets fine waste and different percentage of mill scale was investigated with 4 stoichiometric coke breezes using thermo-balance. The reduction increases with increasing coke breeze. The kinetics of reduction of these pellets were studied using different percentage of mill scale (20,60 and 80%) and at different temperatures ranging from 900 to 1050°C. The results displayed that the reduction process was controlled by Avrami and Erofeev involving nucleation of reduced phases followed by grain growth. Also, that the maximum reduction 80% can be reached after 125 minutes using 20% mill scale. The activation energies of reduced 20, 60 and 80% mill scale were found to be 112 kJ.mol-1, 81 kJ.mol-1 and 107.8 kJ.mol-1 respectively.

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Mill scale is a valuable waste material that contains high amount of iron, little impurities and also is chemically stable composition. It is produced from the hot rolling processing in steel industry. The second waste is Elkheim pellets fine waste that produced as the results of handling in the El-Dekheila plant, West of Alexandria on the Northern coast of Egypt. This paper studies the recycling of mill scale and El-Dekheila pellets fine waste in iron and steel industries by reduction using coke breeze in the form of pellets. Characterization of raw materials were performed which are XRF, XRD and screen analysis. Reduction of pellets consisting of El-Dekheila pellets fine waste and different percentage of mill scale was investigated with 4 stoichiometric coke breezes using thermo-balance. The reduction increases with increasing coke breeze. The kinetics of reduction of these pellets were studied using different percentage of mill scale (20,60 and 80%) and at different temperatures ranging from 900 to 1050°C. The results displayed that the reduction process was controlled by Avrami and Erofeev involving nucleation of reduced phases followed by grain growth. Also, that the maximum reduction 80% can be reached after 125 minutes using 20% mill scale. The activation energies of reduced 20, 60 and 80% mill scale were found to be 112 kJ.mol-1, 81 kJ.mol-1 and 107.8 kJ.mol-1 respectively.

Keywords:
Kinetics, Reduction, Mill Scale, El-Dekheila pellets, Coke Breeze, Activation Energy

References:

Abstract:

Diabetes has transformed into the worldwide diseases and can occur for all age groups irrespective of their gender. Unlike other diseases, Diabetes needs continuous monitoring as it leads to much adverse effect on functioning of human body. Especially, the diabetes that occurs in female during the pregnancy had its impact over the mother along with their infant before its birth. Many studies showed early prediction can prevent and delimit the challenges that were posed by diabetes among pregnant women. Several health care prediction models often suffer from inconsistencies in data and feature selection that reduce the prediction performance. In the present work, we had proposed the novel Health Care Neural Network-Long Short Term Memory (HCNN-LSTM) to predict the Pregnancy Period Diabetic and Blood Pressure. The Pima Indian diabetes dataset was employed construct the proposed prediction model to predict the patient as diabetic and non-diabetic. For the purpose of comparison, the decision tree, random forest and Navies’ Bayes algorithm are implemented for classification. From the analysis, it was evident that the proposed HCNN-LSTM showed optimum values on performance metrics than the other classifiers. The proposed work can be expanded considering several features of diabetic prediction in future.

Keywords: Diabetes, Blood Pressure, pregnancy, prediction model, Proposed HCNN-LSTM.

References:

Authors: T. Papitha Christobel, A. Sasi Kumar

Paper Title: Pregnancy Period Diabetic and Blood Pressure Predictive Analysis using HCNN-LSTM
Various machining of reinforcement polymer composites. While using standard TiN coated HSS composite materials using a saw drill and a core drill, Effect of Thrust Force and Torque Analysis on Chemically Treated Kevlar Reinforced Composites during Drilling Process

Abstract: Composites applications are widely used in many areas. Due to the enhancement of various properties. Now a days kevlar composite has widely used because of various properties like tensile, compression, shear. Drilling is the major important machining process in making assembly of components with a negligible tolerance. Drilling in kevlar composites is difficult due its extraordinary mechanical properties like high toughness and hardness. Thrust force and torque are the major influences for delamination during various machining of reinforcement polymer composites. Various parameters are considered to reduce defects like delamination and fiber crushing. It is found from various literature reviews surface modification has enhancing the intermolecular bonding strength between fiber reinforced layers. Our paper deals with affect of process parameters on thrust force with respect to torque during drilling of Kevlar composites with and without chemically treated fibers. The composite lamina is prepared for the investigation of 60/40 kevlar-polyster resin on weight basis. The chemicals are used to treat the fibers such as Dichloromethane, methanol and distilled water with specified intervals of time. Twist and core drill bits are used to make holes. Results suggested that twist drill with chemically treated fiber having minimum thrust force. Our aim to identify the minimum delamination of composites.

Keyword: Delamination, Drilling, Kevlar, Thrust force, Torque

References:

Authors: V. S. Chavhan, G. A. Hinge

Paper Title: Controlled Ski-jump Spillway Model Design According to IS code

Abstract: Ogee spillways are used to monitor reservoir releases. Ogee spillway is a weir with an ogee (S-shaped) overflow profile. A curve solid surface provided at the toe of the spillway is known as a ski-jump bucket. Ski-jump bucket type energy dissipator is considered more suitable when tail water depth is much lower than the sequent depth of a hydraulic jump. In the ski-jump bucket, the flow coming down the spillway is thrown away in air from the toe to a considerable distance as a free discharging upturned jet (trajectory), which falls on the channel bed downstream. In the ski-jump bucket, only part of the energy is dissipated through interaction of the jet with the surrounding air. The remaining energy is accorded to the channel bed below. This paper describes the design of a Controlled ski-jump spillway model with guidelines in accordance with the IS Code.

Keyword: Ogee spillway, Ski-jump bucket, Radial gate, Physical model, Trajectory, IS code.

References:
515.

Authors: Arjun B C, H N Prakash

Paper Title: Multimodal Biometric Recognition: Fusion of Modified Adaptive Bilinear Interpolation Data Samples of Face and Signature using Local Binary Pattern Features

Abstract: Biometric based authentication systems use particular person characteristics which might be based on either behavior like voice, signature etc. or body structure like face, iris, palm print, fingerprint, etc. The performance of any unimodal biometric arrangement is depending on elements like surroundings, atmosphere, and sensor precision. Also, there are numerous trait unique demanding situations which include pose, expression, growing old and so forth for face reputation, occlusion and acquisition related problems for iris and terrible high-quality and social popularity related troubles for fingerprint. Hence, fusion of more than one biometric samples, traits or algorithms to achieve quality performance is another way to reap the better overall performance. In current scenario many researchers concentrating on Multimodal Biometrics with new fusion techniques ideas.

We propose a new method of feature level fusion which uses Modified Adaptive Bilinear Interpolation (MABI) method to increase the resolution of data sample, which gives better features for fusion which gives more accurate results. In this work, experiment is done on AT&T face Cambridge University Computer Laboratory and MCYT signature Biometric Recognition Group datasets with combination of both unimodal and multimodal traits. K Nearest Neighbor (KNN) and Ensemble methods are used for classification. The proposed biometric system can be used in biometric surveillance, biometric screening for secured places, forensic applications etc.

Keyword:

Biometrics; Unimodal biometric; Multimodal biometric; Local Binary Pattern (LBP), Feature Level Fusion; Modified Adaptive Bilinear Interpolation (MABI).

References:
7. Mamta et.al “Multimodal biometric system built on the new entropy function for feature extraction and the Refined Scores as a classifier”, Elsevier, Expert Systems with Applications 42, 2015, pp702–3723

Authors: Sh. N. Yaxshiye, Kh. Kh. Ashurov, A. J. Mamadiyarov

Paper Title: Dynamics of Spindle Assembly of Metal-Cutting Machine

Abstract: The methods of conducting an experiment to study the dynamic characteristics of the elements of the spindle assembly are considered. The results of experimental studies of the dynamics of the spindle assembly of a cutting machine are presented.

The method of calculation of dynamic characteristics, and the own frequencies of fluctuation of spindle node of the metal cutting machine «HT-250M» are described. The design of the features of the spindle unit was carried out in the software «APM WINMACHINE».

Keyword:
spectrum, oscillations, machine tools, dynamics, rigidity, vibrations, diagnostics, metal-cutting machines, spindle, frequency, mathematical modelling.

References:

517.

Authors: Manish R. Moroliya, Vinay Chandra Jha

Paper Title: Optimization of Operational Method to Improve Sustainable Energy Efficiency of Auxiliaries in a CFBC Coal Fired Boiler- Problem Statement and Probable Solution.
Abstract: The thermal power station uses some amount of their generated power to be consumed by its auxiliary power requirements. The auxiliary power consumption in the country is around 8-9%. The auxiliary power consumption can be minimize by increasing the load factor, by operational optimization, applying advanced control techniques and energy efficient measures. By decreasing the auxiliary power extra power will be available at grid. Thus, the aim of the audit is to determine the potential areas for minimizing auxiliary power consumption by operational optimization and energy management policy to improve energy efficiencies of auxiliaries. This study will give the basic understanding of energy management approach, energy efficiency and energy saving areas so as to achieve maximum plant efficiency resulting fuel saving. Boiler feed pump is one of the equipment in a power plant with the highest auxiliary consumption. The research is specifically targeted at the feed water system and its potential for obtaining considerable energy and cost savings.

Keyword: energy audit, boiler feed pump, auxiliary, differential pressure, drum level control, cfbc boiler.

References:

Authors: Sadhana Priyadarshini, Sireesha Rodda

Paper Title: Map Reduce Based Optimized Frequent Subgraph Mining Algorithm for Large Graph Database

Abstract: Distributed System, plays a vital role in Frequent Subgraph Mining (FSM) to extract frequent subgraph from Large Graph database. It help to reduce in memory requirements, computational costs as well as increase in data security by distributing resources across distributed sites, which may be homogeneous or heterogeneous. In this paper, we focus on the problem related complexity of data arises in centralized system by using MapReduce framework. We proposed a MapReduced based Optimized Frequent Subgrph Mining (MOFSM) algorithm in MapReduced framework for large graph database. We also compare our algorithm with existing methods using four real-world standard datasets to verify that better solution with respect to performance and scalability of algorithm. These algorithms are used to extract subgraphs in distributed system which is important in real-world applications, such as computer vision, social network analysis, bio-informatics, financial and transportation network.

Keyword: Distributed System, subgraph, support count, Graph Database, Mapper, and Reducer.

References:
Authors: Tumblanath Samantara, Saroj Kumar Mishra

Paper Title: Impact of Electrification and Particle Loading on Velocity Profile of Dusty Fluid Flow Over a Stretching Sheet

Abstract: The performance of incompressible, laminar, boundary-layer flows over a semi-infinite horizontal stretchable plate is considered. The dusty fluid flow problems are modelled and solved in agreement with two-way coupling model. The particle phase momentum equation in the vertical direction is considered where as that for fluid phase is neglected. Here the electrification term added in not from the supply from outside rather it is the generation due to collision of particles So the effects of particle loading and electrification on velocity profile have been studied. From the result analysis it is concluded that electrification and particle density have significant effect on particle phase velocity, whereas carrier fluid phase has negligible effect. The particle phase velocity increases with increasing of electrification parameter and decreases with increase of loading ratio.

Keyword: Loading ratio, collision of particles.

References:

Authors: Nor Athira Jamaluddin, Norfazillah Talib, Amiril Sahab Abdul Sani

Paper Title: Tribological Assessment of Modified Jatropha Oil with hBN and Graphene Nanoparticles as a New Preference for the Metalworking fluid

Abstract: Recently, manufacturing industries have concerned about the utilization of mineral-based metalworking fluids because of the numerous deleterious impacts on the health of workers and the environment as well as the shortage of mineral resources. Due to this scenario, the vegetable-based oils have emerged the researchers’ attention as a suitable replacement for the mineral based metalworking fluids since it is highly biodegradable, low toxicity and renewable resources. Nevertheless, the main problem of the utilization of the vegetable-based oils is that it shows poorer thermal and oxidative stability. The great development technologies had influenced the application of the nanofluids by adding the nanoparticles additives to the base oil as it gives better physical and properties, thus improved the tribological behavior. This study focuses on developing a new green synthesis and formulation of nanofluids from chemically modified jatropha oil by blending with nanoparticles additives such as hexagonal boron nitride (hBN) and graphene at the minimum concentrations (0.01, 0.025 and 0.05 wt.%). The physical testing such as kinematic viscosity, viscosity index and flash point were conducted and compared with synthetic synthetic ester (SE). Then, tribological testing was performed by using four ball tribo test and analyses in terms of coefficient of friction, worn surface analysis and surface roughness. From the results, the sample of MJOs had showed an enhancement by providing higher viscosity index. The results demonstrate that MJOg2 provided the lowest coefficient of friction while MJOh3 and MJOg3 had smoother worn surface as it has lowest value of surface roughness in comparison with others sample. It can be concluded that the MJO samples have high potential substitution to mineral-based oil as a sustainable metalworking fluid in machining processes.

Keyword: Vegetable-based oil, Nanofluid, Tribology, Sustainable Metalworking Fluid, Nanoparticle
This paper introduces a scheme for retrieving deep features to carry out the procedure of recognising brain tumors from MR image. Initially, the MR brain image is denoised through the Modified Decision Based Unsymmetric Trimmed Median Filter (MBDUTF) after the contrast of the image is improved through Contrast Limited Adaptive Histogram Equalization (CLAHE). Once the pre-processing task is completed, the next phase is to extract the feature. In order to acquire the features of pre-processed images, this article offers a feature extraction technique named Deep Weber Dominant Local Order Based Feature Generator (DWDLOBFG). Once the deep features are retrieved, the next stage is to separate the brain tumor. Improved Convolution Neural Network (ICNN) is used to achieve this procedure. To explore the efficiency of deep feature extraction and in-depth machine learning methods, four performance indicators were used: Sensitivity (SEN), Jaccard Index (JI), Dice Similarity Coefficient (DSC) and Positive Predictive Value (PPV). The investigational outputs illustrated that the DWDLOBFG and ICNN achieve best outputs than existing techniques.

**Keywords:** MR Brain Tumor, CLAHE, Machine Learning Scheme, MBDUTFM, DWDLOBFG and ICNN.

**References:**
Abstract:

IEEE 802.15.4e LLDN mechanism designed for industrial applications in WSNs,‖ Wirel. Networks, 2016.

Authors:

Phaneendra Kumar Chebrolu, Bandi Kiran Kumar

Paper Title:

Improvement of Network Utility and Energy Efficiency in DSME based Internet of Things Networks

References:


Authors: Gaurav Kumar Srivastava, Santosh Kumar

Paper Title: “G’S-Remedies 1.0 (Directus) : Making Analysis Simple” a Unique Amalgamation of Genetic Disorder Database with Sequence Analysis Tools

Abstract: Paper G’S-REMEDIES 1.0 (DIRECTUS) is a specially designed web-based software. That software fulfills the elementary requests of a Bioinformatician during the study and analysis of principal sequences, PERL, PERL-CGI, and HTML are used for the designing and development of the DIRECTUS. This special tool can be helpful for computing various parameters that are helpful in ANALYSIS of NUCLEOTIDE and AMINO ACID RESIDUES, and the READING FRAMES. The G’S-REMEDIES 1.0 (DIRECTUS), tool eamates with the personal unique database on the GENETIC DISORDERs. This unique database gives full details almost any specific genetic disorder and it also gives information about mutation type and genetic disorder affected chromosome. The latest version provides more than fifteen analysis tools and also gives a complete image of more than fifty genetic disorders, and next versions of the tool will comes with databases of viral infection databases such as eye disorders databases, and also improve to PRIMER designing tools, etc. G’S-REMEDIES 1.0 (DIRECTUS) is freely available for academic use.

Keywords: G’S-REMEDIES 1.0 (DIRECTUS), Directus, Genetic Disorder Database, Sequence Analysis tools.

References:

Authors: Mary N Peter, M. Pushpa Rani

Paper Title: Traffic Management for Smart Cities using Traffic Density and Swarm Algorithm to Inform Diversion Route

Abstract: Number of vehicles increasing day by day in the world which results in traffic, air pollution, delay in reaching destination. Traffic density is increased in the roads, especially in the signals. The traffic congestion has negatively affected the efficiency, aggressiveness, and financial development of a nation. Thus, congestion control of traffic has become a significant zone of research, and a substantial number of answers for this issue left different research endeavors in the said field in recent time. In this way, the traffic volume changing at some time, and in this way, long traffic lines are produced at the street intersections. Consequently, the Intelligent Transport System answers these related issues. It has incredible possible and ability to make transportation systems safe and smart efficiently. ITS provides the accessing and driving services of effortlessly participating transportation systems in a smart city. Traffic congestion can be managed in a proper manner by using time estimation and other route diversion in a pre-informed way. For this, we have to calculate the values of traffic congestion density and find the neighboring route. Density algorithm and distance measure algorithm were used to find the traffic density, and the Swarm algorithm was used to find the nearby path.

Keywords: IoT, Traffic analysis, Congestion control, Density Algorithm, and Swarm Intelligence

References:
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Authors: Kishori Patil, Santosh Chobe

Paper Title: Leaf Disease Detection using Deep Learning Algorithm

Abstract: India is a nation of agriculture and over 70 per cent of our population relies on farming. A portion of our national revenue comes from agriculture. Agriculturalists are facing loss due to various crop diseases and it becomes tedious for cultivators to monitor the crop regularly when the cultivated area is huge. So the plant disease detection is important in agriculture field. Timely and accurate disease detection is important for the loss caused due to crop diseases which affects adversely on crop quality and yield. Early diagnosis and intervention can reduce the loss of plant due to disease and reduce the unnecessary drug usage. Earlier, automatic detection of plant disease was performed by image processing. For disease detection and classification, image processing tools and the machine learning mechanism are proposed. Crop disease will be detected through various stages of image processing such as image acquisition, pre-processing of image, image feature extraction, feature classification, disease prediction and fertilizer recommendation.detection of disease is important because it will may help farmers to provide solution to prevent this disease.


References:


Authors: Sabarish Kumar P, Arthur Jebastine Sunderraj, K. Arun Vasantha Geethan, Harish Praveen, Gilbert

Paper Title: Performance Analysis of Diesel Engine using Copper Oxide Nano Additive
Abstract: This experimental study focuses on investigation of performance and utterance attributes of a normal diesel engine with biodiesel prepared from pongamia. This study aims to reduce the emission of nitrogen oxide by adding an oxidation inhibitor Tert-Butylhydroquinone (TBHQ). The analysis for each sample is to be carried out in compression ignition engine (standard diesel engine). The engine is tested with standard diesel, pongamia methyl ester biodiesel without any additives. Then the analysis is to be carried by adding nano additive copper oxide for about 50 ppm in the above mentioned fuels. From this the best combination is found out and test is again carried out by adding the oxidation inhibitor.

Keyword: Pongamia biodiesel, Tert-Butylhydroquinone (TBHQ), copper oxide.


Authors: Ch. Kodanda Ramu, T. Sita Mahalakshmi

Paper Title: An Efficient Image Retrieval System using GLCM Features and Kullback-Leibler Divergence

Abstract: Image processing is a process of extracting features from an image. The features of the image are extracted using the correlation model, based on Gray-Level Co-Occurrence Matrix (GLCM). Each of the images considered for data set are converted into gray level before applying Gaussian Mixture Model (GMM). The features extracted from GLCM are given as an input to the model-based technique so that the relative Probability Density Functions (PDF) are extracted. The comparison is carried out in the same manner by identifying the relative PDF of the training set and test data by using Kullback-Leibler divergence method (KL-Divergence). In this paper an attempt is made for developing an effective model to retrieve the images based on features by considering GLCM and GMM. The results derived show that the proposed methodology is able to retrieve images more effectively.

Keyword: GLCM, GMM, PDF, Correlation, KL-Divergence, MSE, RMSE, PSNR, IF.


Authors: Nitin Kumar Saxena, Ashwani Kumar, Gebrehiwot Gebreyohans

Paper Title: Reactive Power Cost Optimization Acquiring the Combined Properties of Static and Aggregate Dynamic Load as Composite Load Model

Abstract: In electrical systems especially isolated wind and diesel based hybrid systems, voltage control has been achieved in several works from adequate supply of reactive power using STATCOM/SVC as dynamic compensators. 527.

Authors: Ch. Kodanda Ramu, T. Sita Mahalakshmi

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Authors: Nitin Kumar Saxena, Ashwani Kumar, Gebrehiwot Gebreyohans

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Abstract: In electrical systems especially isolated wind and diesel based hybrid systems, voltage control has been achieved in several works from adequate supply of reactive power using STATCOM/SVC as dynamic compensators.
However, in most of the existing works, studies are performed only with static loads which do not have any influence of previous system conditions. In such available studies, the two major concerns were (i) cost based studies, and (ii) control techniques of dynamic compensation. The electrical systems are always influenced by the unrealistic load modelling in such systems which is almost untouched in available works and therefore motivate the authors to work on it. Realistic loads are of composite nature which composes the blend of characteristics that acquire static as well as dynamic nature of the load. In present work, the authors are interested to investigate the lower cost of reactive power with composite load for best proportion of dynamic and static compensations. The study is done in MATLAB software with 10% step increment in reactive power demand and input wind power to analyse compensation effect for extreme voltage deviation of ±0.1 p.u at load end as recommended by several energy policies and standard IEC 60038

**Keyword:** Static and dynamic compensators, reactive power compensation cost, composite load model, aggregate dynamic load, and cost optimization

**References:**
Authors: Vidyasaraswathi H. N., Hanumantharaju M. C.

Paper Title: Brain MR Image Enhancement using Average Intensity Replacement based on GWOHE Algorithm

Abstract: The most important task in MR Image Enhancement is to obtain a high resolution optimized visual image using advanced image processing techniques. Most of the life photographs and various images such as aerial, medical and satellite are associated with noise and low grade intensity. To improve the quality for better visual appearance, noise has to be suppressed and contrast has to be enhanced. Traditional contrast improvement techniques do best for various images. But for MRI of brain images, there are chances of misrecognition of WMH (White Matter Hyperintensities) as Cerebrospinal fluid (CSF) in traditional enhancement techniques. To overcome this ambiguity and enhance WMH regions of MRI brain images, a novel algorithm has been proposed in this paper. This algorithm is called as Mean Intensity replacement based on Grey Wolf Optimization Histogram Equalization (GWOHE). This technique is applied on FLAIR images and comparison is tabulated along with existing technique for parameters such as PSNR, AMBE.

Keyword: Image Enhancement, FLAIR Images, PSNR, Average Gradient.

References:

Authors: Rami Reddy Madhuri, Gandham Prasanna, Venu Malagavelli, D. Prince Kamal Kiran

Paper Title: Principles, Procedures and Policies Adopted in Improvement and Widening of Roads (Sh-88)

Abstract: Road widening is the solution for the problem of traffic density and road accidents, transportation infrastructure is the ever green problem facing all over the world, as day by day with the growth of economic status the people are switched to use four wheelers from two wheeler vehicles, the roads at present are mean for the capacity of the present situation, as the traffic density increases the improvements in road infrastructure and widening of roads are
required. We concentrated on the different road widening problems and solutions carried out and mainly focused on the Mysore Bantwal Road (SH-88). The need of this research is to design Road transport model to ensure safe and effective moment of traffic. We even discussed different principles, policies and procedures of the design standards and guidelines. The major aim is to reduce economic losses and to improve capabilities for overlay design that are provided to meet today’s highway traffic needs. Finally we used IIT PAVE software for calculating fatigue and rutting performance criteria.


References:

Authors: Indexing Object Database using HC-Tree

Paper Title: Indexing Object Database using HC-Tree

Abstract: One of the recent applications of object technology is in the area of databases. One of the stumbling blocks in the commercial development and deployment of object databases is the lack of an efficient indexing technique. The properties of object databases make the task of development of an indexing technique all the more difficult. This paper discusses the development of an indexing technique for object databases. A new indexing technique based on a new structure, HC-Tree has been proposed. Performance analysis has been conducted, and experimental and analytical results indicate that the HC-Tree is an efficient indexing structure for object databases. The performance of the HC-Tree has also been compared with that of the other popular existing techniques - CH-Tree, H-Tree and hC-Tree.

Keyword: Object Databases, Indexing, Query Retrieval, Data Structure.

References:

Authors: P. Muralidhar

Paper Title: Strategies of Green Supply Chain Practices in Construction Industry

Abstract: Greening the supply chain practices is essential to all the sectors. Currently the management looking

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after the construction activities is also highly focusing on this. It is also coined as sustainable supply chain management. The sustainability is an important factor in construction industry rather than any other industries. The present research paper aimed at identifying and creating awareness of green supply chain management in materials and practices implied in Indian construction Industry. Many of the construction companies are not following sustainable practices in their day-to-day activities. There is a lot of scope to implement the sustainable practices, further helps in reducing the carbon emissions in the supply chain and helps to provide the recycling of the materials and thus reduces the wastage. This improves the construction industry economy and environment. The current research aimed at analyzing the strategies related to green supply chain management practices for construction Industry.

Keywords: construction industry (ci), green supply chain management (GSCM), environment, carbon foot prints.

References:
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Authors: Yamini U., Taha Sufiy, Thankam Paul, Suyash Gupta, R. Chinnaiyan

Paper Title: Smart Crop Monitor using Internet of Things, Cloud, Machine Learning and Android App

Abstract: This paper describes a Smart Crop Monitoring system implemented using Internet of Things (IoT) for sensing environmental conditions and forwarding the data, Machine Learning to generate decisions for crop management based on the data, Cloud for storage and an Android application interface for operation of the system.

Keywords: Smart Crop Monitoring, IoT, Machine Learning, Cloud, Android.

References:
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Authors: Sambath M., K. Padmaveni, Linda Joseph, Ravi S., J. Thangakumar, D. John Aravindhar

Paper Title: Convoy Effect Elimination in FCFS Scheduling

Abstract: One of the important activities of operating systems is process scheduling. There are many algorithms 3218-
available for scheduling like First Come First Served, Shortest Job First, Priority Scheduling and Round Robin. The fundamental algorithm is First Come First Served. It has some drawback of convoy effect. Convoy effect occurs when the small processes are waiting for lengthy process to complete. In this paper novel method is proposed to reduce convoy effect and to make the Scheduling optimal which reduces average waiting time and turnaround time.

**Keyword:** convoy effect, scheduler, throughput, turnaround time.

**References:**
the SMOTE approach and the Random Forest technique provided an accuracy of 98.84%, a precision of 98.89%, a recall of 98.80% and an F1 score of 98.80%; the overall scores of the model’s effectiveness were higher than of the model using only the Random Forest technique. This indicates that the model can be practically used for recommending second-hand cars.

**Keyword:** Random Forest, recommender system, second-hand cars, SMOTE.

**References:**


**Authors:** N. Karaman, S. Muruyanto, J. Jamari, A. P. Bayuseno

**Paper Title:** Effects of Metal Oxides on the Crystallization of BaSO4 in a Vibrated Batch Crystallizer System

**Abstract:** Scale formation of BaSO4 (barite) is a serious and persistent problem in a petroleum industry. The scale may severely hamper industrial processes through clogging the equipment, blocking the piping system, reducing the transfer of heat and material, which can lead to total breakdown and substantial financial losses. Hence, various methods have been applied to prevent the scaling of barite. This work reports a vibrated-batch lab crystallization to examine the influence of copper oxide (CuO) and zinc oxide (ZnO), an increasing temperature and mechanical vibration at 4.00 Hz and 8.00 Hz frequencies on crystallization kinetics and morphology of barite. The experiments using an experimental rig which was equipped with mechanical vibration to vibrate the rig under the heating program control. The inducing of vibration at 4.00 Hz and 8.00 Hz frequencies resulted in increasing rate scale deposition, whereas barite is the main crystal of the precipitated product which could be validated by the XRD Rietveld method. A morphological investigation by SEM confirmed that barite has mainly rosette-like crystal with the smaller size of order 5 µm. A new habit crystal of barite under the influence of vibration could be observed, and here an increasing vibration and additive concentrations made a reduction of scale deposition and providing more dense crystal morphology. The current findings suggest that the presence of mechanical vibration can be used to elucidate the mechanism of crystallization as well as the control of the morphology of barite. In practical terms, metal oxides could be potential as a scale inhibitor, while the mechanical vibration can be used to prevent the barite formation on pipes or mechanical equipment of the petroleum industry.

**Keyword:** Barite; Metal Oxides; Vibration; XRD Rietveld metho.

**References:**


D. Degering, M. Köhler, and M. Hiescher, “Vorkommen und verhalten natürlicher radionukliden im aquifer, im fluid und in den ablagernun


Authors: B. Jeevan, K. Sivani

Paper Title: Heterogeneous Logic: a High Performance and Low Power Non-CMOS 4-1 Multiplexer

Abstract: A novel non-CMOS 4-1 multiplexer using heterogeneous logic style is presented in this brief. The heterogeneous logic design uses the combination of three basic logic styles such as Dual Value Logic (DVL), Transmission Gate Logic (TGL) and Simple Pass Transistor Logic (SPTL). The design uses only two stacking transistors in between the supply rails. Only 16 transistors are required for the actual logic function in the proposed state-of-the-art design. Number of transistors is reduced by distinctly choosing DVL and TGL in the first stage as per the input combination. Later stage of the multiplexer is constructed using SPTL. A required logic style is chosen at first and second stage in accordance with input bit combination to minimize the number of transistors, enhance the speed of logic transition and reduce the average power dissipation. The design and simulation analysis of proposed circuit is carried out at 22nm technology using Pyxis Schematic and Pyxis Simulator. Comparison of wide-ranging simulated results of proposed design, CMOS tree multiplexer and CMOS NOR multiplexer at various supply voltages and frequencies on same technology node manifests that the performance of proposed heterogeneous multiplexer is better in terms of speed and power dissipation. At minimum possible supply voltage of 0.8V and at moderate frequency of 1GHz, the proposed multiplexer achieves, reduced power dissipation of 17.3% and reduced in delay of 9.14%. The count of transistors including inverters is also less compared to CMOS tree type and CMOS NOR type multiplexers. However, robustness of mixed logic style designs is to be improved compared to CMOS designs.

Keywords: Logic Styles, VLSI, Multiplexers, CMOS, Heterogeneous Logic.

References:


Authors: Arun Kumar Yadav, Mahendra Pratap Choudhary

Paper Title: Municipal Solid Waste Management Practices in Alwar, Rajasthan, India

Abstract: Solid waste management is the process of collecting, treating and disposing off the material after segregating the reusable and recyclable material. After observing mismanagement of municipal solid waste in Alwar city, it was decided to carry out a study to find out the status of the solid waste management practices. During study, the residential areas of the city were visited and sample were collected from households on per day basis, which helped to analyze the waste generation as well as the seasonal variation of the waste. It has been observed that all wastes are...
mixed together by the residents due to unawareness about the biodegradable and non-biodegradable wastes. Even, it is very difficult for the concerned authorities in municipal corporation Alwar to estimate the actual quantity of biodegradable and non-biodegradable wastes. In absence of segregation of these wastes, the authorities normally use thumb rules for estimating the dry and wet wastes. During study, the main thrust was given to find out the variation in seasonal waste in different areas of the city, so as to help in assessing the deployment of available resources for their full utilization. The biodegradable waste may be used for vermi-composting as well as generation of bio-gas also. It was observed that segregation is not done at the level of individual households and therefore, awareness among people is to be brought as well as to deploy additional manpower for segregation at the collection points. There is a dire need for engaging sufficient number of manpower by the municipal corporation Alwar for collection and transportation of solid waste in the city. At present, diesel vehicles are used for transportation, so it is suggested to make use of electric vehicles like rickshaws and loaders for environmental protection and sustainable development.

**Keyword:** Bio-degradable and Non-biodegradable waste, Solid Waste, Seasonal Variation, Vermi-compost.

**References:**

17. Solid Waste Management Rules, Ministry of Environment, Forest and Climate Change, Govt. of India, 2016

**Authors:** Reeta R., Kirithiga R., Kavitha V. Kumar, Jaishree M.

**Paper Title:** IoT- Based Traffic Signal Control for Ambulance

**Abstract:** In modern era, due to increase in traffic in the city, emergency vehicles take more time to reach the destination. The current, time-based traffic management system is not suitable and also not flexible for present day traffic, especially at the intersection where the traffic needs to be controlled for vehicles from all four directions. To solve this problem, we bring users a sound detector with automatic recording of various vehicle sounds and distinguishing the presence of ambulance in a particular lane by detecting the siren sound. The captured ambulance sound is processed using IOT and sent to the traffic pole to enhance the traffic clearance. This is carried out by placing the sensors in each lane and a sensor near the traffic pole to indicate that the ambulance has crossed the lane. In this method the traffic signal controller decides when the vehicle has to cross the road and also provide importance to the emergency vehicle.

**Keyword:** sound sensors, IOT, Arduino UNO, traffic light, Ambulance

**References:**

3. Bilal Khalid dar1, Munam Ali Shah 1, Saif Ul Islam 2, Castren Maple 3, Shafaq Musaadq 4, and Zuleman Khan 5 ,February 20, 2019, accepted March 11, 2019, date of publication May 1, 2019, date of current version June 11, 2019, Delay Aware Accident Detection and Response System Using Fog Computing.
abstract: This system is intended to monitor the extinct plants. Generally, these kinds of system will be deployed in the garden of our home, but we made them suitable for the greenhouse in monitoring the individual plant. This system has light, temperature, humidity and moisture sensors are available, our work to monitor the plant will be much easier. This entire thing will be easy by the concept of cloud and IoT. We need a microcontroller that connects the cloud via the internet. Due to this purpose, we discovered the Bolt IoT module integrated with its cloud. Since this module is having only a single analog pin to read the data, we interfaced with the Arduino UNO with the Bolt by UART protocol. By connecting the required sensors with the analog pins of the Arduino board, we collected the data and pushed them to the cloud to represent the required data in a graphical form.

keyword: Temperature, Humidity, Moisture, Arduino, Bolt.

References:
Mechanical Behavior & Analysis of Epoxy, Al2O3 Composites

Abstract: In this paper, an intelligent report has been planned for to assess epoxy composite network Epoxy composite execution of Al2O3 particles remembered for epoxy composite resin. A ultrasonic blending method applied to accomplish homogenous dissemination of particles addicted to epoxy pitch. Various mechanical and Tribological tests, for example, bending (three-point test), Charpy Impact test & hardness are perform to check mechanical properties & wear execution of Al2O3+ Epoxy composites. These composites showed expanded bowing quality and effect quality because of the absorption of Al2O3 particles. In collection, presentation of Al2O3 particles into epoxy gum grid at low qualities brought about noteworthy decrease of wear rate Such type of impacts would be ascribed to the scattering of Al2O3 particles into epoxy framework & stacking. The impact of the Al2O3 molecule ejection with epoxy lattice tar is additionally portrayed regarding strengthening strategies.

Keyword: Epoxy composite; Al2O3particles; Epoxy; Mechanical properties; Tribological execution.

References:
Key Concept: Classification of EEG motor imagery signals, support vector machine, independent component analysis.

References:


Authors: Qummare Azam, Ahmed Mahjub Alhaj, Siti Zubaidah Sulaiman, Nurul Musfirah Mazlan

Paper Title: Introspection of Alternative Aviation Fuel Processing Technology: Benchmarks and Challenges

Abstract: Aviation industry is one of the main contributors and fastest-growing sectors in the world economy. Fuel consumption from this industry is one of the major issues that have drawn the attention of both professionals and researchers in recent years. The high dependency along with the high consumption of aviation fuel on petroleum plays a crucial role in environmental degradation due to increased carbon dioxide and other emissions, as well as in the increasing rate of fossil fuel depletion. Therefore, various potential technologies have been developed and further investigated to produce alternative aviation fuels, especially biofuels. In this article, principles, sustainability, and main concerns of different alternative aviation fuel processing technologies, with some focus on biofuels, are discussed in challenges and possible remedies. The major ecological problems connected with the application of conventional jet fuels in contrast to The advantages of biofuels implementation in the aviation industry are also highlighted. This work is aimed to show the state of the art of current alternative aviation fuels, their production technologies, and the potentiality of replacing the conventional jet fuel.

Keywords: Alternative fuel, challenges, greenhouse emission, limitations, processing technology.

References:
Authors: Debashree Debadatta Behera, R.C. Mohanty, A.M. Mohanty

Paper Title: Development of a Solar Operated Blower for Forging Operation: An Initiative for Sustainable Livelihood of Rural Area

Abstract: Blacksmiths generally do the forging operation by hand which requires more time and has survived to exist in rural economy even today. Due to unavailability of electricity and limitation of modern energy sources, economic development of rural area lays extreme poverty line. Development of solar operated blacksmith blower gives a reliable and sustainable solution to blacksmith for their forging operation. This paper represents design and development of solar operated blacksmith blower which was eco-friendly, less time consuming and high efficiency. The main component of solar operated blower is charge controller, battery, solar panel, DC blower and a speed controller. Mathematical calculation had been done for sizing of solar panel, battery, and charge controller and speed controller. The regulation of supply of air for forging operation with the help of speed controller is the unique design of this research.

Keyword: Forging, Solar panel, battery, charge controller, speed controller


Authors: Sumitra Nuamneesri, Lap Poomhiran

Paper Title: Smart Aquarium Water Quality Monitoring and Changing for Ornamental Fish Store using IoT through Data Mining

Abstract: Raising beautiful fish to live longer, the fish keeper needs to take care of the water quality of the fish that live in particular. The quality of the water may decrease all the time and cause fish to die in the end. This research presents a smart automatic water changing system for ornamental fish shops. It was developed with IoT devices in conjunction with sensors for measuring the indicators that affect water quality, including temperature, turbidity, total

References: 1. 2. 3. 4. 5. 6. 7. 8. 9.
dissolved solids, the potential of hydrogen ion, dissolved oxygen, and nitrate ion. The collected indicator data was processed in the data mining technique by using the Apriori algorithm to generate 18 association rules and the preset of system configuration suitable for raising angelfish, goldfish, guppy, platy, and Sumatran tiger barb which are tropical fish in Thailand. The result shows that the developed system has the highest efficiency with the accuracy at 99.67% in an average mean. It can be said that the smart aquarium water quality monitoring and water changing is helping the fish keeper at the ornamental fish store at the highest level.

Keyword: Apriori, aquarium water quality, data mining, esp32, internet of things, ornamental fish.

References:

Authors: Vikas Malhotra, Mandeep Kaur Sandhu

Paper Title: Various Networks used for ECG Signals, Heart Beats and ECG Feature’s Classification

Abstract: ECG is a graphical representation of heart’s electrical activity such as electrical repolarization and depolarization of heart. It is an important non-stationary signal which contains the necessary information about the heart functioning so that it can be used to identify different abnormalities in heart beats and also to identify different diseases of human beings. Classification is an important process in ECG signal analysis and cardiac diseases diagnosis process. Different ECG signals as well as ECG parameters such as heart beats, features can be classified according to requirement. In this paper different classification networks have studied. SVM classifier with empirical mode decomposition represented the maximum accuracy of 99.54%. Any optimization technique can be used to increase the accuracy of SVM classifier with suitable decomposition method such as variational mode decomposition.

Keywords: SVM, Electrocardiogram (ECG), classifier networks, heart beats

References:
Authors: Zishan Ahmad, Mukesh Kumar Pandey, Nadeem Faisal

Paper Title: Mechanical Behaviour of Micro and Nano Scaled Silicon Carbide Reinforced Al 6063 Metal Matrix Composite

Abstract: In this research study Al 6063 is used as the base matrix element, due to less weight, high specific strength, impact strength and good mechanical properties. Further, SiC are reinforced in Al 6063 matrix for enhancing its properties. Stir casting process has been accomplished for fabricating the (Al 6063-SiC) composites. In this experiment two various size of reinforcement particle are utilized, one of them is micro sized and another one is nano sized. Micro sized reinforcement particle has dimensions of (25-40µ), while nano sized particle consists dimensions of 500nm. The weight fraction of the micro and nano sized SiC particle taken in this experiment are in order of 0%, 2%, 4%, 6%, 8%, and 10% respectively. Various mechanical tests such as hardness, tensile tests and impact tests were conducted for determining the effect of micro and nano sized SiC reinforced aluminum matrix composites. The comparative study related with impact strength, hardness and tensile strength of micro and nano sized silicon carbide reinforced with aluminum matrix composites were shown in this work. It is an enhancement of mechanical properties has been observed with enhancement in weight percentage of micro sized silicon carbide, on other hand there is also a decrease in mechanical properties has been found while increasing the weight percentage of nano sized silicon carbide. The main objective of this paper is to enhance the mechanical properties of the Al 6063 metal matrix with reinforcing silicon carbide particle.

Keyword: Al 6063, SiC, stir casting, metal matrix, composite, tensile, impact, hardness.

References:
of Experimental Nanoscience, 13 (sup1), pp.S1-S13


**References:**

**Abstract:** Preparation of information for community development along the Ladprof canal. The objective is to survey and create a database of the Ladprao canal community. And developing the community information system at Ladprao canal. Systematically collecting data according to the dimensions of the community Consists of 6 basic basic information. General health, economic, environmental information The relation of the household to politics and government and communication. Analyze information for quality of life development in 3 issues which are economic, environmental and health. The results of the research showed that Ladprao canal community that has completed housing construction. And there are already 22 communities in 2717 households. The total population is 3164 people, 47% males and 53% females. The majority of the population are aged 40-59 years. In the economic aspect, it is found that the main cause of the economy in every household's household is low and unstable. Because most of them are professionals earn daily but very expensive. Regarding the environment, the majority of the population have good waste collection and care for the environment within the household. For health, most problems are chronic illnesses. With non-communicable diseases. Therefore, all 3 issues are relevant and clearly linked. Especially the economic aspect which directly affects the well-being of the people. The circumstances of each person are different. Affecting the care for the environment and take care of one’s own health of people in the community, both directly and indirectly.

**Keywords:** Community informatics, Quality of life

**References:**


**References:**

Abstract: Vitality is a significant perspective in the present world. Because of the expansion in the populace and the lessening in oil and other vitality assets it is the power age utilizing sustainable power source has gotten progressively famous. The current vitality emergency has moved human endeavors towards searching for and utilizing sustainable power sources. One of the notable of these, is the sun powered vitality. The two notable reaping frameworks are PV and sun powered thermals. This undertaking attempts to mirror the Photovoltaic frameworks when all is said in done in first moment. Moreover, it considers the Efficiency investigation of the PVs by means of RETScreen 4 programming. The examination depends on the RETScreen library and NASA related area insights Energy effectiveness and sustainable power source advances can lessen vitality utilization and thusly vitality cost, just as GHG. In the last areas, budgetary investigation was completed to decide the monetary feasibility of such ventures and the likelihood for self financing. Emanation investigations were likewise done dependent on the capacity for such activities to balance ozone depleting substance discharges and guarantee maintainability in the vitality trade. This displays the achievability investigation of executing the photovoltaic framework. RET screen programming has been utilized for the financial examination. The product has additionally been utilized to get the climatic conditions like mugginess, temperature with the radiations. The impact of these conditions with the proficiency of the sun powered boards was likewise dissected.

Keyword: PV system, RET screen, Feasibility, Energy Analysis, Cost Analysis, Financial Analysis

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8. & www.retscreen.net

Authors: V. Baby Shalini, Kandula Praveen

Paper Title: Performance of Retscreen 4 Software on PV Solar System

Abstract:

Authors: Gilston Francis Pereira, Gurugnanam B, Saroj.B.Chowdury, Santonu Goswami, Bairavi S

Paper Title: Assessing the Rate of Shoreline Changes of Rameswaran Island, Tamilnadu, India, using MATLAB Component Runtime Utility & Digital Shoreline Analysis System

Abstract: The Present study highlights the changes in the coastal tract of Rameswaran island located between the geometric location, latitude 9° 10' to 9° 20' N and the longitude 79° 12' to 79° 30' E. Using Geospatial Technology, Long-term changes have noticed from digitized shorelines taken from Landsat imageries and SOI toposheets for the years 1968, 1978, 1988, 1999, 2009 and 2018. Digital Shoreline Analysis System (DSAS) an extension provided by USGS for...
ArcGIS used to cast transsects perpendicular from the baseline, towards the shorelines. High water Line (HTL) has taken as shoreline in this study. The distance between the shorelines has taken from the cast transsects plotted from the baseline. For the rate of change calculation, MATLAB component runtime utility for ArcGIS has used. Based on the Linear Regression Rate (LRR) the shore has classified into High Erosion, Low Erosion, Stable and Low Accretion, High Accretion zones. The island has a shoreline length of 78.4 km, and the studies found that 27.83 km (35.41%) of shoreline is accreting nature, 37.90 km (48.21%) of shoreline is stable, and 12.86 km (16.36%) of shoreline tends to erode. During the field investigation identified that High amount of erosion occurred in the locations near Pamban, Tharavaithropu and Dhanushkodi. Also, Accretion identified over the locations Ayyanthopu, Natarajapuram and Arichumanai tip. Wind action is one of the physical parameters that induced the erosion in some location of this study area.

Keyword: EPR.LRR, DSAS, MATLAB, Erosion, Accretion

References:

Authors: M. Ramadan, T. Subhani, W. Rajhi, B. Ayadi, A. S. Al-Ghamdi

Paper Title: A Novel Technique to Prepare Cast Al-bearing alloy/Wrought Steel Bimetallic Specimen for Interfacial Shear Strength

Abstract: A novel mold was designed and manufactured for facile preparation of cast/wrought bimetallic specimen for subsequent mechanical performance. To ensure the easy manufacturing of bimetallic specimen, an aluminum alloy bearing was cast on a wrought carbon steel substrate after tinning process for adequate interfacing bonding in the especially prepared mold, which was characterized mechanically by lap-joint shear test to measure bonding strength between the two materials and by microhardness test for hardness profile across the interface. Optical and electron microscopy was employed for the microstructural observation of the interface to relate it with the mechanical performance of bimetallic material for bearing and automotive applications while electron dispersive spectroscopy mapped the elemental distribution across interface.

Keyword: Interfacial, Shear strength, Bimetallic, Bearing materials.

References:

Authors: Ankita Ramtirthkar, Jyothi Digge, V.R. Koli
Abstract: Coma is a state of unconsciousness where the patient fails to respond. These patients need utmost care and 24*7 observations. This paper presents a continuous monitoring and recording of patient data without human intervention. If there is any sudden changes occur in the normal range of body parameters such as body temp falls or rise, blood pressure (B. P.) increases or decreases causing high or low B.P. where both are not stable conditions for better health, then it has facility to automatically alert the medical person. The movement sensor detects the patient movement and also generates an alert message to the medical person. As comatose loses their sensation for urination, medical person needs to continuously monitor urine output, thus we are using ultrasonic sensor to check on urine level. Medical person can keep the track of patient using login to the system. The software IoT API we are using is ThingSpeak.

Keyword: Comatose, IoMT, healthcare monitoring, ThingSpeak,Twilio

References:

Abstract: This article aims to create a non-invasive method for determining glucose levels in diabetes to prevent diabetes. A non-invasive glucometer is aimed at creating a detection concept based on the biophysical parameters of biologically active points. When developing non-invasive fluorescence, experiments were carried out on healthy people and patients with two types of diabetes, confirmed by mathematical and statistical methods that correlate the amount of glucose in the blood and biophysical parameters at biologically active points.

Keyword: biofact active points, igloreflexotherapy, statistical processing, datasheet.

References:

Abstract: In recent years governments become more concern about health care monitoring which cannot be accomplished without enhancing trust on underlying system as various citizens hesitate to upload their sample because of privacy reasons and obviously the governmental decisions are based on the data collected by various PHCs and third party medical agencies. The accuracy and authenticity of this third party owned data is always doubtful. Crowd sourcing(a collaborative framework) make its sound presence in development of large scale health projects Scientist also impressed from crowd sourcing which is a faster and better alternative to traditional methods for predicting and monitoring infectious diseases. However the success of this type of crowd sourcing depends on the trust on underlying system as the user is always looking firm commitment to preserve their privacy and win a promise of not being re-identified later.

Here in this work we suggest a privacy protecting framework for upload process which could fulfill user's diverse privacy requirements while guaranteeing the quality of health care data.
Keyword: Privacy preserving, Cloud computing, Health Monitoring.

References:

Authors: Juveria Khan, Jyoti Rao, Pramod Patil


Abstract: In the last few years, the expanding energy utilization has imposed the formation of solutions for saving electricity. Of many solutions, one is generating a power saving policies which is defined as prediction of energy in smart environments. This model is built, based on the idea that the building residences are provided with smart meters to monitor energy consumption and can be managed accordingly. Recent prediction models focuses on performance of the prediction, but for developing a reliable energy consumption system, it is required to predict the demand taking into account different scenarios. In this paper we propose a model for predicting future demand for energy according to different conditions using advanced machine learning framework. In this system we have a projector that builds proper state for a particular condition and using that defined state a future power demand is forecasted by the predictor. The proposed model generates utilization predictions for every 2 hours. Demonstrating the electricity consumption data for 5 years, the proposed system achieves a better performance.

Keyword: Electric energy; energy management system; energy consumption forecasting; energy prediction; machine learning.

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Abstract: Web is gigantic wellspring of information and data and each one relies upon it for accomplishing all kind of information. With the presence of enormous information and assortment of data it gets hard for end client to separate required data. Thus there comes the need to customize every client search so as to acquire important outcomes at the time of searching. This paper gives architecture of internet search utilizing an improved customized method which recognizes every client search keeping protection as a measure concern. The proposed plan is more valuable where more than one client get to single gadget for looking. A through depiction of architecture design gives total perspective on customized protection improved web search framework. The framework designed for varied interest holder clients demonstrates profoundly effective for every client individual need. The framework goes about as an improvement in the region of web mining as it expects to be easy to understand just as secure.

Keyword: Customization, Page ranking, Personalization, Privacy, Web search, Web Search log.

References:
15. F. Roerssen, T. Kohno and D. Wetherall: Detecting And Defending Against Third-party Tracking On The Web, In Symposium on Networked System Design and Implementation, SanJose, California, USA, April 2012

Abstract: An important role in the electricity industry has always been efficient & optimum economical function of electricity powersystems. This field of concern has taken a new turn in recent years, as environmental issues are being gradually discussed by the public. Through optimizing distribution of load between power plant, the adverse ecological effects of outlet of gaseous contaminants will be reed. It contributes however to a significant increase in the functional cost of the system. Everything must therefore be equilibrium. There are three techniques investigated for solving the Combination of Economic and Emission Dispatch (CEED) solution that is one traditional method-Lambda Iteration System & Particle Swarm Optimization (PSO). The prize factor method which will change the many-objective CEED solution into one single minimal solution. The survey of total operating costs, total emissions, and system losses on 6-generation units test systems. This is carried out. Results show that Particle Swarm Optimization (PSO) method is superior to the other Lambda Iteration technique for reducing operating costs in solving the problem of Combined Current Economic &Emission Dispatch (CEED). Therefore, PSO technique is highly suited and recommended for use online.

Keyword: Economic Load Dispatch (ELD), Combination of Economic and Emission Dispatch (CEED) & Particle Swarm Optimization (PSO).

References:
Authors: A Raghuvira Pratap, Prasad J V D, Sallagundla Babu, V V N V Phani Kumar

Paper Title: Reducing Fraudulent News Proliferation using Classification Techniques

Abstract: The expansion of dishonorable information in normal get entry to social access media retailers like internet based media channels, news web journals, and online papers have made it hard to identify dependable news sources, subsequently growing the need for technique tools able to deliver insights into the reliability of online content substances. This paper comes up with the applications of Natural language process techniques for detective work the dishonest news, that is, dishonorable news stories that return from the non-reputable sources. Solely by building a model supported mistreatment word tallies or a Term Frequency-Inverse Document Frequency matrix, will solely get you to date. Is it potential for you to make a model which will differentiate between “Real “news and “Fake” news? Thus our planned work is going to be on grouping a knowledge set of each pretend and real news and uses a Naïve mathematician classifier so as to make a model to classify an editorial into pretend or really supported its words and phrases.

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Authors: Ranjeet Kumar Arya, Amit Telang

Paper Title: Silicon Nitride as a Reinforcement for Aluminium Metal Matrix Composites to Enhance Microstructural, Mechanical and Tribological Behavior

Abstract: In recent years, aluminium and its hybrid composites receiving more attention due to its excellent property combinations like improved mechanical properties, better wear and high corrosion resistance, ease to process and probably reduced production cost etc. Composite is made of two phases one is matrix and another one is reinforcement. The performance of composite highly depends on some key factors that decide overall performance and they are properties of constituent phases, reinforcement size, reinforcement distribution in the matrix and their interfacial interaction. Particle reinforced metal matrix composites (particulate metal matrix composites- PMMCs) are becoming more popular due to their low cost, easy to process and compatible to conventional processing techniques. Also they give isotropic properties. The most commonly used reinforcements are carbides, oxides and nitrides. A lot of research has taken place including carbide and oxide as a reinforcement particles for aluminium matrix composites (AMCs) and hybrid aluminium matrix composites (HAMCs) while there is a bit research lag in use of nitride as a reinforcement for development of AMCs and HAMCs. Recent competitive market demands the material having better combination of properties, cost effectiveness and eco-friendly nature. Present article focused on to study the microstructural features, physical properties, mechanical and tribological behavior of aluminium matrix composites when reinforced with silicon nitride particles (Si3N4). Potential area of applications has also been suggested on the basis of literature data. In this review a comprehensive study has done for current scientific development carried out in Al based Si3N4 composites as well as its future scope has also been discussed.

Keywords: Particle reinforced metal matrix composites (PMMCs), silicon nitride (Si3N4) particles, aluminium matrix composites, hybrid aluminium matrix composites.

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In recent days, prediction of stock market returns is generally treated as a forecasting problem. The implicit volatile nature of stock market across the world makes the prediction process highly challenging. As a result, prediction and diffusion modeling undermine a wide range of issues present in the stock market prediction. The minimization in prediction error will greatly minimize the investment risks. A new machine learning ML based model is applied to predict the direction of stock market prices. The presented model undergoes preprocessing, feature extraction and classification. Initially, preprocessing takes place using exponential smoothing. Then, required features are extracted from the preprocessed dataset. Afterwards, an effective Bat algorithm (BA) with the XGBoost model called BA-XGB is applied for forecasting the stock prices in market. The proposed model predicts whether the stock values gets increased or decreased based on the price existing n days in advance. The presented model is experimented using Apple (APPL) and Facebook (FB) stocks. The obtained simulation outcome stated that the BA-XGB model has offered superior outcome by achieving a maximum accuracy of 96.42.


Authors: Chetashri Bhadane, Ketan Shah, M. A. Khatkhatay, A. M. Darukhanawalla

Paper Title: Location Prediction Models using Data Mining and Machine Learning

Abstract: A vast availability of location based user data which is generated every day whether it is GPS data from online cabs, or weather time series data, is essential in many ways to the user and has been applied to many real life applications such as location targeted-advertising, recommendation systems, crime-rate detection, home trajectory analysis etc. In order to analyze this data and use it to fruitfulness a vast majority of prediction models have been proposed and utilized over the years. A next location prediction model is a model that uses this data and can be designed as a combination of two or more models and techniques, but these have their own pros and cons. The aim of this document is to analyze and compare the various machine learning models and related experiments that can be applied for better location prediction algorithms in the near future. The paper is organized in a way so as to give readers insights and other noteworthy points and inferences from the papers surveyed. A summary table has been presented to get a glimpse of the methods in depth and our added inferences along with the data-sets analyzed.

Keyword: context, mobility, next-location prediction, trajectory.

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Abstract: Agriculture plays a crucial role for the production of food in Indian regions. Indian regions mainly produces crops like rice, wheat, maize and many other types of crop. There are several factors required for the productivity of any harvest, but we know that soil, climate, pesticides, Fertilizers and ground water is most influencing essential factor for the productivity of any harvest. Let us consider soil which is the key element as it provides nutrients for proper development and growth of crops. Secondly, climate is also having major role in agriculture as crop growth depends on rainfall, humidity, temperature etc. Thirdly, Pesticides is widely used to control pest and prevents the damage of crops. Forthly, Fertilizers can improve the quality of crops. Finally, ground water which will enrich nutrients in soil. The current preparation centers around different information mining procedures utilized in various regions of India and anticipate future harvest along with reasonable information mining procedure saw during the period(1920-2019). The parameters considered for the examination were soil, atmosphere, water thickness, pesticides and composts and Crop informational collection. The Classification calculations utilized in preparation were Adaptive boosting classification, Excess tree classification, neural based classification, Multiple Process classification, Decision making classification, K-closest neighbors, Bayesian theory classification, decision Forest classification, support group machine, and Randomized Gradient Classification. By using the techniques mentioned above we can improve the harvest prediction using information mining techniques which in turn help the farmers to take better decisions in future and it can be used in other technologies like image analyzing etc. The Experimental results show predicted crop, suitable algorithm and algorithm accuracy in that particular state of India respectively.

Keyword: Agriculture, crop, climate, fertilizers, groundwater, Machine Learning, Classifiers, pesticides, soil.

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Authors: Sanjay D. Patil, Dheeraj S. Lengare, Arvind J. Bhosale, Kiran B. Bansode, Rashtrapal B. Teltumade

Paper Title: Parameters Affecting the Specific Energy Absorption of Circular Side Impact Beam

Abstract: In vehicle design, safety of occupants is one of the most important criteria. During side collisions, space between vehicle body and occupants is very less as compared to frontal collision. Hence, scope for energy absorption due to deformation of vehicle body in side collisions is less. The strength of side door plays important role in the framework of vehicle side body. The strength of side doors during side collision depends upon the impact beam, vehicle construction, layout of doors etc. Among the mentioned parameters, strength of impact beam is a crucial parameter. The impact beam absorbs notable amount of impact energy by deforming during side collision. Design of side impact beam should be optimum as it is limited by weight of vehicle. Parameters like material, dimensions, shape and mountings of beam inside the door are affecting the strength of side impact beam. In this work parameters of circular cross-section
impact beam like diameter of beam, thickness of beam and angle of mounting inside the door are studied. Finite element simulation of side impact beam is done in ABAQUS software and its relative effects on Specific Energy Absorption (SEA) capacity of beam is studied. The simulation results are validated with available literatures. The ANOVA analysis followed by Design of Experiments is used to determine contribution of each parameter on SEA. Further various parameters of circular impact beam are studied by examining the result analysis for crushworthiness of side door.

**Keywords:** Side impact beam; Side intrusion beam; vehicle side door; Taguchi method; ANOVA; crushworthiness of side door, Specific Energy Absorption

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**Authors:** Chetan Kapadiya, Ankit Shah, Kinjal Adhvaryu, Pratik Barot

**Paper Title:** Intelligent Cricket Team Selection by Predicting Individual Players’ Performance using Efficient Machine Learning Technique

**Abstract:** In any game, selection of best players in a team plays vital role in overall team performance. The team selection in any sport is the key task to ensure good performance of the team. Players are selected based on different criteria. In game of cricket selection of players should consider parameters like players own performance, ground condition, weather forecasting, opposition strength and weakness etc. Machine learning can play vital role in players’ performance prediction. Machine learning uses historical data of team performance and past performance of individual players to predict overall performance of team. Prediction of individual player performance helps in team building process. Recently many researchers proposed model for prediction of player’s performance for a game of cricket. Researchers’ uses machine learning approach for prediction. However existing studies omits some vital features related to ground and weather in their study which have potential to make huge impact on player’s performance. We performed detailed study and literature survey to propose efficient performance prediction of players for game of cricket. Our model will help in best team selection and thus improves overall team performance.

**Keywords:** Cricket, Performance Prediction, Machine Learning, Decision Tree, Random Forest

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5. M. G. Jhanwar and V. Pudi, “Predicting the outcome of ODI cricket matches: A team composition based approach‖, CEUR Workshop Proc.,
Abstract: Improve the functionality of an FIR Filter by modifying the internal components used to design a filter. These past years have seen some great improvements in the speed, power, and area of the filter. Here, we will, therefore, use an ALU-based algorithm to design our FIR filter. The internal components of the ALU block will be an Adder and a Multiplier. A Floating point Adder and a Floating Point Multiplier will be the basic backbone of the ALU block, which finally will be used to design and implement our FIR filter design. Therefore, the parameters of the area are our main target but we also will see the power consumed by the Filter operation, both static and dynamic power consumed will be seen. The programming language will be written in VERILOG and the simulation and implementation of the design will be done by the help of Xilinx ISE suite version. One important aspect is that there will be 16 input samples and 16 coefficients which will be directly from a 16 tap filter. These coefficients and input values will be generated through MATLAB software.

Keyword: IEEE, FIR, Multiplier, ALU, Xilinx

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Authors: Ranjeeta Yadav, Rohit Tripathi, Sachin Yadav

Paper Title: FPGA Implementation of Efficient FIR Filter

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Abstract: Cloud QoS Ranking Prediction using Tanimoto Coefficient Similarity Based Deep Learning Method

Cloud computing is a service which provides virtualized resources conforming to the end-user needs. Infrastructure, platform and software included in it. For the last two decades, it has achieved very gigantic growth. Currently, there are several cloud service providers in the market. The primary aim of this research is to minimize cloud service violation. It helps the service providers in exempting the penalty enhancing their reliability. So, cloud service QoS prediction is a research problem that must be solved. It is a very necessary thing for cloud service providers and cloud users. We have discussed several QoS prediction related to researches in the literature survey. But none of them has given a satisfactory QoS prediction. In this paper, we proposed a Tanimoto Coefficient Similarity-Based Deep Learning Method for QoS ranking prediction. The analysis helps service providers choose a suitable prediction method with optimal control parameters so that they can obtain accurate prediction results and avoid violation penalties. In comparison with the prior method in practice, the proposed method is more significant in terms of prediction accuracy, prediction time and error rate.


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Authors: S.S.Sujatha, S.Beghin Bose

Paper Title: Cloud Qos Ranking Prediction using Tanimoto Coefficient Similarity Based Deep Learning Method

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Authors: K. Jayapriya


References:
4. K. Jayapriya, “Cloud Service Recommendation Based on a Correlated
Abstract: The aim of the current research is to assess the anticancer activity of the proteins identified from the crude protein extract derived from Hermetia illucens larvae by computational methods. Bioinformatics methods were used to identify the protein sequence and virtual screening for the prediction of protein structure, their physico-chemical characteristics and functional aspects, that aid in exploring the anti-cancer interaction that is inclined to inhibit the oncoprotein activity. Due to the pathological process transpired by HPV, an array of genetic alterations, including the overexpression of oncoproteins or the inactivation of tumor suppressor proteins like TP53, BCL2, MDM2, ARF and BAX occur. The altered protein signaling pathways convulse to cervical cancer. In this research, we identified four proteins, from the crude extract derived from Hermetia illucens by LC-MS method. Further Computational screening of the selected proteins were employed to assess the functional units which has anticancer activity. We predicted four proteins Metallothionein, Defensin like precursor 1 protein, Heat shock protein 90 and NADH dehydrogenase and eluted the protein sequence from NCBI GenBank database. These sequences were used to predict physicochemical properties and protein structure prediction. Pharmacophore analysis of the peptide sequences as potential targets for cancer treatment was evaluated. Molecular docking of peptide sequences with target protein structure was carried out. To screen the best active potential molecule for cancer treatment the Molecular dynamics of docked protein-peptide structures were administered. The molecular docking of the peptides with onco-proteins has been predicted and virtually screened based on RMSD values.

The resultant protein sequence was evaluated further by amino acid sequencing, extensive scrutiny of the proteins, advanced computational imaging, molecular docking examination and assessed the results for clinical interpretation. To identify the protein sequence and virtual screening for the prediction of protein structure, their physicochemical properties and protein extract derived from Hermetia illucens larvae by computational methods. Bioinformatics assessment enabled us to identify four key proteins derived from Hermetia illucens larvae that have strong inhibitory function against proteins that cause cervical cancer.

Keywords: Pharmacokinetics Cell proliferation, LC-MS, quantification of protein, Bioinformatics assessment, identification and characterization, Bioactive prediction, Peptide Ranking, Target Protein selection, Molecular docking.

References:

Authors: J. Venkata Subramanian, S. Govindarajan

Paper Title: Prediction of Cell Phone Client’s Location utilizing Semantic Trajectory

Abstract: Investigation on anticipating developments of cell phone consumers has pulled in a great deal of considerations lately. Considerable foreseeing procedures are created dependent on geographic zonal highlights of cell phone abuser’s directions. In this research, we put forward a new methodology for anticipating the subsequent place of a client’s development dependent in cooperation of the territory and semantic highlights of clients’ directions. Center thought of the expectation structure depends on new cluster centered forecast technique it assesses the subsequent place a cell phone client dependent on the continuous practices of comparable clients in analogous group controlled by dissecting clients’ normal conduct in semantic directions. Through an exhaustive assessment by tests, our proposition is appeared to convey fantastic execution.

Keyword: Semantic Trajectory, location prediction, spatial temporal, Reality Mining dataset, mobile phone, LBS

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Authors: Sandhya.P

Paper Title: Performance Analysis of Solar Photovoltaic Module using Buck Boost Converter and Zeta Converter

Abstract: This paper compares the performance of buck-boost and zeta converter fed solar photovoltaic module. The study is carried out considering a solar pv module, dc-dc converter, MPPT controller and a resistive load. The voltage gain, output voltage ripple and output current ripple of the two converters were compared. Maximum Power Point tracking is implemented and ensures the extraction of maximum power from the solar panel. Here MPPT is achieved by using perturbation and observation method. Zeta converter topology provides a non inverted output voltage with increased voltage gain. Output has lesser voltage and current ripple compared to buck-boost converter. Photovoltaic module with Buck-Boost and Zeta converter are simulated using MATLAB Simulink software and the result are shown.

Keyword: Solar photovoltaic module, Buck-boost converter, Zeta converter, Maximum Power Point Tracking.

References:

Authors: Jyoti P. Sawant, Sachin A. Naik, Santosh S. Chowhan

Paper Title: Lesion Detection and Classification techniques for Diabetic Retinopathy

Abstract: Diabetes is a worldwide spread disease which is increasing rapidly and found in all age people. Diabetic Retinopathy is a retinal abnormality caused by diabetes. Which can lead to permanent vision loss or blindness. As Diabetic Retinopathy pathology damages retina without any early symptoms, it is very important to do the regular screening of retina and detection of Retinopathy. Ophthalmologist does the identification of Retinopathy manually which is time consuming and error prone. Hence, there is a need for early and correct automatic detection of Diabetic Retinopathy. Many researches have done for detection using Image Processing, Artificial Intelligence, Neural Network and Machine Learning. This paper presents a review on Diabetic Retinopathy Detection systems. This review highlights the public datasets available for the evaluation of the detection systems with different segmentation and classification techniques. We have discussed the analysis of different classification and segmentation techniques used in DR detection.

Keywords: Classification, Diabetic Retinopathy, Diabetic Retinopathy dataset, DR Lesions, DR Lesion Segmentation, Feature Extraction.

References:
Abstract: A large number of solid wastes are being produced each day. This wastes, especially plastic and rubber, affects the environment. So, nowadays these kinds of wastes are used in flexible pavements. In this project, the performance of the asphalt mixture using waste plastic and crumb rubber was determined. The aggregate were partially replaced by waste plastic (0.5%,1%,1.5%,2%,2.5%) and crumb rubber (0.5%,1%,1.5%,2%,2.5%). Also, 10% of fly ash is used in addition to filler material. Various tests like specific gravity, Water absorption, Impact test and Crushing strength for aggregate and softening point, Penetration test, Viscosity test, Specific gravity test and Binder content test for bitumen were conducted in obtained asphalt mixture. A Marshall stability test is also conducted to find the performance of the asphalt mixture. All the test results are compared with the results of the conventional mixture. The result obtained shows the plastic waste incorporated asphalt mixture does not affect the performance of the pavement also reduces the rutting and fatigue of the flexible pavement.

Keywords: Asphalt mixture, Binder content test, Crumb rubber, Marshall stability test, Waste plastic.

References:

Abstract: With the increase of digital transactions, providing security for the network and its devices is a big challenge today. Sensitive information that has more value in the network is to be protected from unauthorized users in accessing it. Various algorithms are being developed to provide security services for the data. In this paper security is provided by using pixel value differencing technique. Valuable data is embedded in each of the component of color like red, blue and green of a pixel in a color image. In addition to that in providing additional security pixel value has been updated conditionally, that would be more complex to trace the incremented or decremented bits in a pixel of the image.
stegoimage. From this experiment the proposed method provides better visual quality of stego image. This proposed algorithm is suitable for small business applications where small size data is important and threats are more common.

**Keyword:** Security services, pixel, image, pixel value difference, Encryption, Decryption.

**References:**

**Authors:** B. Mahesh Babu, N. Uday Kumar, K. Santhosh Kumar, A. Amarendra, B. Bindhu

**Paper Title:** SAPF for Power Quality Improvement Based on PSODE Optimization Algorithm

**Abstract:** PQ phenomenon has gain an overwhelming attention in recent years for extensive use of complicated industrial processes. In the modern world, the usage of intelligent algorithms to enhance power quality is increasing gradually as the present day utility system as a linear model is unsatisfactory and ineffective. This paper emphasis on comparative analysis of PSODE with traditional PSO and DE for the harmonic reduction in source current with optimal tuning of proportional integral (PI) controller gain values. The SAPF is dominant among the power quality conditioners used to limit the variations that are induced in the utility system because of nonlinear loads. The reference current generation is based on PQ theory. The instantaneous switching of voltage source inverter (VSI) is taken care by hysteresis band current controller (HBCC). The pro-effective simulations are implemented in the MATLAB/SIMULINK environment, which even supports the efficacy of the present day power system.

**Keyword:** PQ theory, power quality (PQ), particle swarm optimization with differential perturbed velocity (PSODE), shunt active power filter (SAPF) and THD.

**References:**
Abstract: Variable rate herbicide spraying technology has become integral part of precision agriculture and this system works based on the weed density map of agriculture field. To improve the accuracy of crop/weed discrimination process this paper presents different image processing techniques. Edge detection process for obtaining contour is performed by using sobel operator with 5X5 gradient operator and canny edge detector. Grayscale morphology operations are performed to remove gray overlap due to background of the image in order to improve the accuracy of the segmentation process. In order to check the discrimination accuracy and extracting image features, the experiment was performed on 100 images of maize plant and weed plant leaves. From the experimental results, it is concluded that the proposed method can accurately extract leaf parameters for discrimination process with soil background.

Keyword: Edge detection, Gray scale morphology, crop/weed discrimination, Image features, Image classification

References:

Authors: Prof. Sanjay B. Dhaygude, Mr.Nitin P.Kumbhar

Paper Title: Feature Extraction for the Discrimination of Crop and Weed in Digital Images using Open CV and Python

Authors: P. Sunanda, D. Kavitha

Paper Title: NBC Model for Early Prediction of At-Risk Students in Course

Abstract: Increase in computer usage for different purposes in different fields has made the computer important to learn things. Machine learning made systems to learn things and work accordingly on their own. Among the different fields that use machine learning, the education field is one. In the education field, machine learning has led to the advent of a digital-enabled classroom, speech recognition, adaptive learning techniques, and development of artificial instructor. Along with this, the prediction has its importance. In the education field, the main problem is students drop out. The machine learning predictive modeling approach can be used to identify the students who are at-risk and inform the instructor and students before reducing the dropouts. The main intention of this paper is to model a system that could be a solution to reduce the drop-outs and increase the education standards in students by early predicting their risk in a course.


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5. grade prediction with course and student specific models – agorita polyzou and george karypis
6. building course-specific regression-based models to identify at-risk students - mr. farshid mabrouk
7. a deep feature selection approach - milad zafar nezhad
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9. survey on student performance prediction - mudit parwar
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The development of an Android Applications Model for the Smart Micro-Grid Power Pool System Monitoring and Control

Abstract: This paper presents the conceptual Android Applications Model for the Smart Micro-Grid Power Pool Monitoring and Control Scheme. The Rational for Energy Sustainability is the focus of this work. Several hybrid formations are utilized on either standalone or off grid basis without formidable measures to monitor and control the system against energy wastage remotely. This research work proposed smart micro-grid integrated scheme with android enable operated soft-touch human machine interface for the remote monitoring and control of the hybrid power pool system with its load shedding capability for Energy Sustainability. The optimize hybridized renewable energy resources harvested from the abundant wind, sun, water and bio-resources with the grid and Generator sources from Afikpo Local Government Area of Ebonyi State was considered as a research focal point. Proteus was used in designing system circuities for the control and monitoring of the power pool system to ascertain its functionality. Arduino IDE was used in developing, monitoring and control algorithm for the system operation. The sublime text enables HTML, JAVA and CSS program for the android application implementation. The design provides a remote operated touch screen Human Machine interface for the pool resources to be centrally manage or control thus, eliminating energy wastage. Five communities where selected for this demonstration. The results reveal that the android enable remote soft touch human machine interface facilitates optimal energy operation. Further research work should be tailored towards developing a similar scheme using same approach for up to 10 communities in the similar local government areas to face out energy sabotage.


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A Method for Effective IT Project Risk Management

Abstract: In this paper we introduce a project risk control strategy that is developed regarding IT organizations, requiring them to operate their projects having further securities along with regular procedures. Successful completion of these projects is essential for their advancements, like process improvement, market adaptation and new regulation, including the integration of information and control systems, etc. Often, project managers are not real strategic planning experts, however, the projects will have to still be driven by limited paperwork with sufficient opportunity to be autonomous. This paper attempts to build a method with a comprehensive investigation throughout a large proportion of IT companies regarding the project risk reduction strategy described herein. This approach is focused on risk evaluation and management of IT projects within the organizations, which, provides easy, suggested steps as well as recommended methods, models and threat check-lists. Results were evaluated by5 successful IT project managers dealing in categories of IT business including software engineering firms from different attributes (creativity, software solutions as well as ICT frameworks).

Keywords: IT firms; Project risk management; Risks evaluation.

References:


Authors: Oksana Makeeva, Mikhail Sartakov

Paper Title: SAP Production Management Solutions

Abstract: the article considers the need for ERP-systems in the management structure of a modern organization. In the course of the work, the main features of the ERP system, the specifics of its implementation, are disclosed, as well as the German SAP ERP system are substantively examined. The author draws attention to the SAP module: PP, which implies production management. The article reveals the main differences and capabilities of SAP in the management of a manufacturing company, as well as the frequently used functions of the PP module. In addition, the author considered the availability of combining the PP module with other program modules to achieve the most effective managerial control of production processes. In the second part of the article, the differences in the functioning of food production in the market are highlighted and the requirements that the ERP system must meet are controllability, variability, and automation of the management process. In the conclusion of the article, the main problems that the head of the enterprise is faced with when implementing an ERP system are highlighted.

Keyword: ERP, implementation, improvement, computerization, automation, food industry.

References:
Paper Title: Stock Market Forecasting from Multi-Source Data using Tolerance Based Multi-Agent Deep Reinforcement Learning

Abstract: Analyzing and forecasting the future trends in stock market is challenging due to the ever increasing size of stock data. Modern techniques extract the stock indicators from the web data to forecast the stock movements. However, most previous studies were based on single source of data for extracting these indicators. This might not be effective in obtaining all the possible diverse factors that influence the market movements. Multi-source data has rarely been applied for stock prediction and even those techniques have limitations in handling larger data. In an attempt to utilize multi-source data more effectively for extracting stock indicators and improve the forecasting accuracy of stock movements, this paper developed a stock market forecasting model using Tolerance based Multi-Agent Deep Reinforcement Learning (TMA-DRL) model. The TMA-DRL model effectively combines the quantitative stock data with the indicators i.e. the events extracted from news data and sentiments extracted from tweets. This forecasting model utilizes Random forests to extract the twitter opinions and Restricted Boltzmann Machine (RBM) for event extraction from news data. Combining these indicators, the TMA-DRL model leads to improved data learning and provides highly accurate prediction of future stock trends. Datasets for evaluation were collected from three sources namely Twitter, Market News and Stock exchange, for 12 months period. Evaluation results illustrate the effectiveness of the proposed TMA-DRL stock market forecasting model which makes predictions with high accuracy and less time complexity.

References:
Authors: K. Nagasivaranganjani, V. Muthu Kavitha, V. Divya Prabha, C. Asha Beaula

Paper Title: Design and Implementation of UAV Architecture for Delivering Medical Products

Abstract: Unmanned Aerial vehicles (UAVs) likewise regularly alluded to as automatons, and are increasing incredible research intrigue, consideration as a significant future innovation. These vehicles have almost boundless potential essentially because of their high mobility and small scale size, that permits their utilization in different applications. Among numerous kinds of UAVs, the multi-copter UAVs with 4 rotors (quadcopter) are being utilized and used regularly. Automatons are semi-self-governing airplanes that can be controlled and worked remotely. Economically accessible automatons are progressively being utilized in an assortment of uses. It is being used in a variety of applications such as, 3-D mapping, disaster monitoring, aerial packet delivery, photography and filming, and very useful in the field of monitoring and surveillance also in unmanned cargo system. Recent innovations made huge growth in this field that made the researchers to develop applications which are useful in the field of medicine to deliver drugs, blood products in remote areas. A medical drugs is delivered to the person based on the location which was identified through GPS module. This system offers the medicine to be delivered to the right person and at right time.

Keywords: UAV Unmanned Aerial Vehicle, GPS Global Positioning System, DC Direct Current, ESC Electronic Speed Controller, LCD Liquid Crystal Display, APM Arduo Pilot Mega, DS3S Direct Sequence Spread Spectrum, FHSS Frequency Hopping Spread Spectrum, PWM Pulse Width Modulation.

References:

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Authors: M. Alagurajan, C. Vijayakumaran

Paper Title: ML Methods for Crop Yield Prediction and Estimation: An Exploration

Abstract: Machine learning Has performed a essential position within the estimation of crop yield for both farmers and consumers of the products. Machine learning techniques learn from data set related to the environment on which the estimations and estimation are to be made and the outcome of the learning process are used by farmers for corrective measures for yield optimization. This paper we explore various ML techniques utilized in crop yield estimation and provide the detailed analysis of accuracy of the techniques.

Keyword: Machine Learning, Crop Yield,

References:

Authors: J. Josemila Baby, J. R. Jeba

Paper Title: Novel Trust Based Ranking for Intrusion Detection and Security using Deep Learning

Abstract: Network intrusions are turning out to be increasingly more complex to distinguish. To moderate this subject, intrusion detection systems (IDSs) have been broadly deploying in distinguishing an assortment assaults. A lot of consideration has been given to profound learning during recent days, and latest profound knowledge procedures are developing by superior functionality. Numerous PC with system application effectively use such profound learn calculations and report upgraded execution throughout them. In this article, we plan and assess an IDS utilizing profound learning and trust the executive’s component that enables gadgets to manage discrepant data about their neighbors. The proposed IDS method at first plays out a positioning procedure and specifically groups the hub utilizing profound learning system. Results and correlation on execution investigation demonstrates the predominance of the proposed IDS.

Keyword: Intrusion Detection Systems (IDSs); Deep Learning; Security; Ranking process; Trust organization.

References:
graph-based clustering to partitions the vertices i.e. data into different clusters depending on similarity matrix spectrum. The distance similarity is measured between the data and cluster mean. The Gradient Descent function find minimum distance between data and cluster mean. Followed by, the Local-Global Louvain method performs the merging and filtering of temporal data to connect the local and global edges of the graph with similar data. Then for each data, the change in modularity is calculated for filtering the unwanted data from its own cluster and merging it into the neighboring cluster. As a result, optimal ‘k’ numbers of clusters are obtained with higher accuracy with minimum error rate. Experimental analysis is performed with various parameters like clustering accuracy (\( \text{C}_{\text{ACC}} \)), error rate (\( \text{Err}_{\text{Rate}} \)), computation time (\( \text{Time}_{\text{C}} \)) and space complexity (\( S_{\text{com}} \)) with respect to number of temporal data. The proposed HGDSG-LGLC technique achieves higher \( \text{C}_{\text{ACC}} \) and minimum \( \text{Err}_{\text{Rate}} \) as well as \( S_{\text{com}} \) than conventional methods.

**Keyword:** Temporal data analysis, Gradient Descent Spectral graph clustering, Local-Global Louvain method, change in modularity

**References:**

**Authors:** N. Vivekanandana, A. M. Fulambarkar

**Paper Title:** Design and Testing of Fuzzy Logic Based Controller for Active Suspension System of a Quarter Car Model

**Abstract:** In today’s scenario, due to increase in sales of Sports Utility Vehicles (SUV’s) more and more people are opting for off road drive. The main challenge is to improve the performance based on handling and comfort. Hence the conventional static spring and damper system are being modified to accommodate semi-active and active systems. In this paper to study the effectiveness of active suspension system, a quarter car model is developed and Fuzzy control strategy is proposed to reduce displacement of chassis. Hydraulic actuator is used to provide active control in the suspension system of the quarter car model. The fuzzy logic controller is interfaced with the hardware system by LabVIEW software. For connecting the hardware with LabVIEW software Arduino is used. The comparison of active and passive suspension system shows that the chassis displacement is decreased by 30% in case of active suspension system whereas the settling time decreases by 69%.

**Keyword:** Active suspension; Fuzzy control, Quarter Car, Hydraulic Actuator

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Abstract: Medicines are synthesized to cure, ease, prevent diseases or help in the diagnosis of illnesses. Lots of aged people live unaccompanied; few of them are endure from disorder, making it difficult to take care by oneself. Delay of taking their tablets or even taking it at the incorrect interval may raise health consequences. The design of an IoT based medication system is established and it can be used by patients as well as caretakers in sequence to monitor and ensure that the correct amount of each medicine is being taken at the exact time. This provides audio communication to aware the user when a confirmed medicine is to be taken. Furthermore, a software application is used to send messages and email alerts to the patient and the caretaker.

Keyword: medicine box, Android app, IoT, Sensors, Cooling system.

References:

Abstract: The main aim of this experiment is to reduce the concentration of NOx in the exhaust gas below 100ppm with the most effective technique named selective catalytic reduction (SCR) with ammonia over to evaluate the performance of honeycomb and plate type catalyst in NOx reduction by varying the performance parameters such as flue gas temperature, space velocity, NH3/NO molar ratio, etc., and to find the optimum values of the above parameters under which we get the maximum efficiency of NOx conversion at which air is not polluted and we have the sustained and eco-friendly environment. The effect of various performance parameters on the SCR process is also evaluated and the optimum values of performance parameters are also found to get the maximum efficiency of NOx conversion. SCR performance is substantially under the effects of reactant (ammonia) concentration and operating temperature, so that the concentration of untreated ammonia emitted from reactor discharge (ammonia slip) increases significantly at NH3/NO ratios of more than 1.14 and operating temperatures less than 360 ºC and 300 ºC, respectively, in the catalytic filter medium and honeycomb reactor. Low level of ammonia slip can be achieved at the NH3/NO ratio of 1 and temperature range of 300–350 ºC in both reactors. The temperature of SCR is varied between 300OC to 350OC , with a fixed space velocity of exhaust gas and a fixed value of NH3/NO ratio of 1.

Keyword: SCR, honeycomb, plate, catalyst, NOx reduction, space velocity, pressure drop, ammonia slip.

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and efficient to be implemented in an organization with a large workforce. Authentication System technology has evolved over the years from the traditional manual verification to biometric technology. These approaches at some point of time have raised concern over the time consumption, range and bandwidth issues. An efficient solution for employee management through authentication is designed using the ESP8266 Wi-Fi module present in NodeMCU microcontroller. Employees connected to the Wi-Fi network of the organization could be tracked and the authentication process could be automated using the IP web camera that extracts the number plate of the vehicle. The vehicle Number plate is detected using a Web camera. This is done by the Computer Vision technique that extracts the region of the image based on the gradient difference found in the number plate. Access gate entry and exit are automated using database information, thus avoiding manual labour work. For a big organization, this could be more efficient than RFID Technology as this design helps the employee avoid the hassle of manually giving the attendance.

Keywords: Access Gate Authentication, Web camera, Number Plate Recognition, Automobile Mapping, Wi-Fi ESP8266.

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Authors: Sumathi R, Sankari V

Paper Title: Modified U-Cell Inverter using Advanced Process Controller for Photovoltaic Applications

Abstract: This paper proposes a single phase modified seven level U-Cell inverter configurations in which the advanced process controller has been implemented. By using the boost operation the output of the inverter will produce higher output voltage when compared to the maximum DC source value used. To obtain maximum power the designed inverter is implemented with the photovoltaic system where the power is produced from two different PV panels which is connected to DC link by using DC-DC converters. The semiconductor switches and DC links are used to generate the inverter AC output voltages with seven levels. Two PV panels with different voltages are used in which two panels voltages are combined and their powers are injected to the grid. To validate the dynamic performance of the proposed U-Cell inverter the advanced process controller is designed and processed to maintain the capacitor voltage to obtain the desired AC output with desired magnitude. The dynamic performance during changes in the supply current and DC voltage of capacitor for the process controller has been obtained.

Keywords: Advanced process controller, modified U-Cell inverter, PV panels, U-Cell inverter.

References:


**Authors:** Anuradha Sengupta, S. Sivasankari, V. Joseph Raymond

**Paper Title:** Predicting the Dynamic Behaviour of Malware using RNN

**Abstract:** Malware analysis can be classified as static and dynamic analysis. Static analysis involves the inspection of the malicious code by observing the features such as file signatures, strings etc. The code obfuscation techniques such as string encryption, class encryption etc can be easily applied on static code analysis. Dynamic or behavioural data is more difficult to obfuscate as the malicious payload may have already been executed before it is detected. In this paper, the dataset is obtained from repositories such as VirusShare and is run in Cuckoo Sandbox with the help of the agent.py. The dynamic features are extracted from the generated Cuckoo logs in the html and JSON format and it has to be determined whether it is malicious or not using recurrent neural networks. Recurrent Neural Networks are capable of predicting whether an executable is malicious and have the ability to capture time-series data.

**Keyword:** Behavioural Data, Cuckoo Sandbox, Recurrent Neural Networks, Zero-day Malware

**References:**

592.

**Authors:** A. Thirumalairaj, M. Jeyakarthis

**Paper Title:** An Intelligent Feature Selection with Optimal Neural Network Based Network Intrusion Detection System for Cloud Environment

**Abstract:** At present times, Cloud Computing (CC) becomes more familiar in several domains such as education, media, industries, government, and so on. On the other hand, uploading sensitive data to public cloud storage services involves diverse security issues, specifically integrity, availability and confidentiality to organizations/companies. Besides, the open and distributed (decentralized) structure of the cloud is highly prone to cyber attackers and intruders. Therefore, it is needed to design an intrusion detection system (IDS) for cloud environment to achieve high detection rate with low false alarm rate. The proposed model involves a binary grasshopper optimization algorithm with mutation (BGOA-M) as a feature selector to choose the optimal features. For classification, improved particle swarm optimization (IPSO) based NN model, called IPSO-BGOA has been derived. The significance of the IPSO-NN model is assessed using a set of two benchmark IDS dataset. The experimental results stated that the IPSO-NN model has achieved maximum accuracy values of 99.36% and 97.80% on the applied NSL-KDD 2015 and CICIDS 2017 dataset. The obtained experimental outcome clearly pointed out the extraordinary detection performance of the IPSO-NN model over the compared methods.

**Keyword:** Cloud computing, Intrusion, Detection, Feature Selection, Neural Network.

**References:**

593.
Keywords: dredger, compacted soil, surface layer destruction technology, high pressure jet, water hammer.

References:

Authors: Abraham K Samuel, J. Vinolin, D. S. T. Ramesh

Paper Title: Relaxed Skolem Mean Labeling of Four Star Graphs $K_{1,1} \cup K_{1,2} \cup K_{1,3} \cup K_{1,1}$ Where $1 \leq I_2 \leq I_3$

Abstract: Four star graphs $G = K_{1,1} \cup K_{1,2} \cup K_{1,3} \cup K_{1,1}$ where $1 \leq I_2 \leq I_3$ is a relaxed skolem mean graph if $|1 - I_2 - I_2 - I_1| = 2$ is the main purpose of this research article.

Keyword: Relaxed Skolem mean graph, relaxed skolem mean labeling, star graphs.

References:

Authors: P. K. Ghibitha Bebin, T. Gifta Irene Sophiya, T. Vijayanandh

Paper Title: Implementation of LWM2M Protocol in Constrained IoT Devices

Abstract: An emerging Lightweight machine to machine had been indulged with a high speed portable client-server specification. The LWM2M was helpful for constrained networks. It has systematic machine manipulation also with an invulnerability venture, was supported in IoT applications. Research activities also focus on the server domain was in process in LWM2M. In LWM2M end-nodes are always resource-constrained. The client-side authorized LWM2M functionalities are not only critical and crucial also challenging. To approach the client-side set-up in LWM2M, it has a proper authenticity environment embedded in hand with IoT node. Its interconnection was predeterminate to associate with the lightweight protocol stack and response was figured up by the LWM2M v1.0 specification. The usability and effectiveness of Lightweight protocol validated using a real-world application. Building a home automation product is one of the most effective parts is to think about protocols. Thus the LWM2M protocols are one of the efficient ways to communicate to gateways, servers, and sensors.

Keyword: Light Weight Machine to Machine (LWM2M).

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Authors: Oti Stephen Ejiofor, Agada Stephen C., Obe Chinedu, Salihu Ahmed, Ogbeuefi Uche C.

Paper Title: Dynamics of Speed Control of DC Motor using Combine Armature and Field Control with Pi Controller

Abstract: This work examines the intrigues associated with the speed control of DC motor by nonlinear joint control of the voltage of the armature cum the field current in conjunction with the proportional integral controller. In the case of controlling the armature, the field current component is kept constant while the armature in contained with variable voltage. However, in the case of controlling the field, the armature voltage is kept constant while the field contends with a variable voltage. Both the field and the control of armature were used to acquire a DC motor speed control enhancement which offers a stability of the system. The proportional integral (PI) is for the purpose of extension for identification of better alternative. As consideration is given to the electrical, electromagnetic and the motional or mechanical arrangements, a model is developed for the separately excited DC motor (SEDMD) which is mathematically analyzed. The originating models of the DC motor speed control schemes are simulated with the help of MATLAB/Simulink. The results obtained herein would be very useful for the control and process engineering outfits.

Keyword: Armature control, DC motor, Field control, PI controller, Speed control,

References:
As urbanization across the globe is on the rise. Construction has become one of the largest industries across the world. Concrete being one of the most abundantly used material across the construction industry possess cement as the core ingredient in its mixture. Studies have indicated cement manufacturing alone accounts for about 8% of the carbon dioxide (CO2) emissions across the world. With a forecast of 85% increase in the volume of construction by 2030, there is a need to protect the environment from being affected further by the emissions from the construction industry. As such there is an immediate need to resort to alternative materials to achieve environment friendly construction. One such material that has been in use for more than a decade is geopolymer concrete. This paper analysis the available literature for the necessity of geopolymer concrete to be used in the construction industry. In addition, it also explores the properties, and merits of using them towards a sustainable environment.
Forest classification algorithm provides better accuracy than other three algorithms.

**Keyword:** Decision Tree, Naive Bayes , Random Forest ,Sentiment Analysis, Support Vector Machine(SVM).

**References:**


**Authors:** Masarat Begum, Mohammed Abdul Wahed

**Paper Title:** Protecting Data Privacy in Cloud

**Abstract:** Cloud is now widely used for the remote storage of data; it’s an On-demand device and computer resource configuration process. This allows users to avoid locally saving and storing data. Remote data sharing is an inexpensive and effective way to share cloud users community resources. Diffie-Hellman used the previous approach to protect multi-owner cloud sharing for distributed groups. In the existing system, there is a community signature shared among all group members that contributes to the middle attack. The program suggested using the LFSR-dependent correlation method, which primarily used handshake protocol to safely exchange community signature to detect the attack, to detect an attack. If the calculated value exceeds one (value>1), the community's public key is changed to avoid abuse.

**Keyword:** Diffie-Hellman key Exchange, LFSR, Correlation

**References:**


**Authors:** Jayant R. Nandwalkar, Dnyandeo J. Pete

**Paper Title:** Diffie-Hellman key Exchange, LFSR, Correlation

**References:**

Furtherance in Splicing Technique of Optical Fiber Communication

Abstract: The improvement in technology over long distance communication using optical fiber has been regulated over past few decades, and it took drastic enhancement in one of the major parameter for joining two OFC cable (splicing). The different experiments performed in order to bring about the result that can give nearly 0dB splice loss when there is shifting of entire set up of Optical Fiber Communication. The splicing loss is created by the joining of two SMF using fiber optic fusion splicing. The objective of this paper is to determine the low splice loss in joining two single mode or multimode optical fiber, such that long distance communication that required multiple infrastructure assembly for its operational unit can be made re-locatable as there is large investment and material and electronic circuitry is associated to it. Therefore to reduce that cost we have sets of analysis that splicing loss can be reduced to 0dB for SMF-SMF end face connection or at least no improvement in splice losses while relocation of OFC infrastructure from one place to other place as the result of the tested experiment. Based on experiment conducted we came to conclusion that with essential requirements for establishing a low-loss and high-speed communication line using optical fibers, the need for quality of splicing technology along with perfect core alignment angle is required to reduce splice loss, such that the infrastructure can be shifted to many different location without any additional cost of new material and new resources. The exact measurement of splice loss can be insured by another set of formula which we came across during the experimental performance.

Keyword: optical fiber communication (OFC), fusion splicing, loss measurement, single mode fiber (SMF), fiber loss and distance estimate.

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Synthesis of Nanstructured Cadmium Sulphide and Fabrication of High Response Photo Sensor

Abstract: The light dependent resistor (LDR) are prepared using bulk CdS material and using conventional thick film technique. But bulk CdS and this conventional thick film technique gives lower inter-electrode spacing resulting poor response. In the present work, the CdS nanostucture was synthesized using hydrothermal reaction technique and with the help of screen printing technique, the CdS pattern having lower inter-electrode spacing resulting larger length of the CdS was prepared. As the inter electrode spacing increases the photocurrent also increases resulting enhancement of the sensor response. The work reported in the present paper provides the photo-sensor having higher sensitivity.

Keyword: Cadmium sulphide (CdS), nanomaterials, photosensor, optical sensor

References:
The advancements in technology and the increased use of internet, digital business models and Internet of things (IoT) have paved a way for sustainable and inclusive cities that provide their citizens a clean and sustainable environment. Smart solutions of the smart cities focus on making the life of its citizens comfortable but they fail to make their everyday activities motivated in becoming sustainable. This paper proposes a gamification framework that aims to facilitate energy conservation and customer engagement in smart cities. By using game in a non-game context such as in this gamification framework, helps in keeping the fun element of the game intact while achieving the specified learning objective of energy efficiency. The proposed application aims at identifying energy wastages and motivates behavioral changes of the player combining team play, virtual rewards and life simulation. The paper explains various concepts of gamification and differentiates it from game-based learning. It proposes the gamification strategy, game mechanics drivers and motivators, game engine, game architecture, financial rewards and a detailed set of rules for the proposed gamification application. The application targets at promoting awareness and involvement of the players in managing their own resources, choices and behavior for a sustainable development. The paper aims at motivating the citizens and changing their behavior in a desired way.

Keywords: Energy, Gamification, Smart Cities, Sustainability.

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50% of the response given by the respondents. We find that 50% of the respondents are teachers and students. They are most time engaged with their digital devices. According to the analysis of the survey model, LiKert scales were used to make an evaluation form which contains 21 questions related to the involvement of respondents in digital tools. Among the 200 students from different streams and teaching institutes of Jagdalpur, 100 faculty members are joined in this study. For data collection, general information is given to all students and faculty members. The digital addiction level of the students and faculty members of Different Teaching Institutes of Jagdalpur, according to their deviations for using digital tools, 200 students from different streams and 100 faculty members are joined in this study. For data collection, a general survey model was adopted. Likert scales were used to make an evaluation form which contains 21 questions related to the involvement of respondents in digital tools. According to analysis of response given by respondent we find that 50% of the respondents are teachers and students. They are most time engaged with their digital devices.

References


Authors: Ch. Lokeshwar Reddy, G. Janardhan
Paper Title: Enhancing the Performance of Multilevel Inverters using Modified SVPWM Techniques
Abstract: In this paper, two types seven-level multilevel inverters in three phase configuration, Cascaded H-bridge Multilevel Inverter (CMLI) and Diode Clamped Multilevel Inverter (DCMLI) are simulated and compared the results for three different carrier PWM techniques. Here, Carrier based Sinusoidal Pulse Width Modulation (SPWM), Third Harmonic Injected Pulse Width Modulation (THIPWM) and Modified Carrier-Based Space Vector Pulse Width Modulation (SVPWM) are used as modulation strategies. These modulation strategies include Phase Disposition technique (PD), Phase Opposition Disposition technique (POD), and Alternate Phase Opposition Disposition technique (APOD). In all the modulation strategies, triangular carrier and trapezoidal triangular carrier signals are compared with reference signal for generation of control pulses. The simulations have been carried out for seven-level CMLI and DCMLI using MATLAB/Simulink. The detailed analysis of results in terms of %THD and utilization of DC-link voltage has been presented in this paper. By increasing the performance of inverters the utilization of input energy is reduced, then the corresponding energy sources can be reduced.

Keywords: Cascaded MLI, DCMLI, PDSVPWM, PODSVPWM.
References:

Authors: V. Saidu
Paper Title: Design, Simulation and Experimental Analysis on Rectangular Microstrip Patch Antenna with Superstrates
Abstract: This paper focuses on design, simulation and experimental analysis of rectangular MSA with and without superstrates. The rectangular MPA is designed at frequency range of 2.40 GHz, which is lying in the S band region. The transmission line model analysis and High Frequency Simulation Software (HFSS) is used for designing of proposed rectangular MPA. The proposed antenna is fabricated on Arlon dicylad 880 substrate, whose dielectric...
constant is 2.2, thickness of the substrate is 1.6mm and loss tangent is 0.0009. In this paper the effect of dielectric superstrates on rectangular MPA and the height of superstrate are varying above the rectangular MPA is investigated experimentally and compared with simulated and measured results. The proposed antenna has been analyzed using different dielectric superstrates. From the study it was observed that in antenna without superstrate the VSWR is 1.21, return loss is -18.51dB, bandwidth is 0.038GHz. However, gain is 8.77dB. In the antennas with superstrates, center frequency is shifted from 2.40 GHz to 2.33 GHz as well as other parameters are slightly degraded. As superstrate height increases, the performance antenna is degraded and at particular optimum height the performance characteristics of antenna with and without superstrate will be same. The frequency range 2.40 GHz is used in wireless applications.

**Keyword:** Bandwidth, Gain, Superstrate, Voltage Standing Ratio.

**References:**


Authors: Shanthi Kumara Guru, M. R. Ebenazer.Jebarani

**Paper Title:** Secured Human Health Monitoring using Wireless Medical Sensor Networks

**Abstract:** Wireless Sensor Networks (WSN) is that the recent technology with the possibility to change the system of human life. The medical sensor plays a major role in health care applications for the field related to the Wireless Medical Sensor Network. The medical sensor helps in patient’s health monitoring system. The data of a patient’s very important body parameter collected through the wearable bio sensors in healthcare applications lead to the key technology enables the Wireless Medical Sensor Networks (WMSNs). The data transmission from the medical sensor to the network takes the larger bandwidth and time to transmit the network, which gets error during the transmission. So the information related to the patient’s sensitive data with a few privacy and security methods. The proposed system involves the transferring of the medical data through the Remote Human health care Model. The data transmission model designed with a low-energy adaptive clustering hierarchy (LEACH) increases the data transmission and maintain an energy of the node.

**Keyword:** WSN, Health monitoring, biosensors, sensing nodes.

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Keywords: Deep learning (DL), Diabetic Retinopathy (DR), Microaneurysm (MA), Convolutional Neural Networks (CNN)

References:
suitable plant protection measures directly improve quantity and quality of agriculture produce. Effective result oriented plant protection mainly involves early detection of pest and diseases and suitable control measures. The entire human population consume products of food grains like cereals and millets as their staple food. This paper aims at summarizing common image processing methods to identify plant diseases and how it could be improved using nature inspired algorithm.

**Keyword:** Agriculture, Image Processing, Leaf diseases, Millets, Nature Inspired Algorithms

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Ant Colonized and Taguchi Parallel Scheduling with Sequence Independent Setup Time

Abstract: The Job Shop Parallel Machine Scheduling (JSPMS) is a hybrid production system, and hence has received significant attention in the past few years. The JSPMS problem is a rationalization of the traditional job shop scheduling problem in computer science and operation research that permits to process operations on single machine out of a set of possible parallel machines. To maximize the job completion rate and minimize job completion time, a hybrid production system is necessary. With this objective, a novel meta-heuristic method is designed. This paper develops a scheduling method called, Ant Colonized and Taguchi Parallel Operation Scheduling (AC-TPOS), for JSPMS, aimed to minimize completion time and maximize job completion rate. The design of AC-TPOS method involves two different models, namely, Ant Colonized Parallel Machine Selection (ACPMS) model and Taguchi Parallel Operation Scheduling (TPOS) model. In ACPMS model, optimal selection of machine is done via operation being processed by parallel machines using local pheromone updating rule concentrating on the makespan rate. In addition, the processing time and sequence-independent setup time are considered. Next, in TPOS model, optimal scheduling of operation is performed using Taguchi method concentrating on the makespan rate. Finally, the test results first show that our algorithm outperforms existing methods in terms of job completion rate, job completion time and computational complexity involved in scheduling operations.

Keywords: Job Shop, Parallel Machine, Scheduling, Ant Colonized, Taguchi, Processing time, Setup time

Authors: Sankar Padmanabhan, Manjunath K M, Madhurima V

Paper Title: Diagnosis of Type-2 Diabetes using Classification and Mining Techniques

Abstract: Around two hundred and fifty million individuals, with a major part of them being ladies influenced by diabetes. This number may ascend to 380 million by another decade. The sickness has been named as the fifth deadliest illness in the world with not a single inevitable fix to be seen. With the ascent of data innovation and proceeding with an approach into the restorative and medicinal services part, the instances of diabetes and their side effects all around are archived. Information mining is a buzz word separating concealed data from an enormous arrangement of database. It assists scientists in building large database in the area of biomedical engineering. The Pima Indian diabetes database was used for investigation purpose. In this paper an attempt has been made to study the effect of various classification and mining Techniques like Decision Tree, Naive Bayes, SVM, Regression etc on the diagnosis of Type-2 diabetes.

Keyword: Algorithms, Heart rate variability, J48, Regression, SVM

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Crop Yield Prediction Techniques using Remote Sensing Data

Abstract:
Crop yield prediction is an art of forecasting the yield of crop before harvesting. Prediction of crop yield will be very useful for the government to make food policies, market price, import and export policies and proper warehousing well in time. The socio-economic impact of crop loss due to any natural disaster i.e. flood, drought can be minimized and humanitarian food assistance can be planned. The paper present a literature survey of various statistical method, empirical models,artificial neural network and machine learning regression techniques which are used with the data provided by the satellites. Many models are developed and results calculated are compared with the benchmark models are also presented.

Keywords: Normalized Difference Vegetation Index (NDVI), Leaf Area Index (LAI), Support Vector Machine, Decision Tree, Neural Network.

References:


https://semiengineering.com/deep-learning-spreads/

Authors: M.Thusleem Furjana, M.Bhanumathi

Paper Title: Fuzzy Metric Dimension of Fuzzy Hypercube Qn and Fuzzy Boolean Graphs

Abstract: Let G = (V, E, µ) be a fuzzy graph. Let M be a subset of V. M is said to be a fuzzy metric basis of G if for every pair of vertices x, y, M is a subset of V – M, there exists a vertex w ∈ M such that M(x, w) ≠ M(y, w). The number of elements in M is said to be fuzzy metric dimension (FMD) of G and is denoted by M(G). The elements in M are called as source vertices. In this paper, we study the fuzzy metric dimension of fuzzy hypercube Qn, fuzzy Boolean Graph BG2(G), fuzzy Boolean Graph BG3(G).

Keyword: fuzzy Boolean Graph BG2(G), fuzzy Boolean graph BG3(G), fuzzy Hypercube Qn, fuzzy metric dimension.

References:


Authors: Shalini S, Kalaiselvi S, Logeshwari M, Pavithra P

Paper Title: Implementation of Farm Weeding and Soil Moisturization Techniques using Agribot

Abstract: Agriculture plays a vital role in Indian economy sector as it contributes about 17% to the total GDP. This agribot project aims at reducing the work of farmers in addition to increasing the speed and accuracy of the work. It fulfills the fundamental functions of agriculture such as seed sowing, fertilizer mist and arm gripper. The
above feature is carried out using Arduino mega 2560, soil moisture sensor, temperature sensor (LM35 sensor), L293D driver, DC servo motor, ESP8266 module, relay, power supply, WIFI camera and mobile app. Our project work is implemented using IOT methodology. This system is efficient and operator friendly. This is particularly important for workers in the area where health and jobs are potentially harmful.

**Keyword:** Agribot, Android App, IoT, Sowing, Spraying, Weeding.

**References:**

**Authors:** Anitha A, Mathivanan R, Sundarraj R, Indhulekha J

**Paper Title:** Knowledge Extraction for Business Information System using C5.0 Tree Algorithm

**Abstract:** Usually people can predict that some products will be purchase by the males and some will be purchased by the females, but there are some hidden factors behind the data. When the data was analyzed, Analysts comes to know those hidden factors in the dataset. In this study,C5.0 algorithm is used which is highly approachable compare to other decision tree algorithms. So that it is easy understand the data patterns and the decision that can be made by the Entrepreneur. Normally the products like beer, meat, crispy chips and so on will be purchased by the males and the products like chocolates, soft drinks will be purchased by the females, but when the data was analyzed it is predicted that which gender would buy which product that can't be predicted by the normal peoples . In this project, it is proposed to apply C5.0 algorithm for finding the target customer group. Identifying specific customer group is necessary to improve profit in sales domain. Accuracy attained with proposed model is 81.6%. For each category of product, the interested gender group is identified

**Keyword:** Accuracy,DecisionTree,KnowledgeExtraction,Prediction.

**References:**
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**Authors:** Mahendra Kumar Rath, Rashmi Ranjan Panda, Sanjay Patnaik

**Paper Title:** Experimental Work on Cold Starting Emission of CI Engine using Engine Waste Heat Energy

**Abstract:** In the present day, emission by internal combustion engines causes several problems like acid rain, depletion of ozone layer, and global warming for which it has become a prior concern. The hazards further increases during cold weather conditions. In this paper, emission analysis has been carried out using single cylinder, 4 stroke, direct injection and water cooled variable compression ratio diesel engine. A thermal energy storage device (TESD) containing phase change material (PCM) has been designed and tested for storing the waste energy of cooling water from engine and reutilizing it for pre-heating. The working principle of TESD is based upon the principle of absorbing and rejecting heat during phase change of PCM material. The test condition is 15° C and 1 atm pressure at which, the experiments are carried out using TESD. A significant reduction in CO (23.72%), HC (2.03%) and smoke opacity (6.05%) after 900sec and an increase in engine temperature upto 61°C after 840secs of engine running is observed.

**Keyword:** Direct Injection, Emission, Karanja oil, Pre Heating, Variable compression ratio, Waste energy.

**References:**

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**Authors:** Shreyash Kulkarni,Rahul Kumbhar,Krunal Mistry,Shravan Nithurkar,‖Multipurpose Agribot‖,IO Farm Monitoring‖,ICISC 2018.

**Paper Title:** Knowledge Extraction for Business Information System using C5.0 Tree Algorithm

**Abstract:** Usually people can predict that some products will be purchase by the males and some will be purchased by the females, but there are some hidden factors behind the data. When the data was analyzed, Analysts comes to know those hidden factors in the dataset. In this study,C5.0 algorithm is used which is highly approachable compare to other decision tree algorithms. So that it is easy understand the data patterns and the decision that can be made by the Entrepreneur. Normally the products like beer, meat, crispy chips and so on will be purchased by the males and the products like chocolates, soft drinks will be purchased by the females, but when the data was analyzed it is predicted that which gender would buy which product that can't be predicted by the normal peoples . In this project, it is proposed to apply C5.0 algorithm for finding the target customer group. Identifying specific customer group is necessary to improve profit in sales domain. Accuracy attained with proposed model is 81.6%. For each category of product, the interested gender group is identified

**Keyword:** Accuracy,DecisionTree,KnowledgeExtraction,Prediction.

**References:**
6. Rafik Khaari A., Indwarii, S Yuliant. :" Implementation of decision tree using c4.5 algorithm in decision making of loan application by debtor". In: 3rd INTERNATIONAL CONFERENCE ON INFORMATION AND COMMUNICATION TECHNOLOGY(ICoICT) 2015, pp. 75-80. IEEE.
8. Yarong Zhong :"The analysis of cases based on decision tree". In: 7th INTERNATIONAL CONFERENCE ON SOFTWARE ENGINEERING AND SERVICE SCIENCE(ICSESS) 2016, pp.142-147. IEEE.
Abstract: An application of sun-shading device is one of the options to elevate the exterior façade appearance while keeping the thermal performance at the best for the indoor. This research aimed to evaluate the effectiveness of selected types of fixed passive sun-shading devices installed at three-story terrace shop houses in Malaysia. Most studies on this passive strategy have been conducted via software simulation, in which results were not validated by field measurement. Therefore, this research employed stationary experiment on actual building and meteorological condition using three types of fixed shading devices: egg crates (SDE), vertical (SDV), and horizontal (SDH). SDE showed significant improvement on indoor thermal environment by reducing indoor air temperature (Ta) of about 0.98 K on the average of a month and 2.11 K on the highest temperature on the average of a month. SDE also showed significant performance during the hottest sunny day, in which it reduced 1.23 K for the air temperature (Ta) and 0.98 K for indoor mean radiant temperature (Tmrt) on the average of a month. Similarly, for indoor mean radiant temperature (Tmrt), SDE reduced 5.40 K compared to the control room. On top of that, SDH also showed similar performance as SDE on the average of a month by a difference of 0.03 K. The experimental results also indicate that SDH showed the best performance at night by releasing heat faster than other types of sun-shading devices. This passive solution is one of the best options to improve indoor thermal environment and potentially contribute to energy savings on the building operation.

Keyword: Fixed-passive sun-shading device, Egg crate shading device, Horizontal shading device, Vertical shading device, Indoor thermal performance

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Empirical Data on Mobile Money Hesitation Factors in Somalia

Abstract: Mobile money is an electronic system of transferring money from person to person. The mobile money service has expanded its coverage all over the world and there is hardly any country that do not practice any form of mobile money transfer. Somalia is one of the countries that embraced mobile money unconditionally as there is lack of traditional financial institutions providing financial services since the collapse of central government in 1991. Somalis accepted mobile money because it has made money transfer easier for them to pay bill and shopping. However, there are hesitation factors that hinder the full scale functioning of the system and makes people hesitate to use mobile money. Currently mobile money users practice very limited mobile money functions such as sending and receiving, withdrawal, top up and internet recharge. Other mobile money functions such as pay tuition fees, payrolls, payments for purchase t, utility payment and saving money into mobile money account are lagging behind. This empirical study explores the inconvenience factors that lead people to hesitate to use mobile money in a large scale. In this study, 650 survey questionnaire were distributed among mobile money users in Somalia. The questionnaires were distributed through online Google form. A total of 375 respondents submitted their responses and all the answers were recorded into SPSS. IBM-SPSS statistics 22 were used to statistically analyses the data. Factor analysis for data validity and scale analysis for data reliability, frequency and descriptive statistics were conducted to analyze the data. The study found that there are numerous mobile money hesitation factors that make Somali people to hesitate fully practicing the system. These hesitation factors include perceived risk of financial loss, perceived risk of system error, perceived risk of authentication weaknesses, lack of regulation and policy and interoperability between the mobile money service providers. This study concludes that hesitation factors needs to be addressed that will improve the level of mobile money usage into full scale. Among factors that may reduce hesitation factors of the usage of mobile money services in Somalia are high level accuracy of mobile money authentication system, operative interoperability platform, highly effective compensation system and functioning mobile money regulations and policy.

Keyword: Mobile money, hesitation, perceived risk, regulations, interoperability.

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The Stability of power system is influenced by different elements such as harmonic distortion attributed to non-linear loads, like unregulated voltage and unsteady current because of sag and swell and switching capacity. One of the effective methods is to make use of an integrated circuit of active shunt and series power filters regulating in Uganda’s mobile money sector1,” The African Journal of Information and Communication, vol. 2016, pp. 89-110, 2016.

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3. Paraskevi nousi et.al(2019),’embedded uav real-time visual object detection and tracking”,jee

Authors: Sandeep Kaur, Raja Singh Khela

Paper Title: Stability Analysis of Power System using FACT Controller

Abstract: The Stability of power system is influenced by different elements such as harmonic distortion attributed to non-linear loads, like unregulated voltage and unsteady current because of sag and swell and switching capacity. One of the effective methods is to make use of an integrated circuit of active shunt and series power filters such as Unified power quality conditioner in short called as UPQC. Such instrument binds a active shunt power filter with a active series power filter in Sequential formation, to simultaneously make up for the regular supply of voltage and current or to remove voltage and current disturbances in a power allocation and networking system. In present article, a latest layout of Unified power quality conditioner in short called as UPQC has been presented, consisting of a electromechanical device such as Direct current to direct current converter and the storage device joined to the direct current (DC) link of the UPQC to counter the voltage disturbances.

Keyword: Unified power quality conditioner (UPQC), active shunt and series active power filter, voltage interruption, DC/DC converter.

References:
Computational Analysis of Natural Convection Heat Transfer on a Vertical Plate With Discrete Heat Sources

Abstract: In the present study, buoyancy driven free convection flow along the vertical plate with discrete heat sources is analyzed. To illustrate free convection heat transfer across a vertical plate with finite discrete heat sources a 2-D steady-state model is considered. The thermos-physical properties of fluid are assumed constant except for the buoyancy terms, which are computed using the Boussinesq approximation of Navier–Stokes equation. The two-dimensional Navier–Stokes equations are solved using SIMPLER algorithm. The dimensionless equations are decrisedt and solved by using central difference finite difference approach. The development of the air flow caused by buoyancy induced free convective heat transfer has been studied through the progression of velocity and temperature field. The results are obtained for various Grashof numbers Gr=103, 104 and 5×104, and the influence of Grashof number on flow field has been studied. Average Nusselt number at the plate is also obtained. The effect of variation of Prandtl number at a given Grashof number is also studied.

Keywords: Heat transfer, Natural convection, Nusselt number, Vertical plate.

References:

Authors: D. Louisa Mary, M. Ramakrishnan, A. Abraham N R Singh

Paper Title: Performance of Smart Farming through Drip Irrigation and Managing of Fertilizers and Pesticides through IoT and GSM

Abstract: In conventional farming the growth of the plant of interest is manually monitored by human senses, which needs high degree of sense perceptions and it always has a high quantum of error. If the farming is made automated with IoT applications, it can be done with utmost precision and accuracy. Human interventions can be minimized. Thus the efficiency of the cultivation can be enhanced and utilization of materials like water, fertilizers can be optimized. In IoT-based Smart Farming, a system is built for monitoring the crop field with the help of humidity, temperature, soil moisture sensors and automated the irrigation system. Internet of Things (IoT) is a collection of wireless sensors network finding their applications in the optimization of irrigation and administration of useful nutrients. Wireless Sensor Networks (WSN) are major components of IoT. This irrigation method will avoid the wastage of water, save time and produce more yield. This Proposed method detects the fertilizers and pesticides spraying date and send the alert messages to the user using GSM (Global System for Mobile Communication) for better yield both quantitatively and qualitatively. Drip irrigation method is also adopted to use water sparingly and hence to avoid other problems like eutrophication and green house effect which are commonly caused by flooding of cultivation lands.

Keyword: IoT, Smart Farming GSM, WSN, Drip irrigation

References:

Authors: A.Y. Prabhakar, Akshit Sharma, Ashish Kumar Singh, Tushar Sharma

Paper Title: Integrating IoT and WSN for Detection & Tracking

Abstract: The project throws light on detection of object and afterwards tracking of the said object using IOT and WSN. All the operations will be performed in real time as capturing of images is a continuous process which is achieved with the help of ESP32CAM mounted on the chassis of the robot and its connection is given to ESP32CAM. Ultrasonic detects object and tracking by robot is done by its right or left movements and backward or forward movements depending on the said object’s displacement. The distance between the robot and the said object is constant which is preserved with the help of ultrasonic sensors. Tracking involves live video feed and trigger of manual mode for detecting the object. Once the object is detected it will be intimated through WSN to base station and through IoT local and central headquarters for further analysis.

Keyword: ESP32CAM, WSN, IoTs.

References:
Effect of Pouring Temperature on Mechanical Properties of Semisolid Cast A319 Aluminum Alloy

Abstract: Semisolid metal (SSM) casting or thixoforming is a technique used to produce near-net-shaped products. The process is used with non-ferrous metals, such as aluminium, copper and magnesium. Furthermore, it has advantage over conventional casting due to suppression of dendrite growth. In the present work, the semisolid casting of A319 aluminium alloy has been carried out by using an inclined plate with different melt pouring temperatures (620, 625, 630 and 635 °C). A319 alloy melt undergoes partial solidification when it flows down on an inclined plate. It results in continuous formation of columnar dendrites on plate wall. Due to forced convection, these dendrites are sheared off into equiaxed or fragmented grains and then washed away continuously to produce semisolid slurry at plate exit. The prepared castings were checked for their mechanical properties like tensile, hardness and impact strength. The results obtained were compared with that of alloy prepared from conventional sand casting. It was found that there is an enhancement in mechanical properties due to shearing off columnar dendrites.

Keyword: casting, mechanical properties, pouring temperature, semisolid

References:

Design of Optimal Scheduler for Process Scheduling

Abstract: CPU Scheduling takes plays an important role in multiprogramming systems. There are several programs present in memory. It is the responsibility of operating systems to select the process and assign it to CPU. There are various algorithms available for CPU Scheduling. The algorithm’s performance depends on various factors like arrival time, priority etc. This paper helps to select the best algorithm by comparing various algorithms under the same condition and analyzed them based on various factors like waiting time, turnaround time, CPU utilization, Throughput.

Keyword: scheduler, throughput, turnaround time

References:
Authors: Bagus Mulyawan, Meyliana, Achmad Nizar Hidayanto, Harjanto Prabowo

Paper Title: Ontological Base Information System in Higher Education

Abstract: Higher education institutions that produce various documents of scientific information on learning outcomes need tools that can accommodate stakeholders in utilizing various data that have been generated. The application of ontology-based systems can be very helpful in managing knowledge data based on keywords that are difficult to do with traditional methods. In this study aims to find out various studies that have been carried out about ontology base application of information systems in higher education institutions. The steps include the study of literature sourced from major databases such as Science Direct, IEEE Explore Digital Library, ACM Digital Library and others credible sources. Set through the selection criteria and data extraction this study from 195 papers, 21 papers were analyzed. The results of the analysis of this paper conclude that the information system that has been developed in Higher Education is an ontology application that is used to carry out various evaluation processes in education, e-learning, academic recommendations, information search, higher education companies, content management, knowledge management, documentation, education company, syllabus, knowledge management, and others. From this research it appears that various ontology-based applications have been developed for various information system needs in higher education, where the aim is to facilitate the search for various types of scientific documents and supporting documents precisely and quickly. For application development, the OWL language is the most widely used choice and the Protege as a development tool is the main choice of researchers.

Keyword: Ontology; university; application; information system; higher education

References:
Abstract: Today system is day by day increasing and the maintenance of a system is a very difficult task. To explain the component identification problem for architecture which is support to a component based technology. To identify component and optimal, first we describe the Ant clustering approach and then we explain the method how the ABC helps for groups for cluster the Use case in this paper proposes a ABC is a population based NP type problem with heuristic that can be used to find approximate solutions to difficult combinatorial optimization problems. This paper presents an effective ABC approach with ant colony in this paper we also find the optimal number of components or clusters. Finally the ABC applies into different existing system.

Keyword: Modeling, Complexity, Software UML

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Authors: Ogunyebi S.N., Adedowole A., Ogunlade T.O., Oyedele A. A.

Paper Title: Flexural Motions of Beams on Foundation Subjected to Moving Concentrated Force

Abstract: In this present paper, the dynamic analysis of non-prismatic beams subjected to moving concentrated forces is investigated at constant speed. Two cases of load- beam interaction problems described by the Dirac delta function with constant and harmonic magnitude mobile forces are studied. The technique called Galerkin’s method in conjunction with integral transform method was employed to solve the motion equation. From the numerical results, it is evidently seen that an increase in the foundation stiffness provides reduction on the beam deflection. And furthermore, the issue of resonance is closely monitored and observed to have reached earlier in constant magnitude than harmonic variable magnitude problem. Results presented in this work are useful in constructions engineering designs.

Keyword: Vibrating, Non-Prismatic Beam, Concentrated forces, Harmonic load, foundation, Galerkin method.

References:

Authors: Shweta Chaku, Amrita Bhatnagar

Paper Title: 2D Transformations Analyzed by Both Column Vector and Row Vector Synthesis

Abstract: The 2D aspects of Computer Graphics such as vector primitives and 2D transformations are important in creating 2D content. The Transformation are the effective means of shifting or changing the dimensions and orientations of images in the most effective way. If we fail to transform the object in terms of displacement, enlargement, orientation, we may land up in creating something that is distorted and processing a distorted object is not acceptable. The usual practice of defining transformations is straightforward. The transformed object can be obtained by coupling original object with the transformation vectors. The main challenge is how to evaluate it. The usual practice is standard Column Vector form. The alternative Row Vector Form is also known approach but what
matters is the sequence of operations that make these both approaches worth mentioning. While doing so our analysis on 2D content keeps our knowledge flawless and takes it a step further as far as Image Processing is concerned. Such analytical study is very vital since most of the content created, acquired, reproduced, and visualized in 2D needs to be mapped on to 3D. This paper describes the transformations (Translation, Scaling, and Rotation) in the both Column and Row Vector Approach. This paper aims in providing a clear sequence of calculations which differ in both approaches.

**Keyword:**
2D Transformations, Homogeneous Coordinates, Rotation Scaling, Translation, Reflection

**References:**

**Authors:**
Divya, D, Balasaraswathi, R, Harini kalyani, M, Vivek Anand, I

**Paper Title:**
Modeling and Execution of Floating Point Parallel Processing Operation for RISC Processor

**Abstract:**
The development of processors with sundry suggestions have been made regarding an exactitude definition of RISC, but the prosaic concept is that such a computer has a small set of simple and prosaic instructions, instead of an outsized set of intricate and specialized instructions. This project proposes the planning of a high speed 64 bit RISC processor. The miens of this processor consume less power and it contrives on high speed. The processor comprises of sections namely Instruction Fetch section, Instruction Decode section, and Execution section. The ALU within the execution section comprises a double-precision floating-point multiplier designed during a corollary architecture thus improving the speed and veracity of the execution. All the sections are designed using Verilog coding.

Monotonous instruction format, cognate prosaic-purpose registers, and pelucid addressing modes were the other miens. RISC exemplified as Reduced Instruction Set Computer. For designing high-performance processors, RISC is considered to be the footing. The RISC processor has a diminished number of Instructions, fixed instruction length, more prosaic-purpose register which are catalogued into the register file, load-store architecture and facilitate addressing modes which make diacritic instruction execute faster and achieve a net gain in performance.

Thus the cardinal intent of this paper is to consummate the veridicality by devouring less power, area and with merest delay and it would be done by reinstating the floating-point ALU with single precision section by floating-point double precision section. Video processing, telecommunications and image processing were the high end applications used by architecture.

**Keywords:**
Double precision, RISC, Floating –point ALU, Instruction decoder.

**References:**

**Authors:**
Karim Sidibe, Cheick Tidjane Kone, Thimou N’takpe, Boko Aka, Michel Babri

**Paper Title:**
Wireless Sensor Node Performance Analysis Under Mac Protocol IEEE 802.15.4

**Abstract:**
The long-term use of sensors while guaranteeing good performance is a major challenge for sensor networks. To address this issue, it’s important to have a good resources management policy. So it is necessary to find the main factors which affected the behaviour of each sensors inside the networks to. In this paper we proposed an enhanced analytical model of CSMA/CA 802.15.4 standard and we study the performance of the proposed model under the MAC parameters and the density of network to find the keys parameters that impacted the quality of services (QoS) of the network.

**Keywords:**
Wireless sensor Network, CSMA/CA 802.15.4

**References:**
Cloud security is becoming more essential than ever with the tremendous development of delicate cloud data. The cloud information and services are located in massively scalable data centers and can be accessed anywhere. Unfortunately, the development of cloud users has been followed by an increase in cloud malicious activity. More and more vulnerabilities are being found, and fresh safety advisories are being released almost every day. Millions of customers surf the cloud for different reasons, so they need extremely secure and persistent services. The cloud storage system interconnect with the a load of potential security risks. So the cross encryption of Ciphertext Policy Attribute Based Encryption (CPAB) and Key Policy Attribute-based encryption which increases the security level in the encryption side. A segmentation part helps in splitting the encrypted file in storing the data in the cloud side, the Desegmentation part in the receiver side can easily combines spitted data into the single file for validation examine an authentication level in the received data. Here the cloud storage easily with the file fragmentation processes, This processes research over the storing mass amount of data on off-site installation, which can eliminate the cost in maintaining the physical hardware. Cloud's future includes a much greater degree of privacy and authentication, particularly in extending the variety of installation, which can eliminate the cost in maintaining the physical hardware.
Keywords: Cloud computing, Attribute based Encryption, privacy, Security.

References:

Authors: V. M. Turdaliev, B. Igrashev, G. U. Makhamamov, A. A. Qosimov

Paper Title: Theoretical Research on the Flight of Onion Seeds under Discharge from the Seeding Unit

Abstract: One of the most important issues of sowing small-seeded crops (an example of onions) is considered. The method of sowing has a great influence on crop yields. The choice of planting method is due to the need for a more uniform distribution of plants over the field area in order to optimize the conditions for their development. Studying the movement of seeds during the sowing process is the most important task. Because the object of sowing is the seeds. The article provides an analysis of previous work on the precision sowing of small seed crops. And also, the flight and the trajectory of the seeds from the ejection window to the bottom of the groove were studied theoretically. In research methods of higher mathematics were used, in which it was possible to obtain the necessary equation. Based on the numerical solution of the obtained equations, graphs are constructed that determine the path of onion seeds on the corresponding X and Y axes. It can be seen from the graphs that the flight path of the seeds changes according to the parabola law.

Keywords: Seeds, onions, movements, speed, trajectory of a small-seeded crop, sowing apparatus.

References:

Authors: A. T. Majidov, N. M. Safarov

Paper Title: Statistical Research and Efficiency in the Process of Direct-Flow Ginning

Abstract: The present time more attention is allocated with the purpose about an opportunity manufacture qualitative products to improve technologies. In clause, the improvement of engineering and technology for...
allocation fibrous raw material is investigated. The scientific significance of the research results lies in obtaining dynamic and mathematical models of motion, numerically solving the problems of determining the laws of motion and parameter dependencies, the modes of motion of the recommended working bodies (saw cylinder, working chamber, grate, raw roller accelerator, chain gear for saw cylinder drive, bearing support) saw gin. The practical significance of the research results is to improve the saw gin, which allows obtaining high-quality cotton fiber with high productivity due to the intensification of the ginning process, an increase in the working life, as well as a decrease in the required drive power. The technology and design of a heated gin working chamber for ginning raw cotton of high humidity has been developed.

**Keyword:** Cotton fiber, raw cotton, small-letter, factor, technology, fibrous material, process, fluctuation, fraction, experiments, ginning.

**References:**


**Authors:** Omnia Saidani Neffati, Oumaima Saidani, Devi Mani, Pooja Dixitka G.

**Paper Title:** Internet of Things for Smart Cities: Current Issues and Research Challenges

**Abstract:** Every day, we are stepping towards to lead a smart life within a smart world, thanks of IoT smart applications. The continually need for new urban systems including smart infrastructures, smart energy grids and smart mobility systems makes appear of a new concept, named: “Smart City”. This concept represents one of the most promising challenges of IoT applications since it involves the enhancement of our lifestyle. Among its promising advantage we can cites: the reducing resource consumption, the real-time guidance for citizens, the transportation facilities, etc. In this paper, we propose, first, a literature review on researches addressing many aspects of Smart City. Second, we provide a comparative study between these researches on the basis of multiple criteria like interoperability, scalability, security, etc.


**References:**

Image fusion is a powerful method and developing field in the area of image processing. The image fusion is a type of methodology that combines the two or more images into a single more informative image. Image fusion process the assimilation of numerous input images into a new single fused image with highly informative than the input image. There are various image fusion transform techniques are proposed. Out of that techniques a Non-subsampled Counterlet transform includes shift invariant property, highly directionality, reduced the cost and more efficient information as compared to previous techniques such as wavelet transform(WT), DWT, LWT, MWT, Subsampled Counterlet transform includes shift invariant property, highly directionality, reduced the cost and more efficient information as compared to previous techniques such as wavelet transform(WT), DWT, LWT, MWT, CWT, Curvelet transform, Contourlet transform. In NSCT, we decompose the images into low frequency and high frequency using sparse representation and absolute-maximum rule respectively. The DGSR algorithm is used for the better performance of SR-based approach. Finally, to reconstruct the image we use inverse NSCT and output is fused image.

**Keyword:** Image fusion, NSCT, SPARSE, SENSOR.

**References:**
Abstract: Cultivators and sellers of many high-in-demand fruits traditionally preferred natural ripening after picking. Greed of hefty profits has motivated some of them to artificially hasten the ripening process at the cost of people’s health. Artificial ripening processes tend to degrade the entire quality of the fruit. The focus of this work is to describe a nondestructive method to detect artificial fruit ripening. To aid the detection, the proposed solution utilizes image processing and machine learning techniques to find the artificially ripened fruits. An input fruit image is selected as the test image. The next stage involves comparison of the features (histogram values) of the test image with the image of a naturally ripened one. A smartphone runs an android application to identify artificially ripened fruits. This work specifically concentrates on the commonly preferred Indian Mango and Indian Apple. The developed mechanism has an efficiency of 89-94% in correct detection.


References:
Abstract: Wireless sensor network which competes with the modern technologies also paves the way for research and development. Mobile and static sensors form a network that balances sensor coverage and the cost of the sensor. For this a thorough study of the coverage area and mobility of mobile sensor node is necessary. Coverage in wireless networks involve the observation of physical distance enclosed by the sensors. Voronoi diagrams are used to find out the coverage holes and design movement – assisted sensor deployment protocols. VEC that works on the principle of moving sensors whereas Voronoi based works on the basis of load balancing. The algorithms gain sensor energy stabilization and small effect of deployment energy utilization. Its effectiveness is examined in terms of coverage, uniformity, time and distance.

Key words: Sensor deployment, mobile sensors, voronoi diagram, energy consumption

References:
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11. fortune, s. (1992). voronoi diagrams and Delaunay triangulations.in computing in euclidean geometry (pp. 193-233).

Authors: Duckki Lee
Paper Title: Bluetooth-Based Smart Attendance System
Abstract: Recently, there have been many attempts to develop offline classrooms to enhance educational efficiency. One of these attempts is the introduction of IT systems in colleges to replace existing attendance management systems. Existing systems authenticate students’ lecture attendance by simply using login data, but this has inherent issues involving substitute attendance and not being able to identify whether students are really present in the lecture room. To solve these problems, we have implemented a Smart Attendance System using Bluetooth, which is supported by most smartphones. This system consists of a student’s smartphone app, a lecture room terminal (referred to as Raspberry Pi hereafter), and a management web page. This Smart Attendance System is used to manage attendance and related academic administration by using Bluetooth, HTTP, and RESTful (web services that follows the representative state transfer) technologies.

References:

Authors: Rashid A. Ganaie, V. Rajagopalan

Paper Title: A New Generalization of Quasi Gamma Distribution with Properties and Applications

Abstract: we have introduced weighted technique for quasi gamma to convert known distribution into new model called weighted quasi gamma distribution. Finally, newly proposed distribution is examined with an application.

Keyword: Quasi gamma, Order statistics, Statistical measures, Weighted model.

References:
5. Jing (2010). Inverse of Weighted Weibull and Beta Weibull Distribution, Georgia Southern University Digital Commons@Georgia Southern.
13. Habibulla Mohammad, Katta Bhavana, Gajula Trilok, Dugginapalli Sirisha, Konkimalla Rohith

Authors: Habibulla Mohammad, Katta Bhavana, Gajula Trilok, Dugginapalli Sirisha, Konkimalla Rohith Sai

Paper Title: Voice Controlled Notice Board Display with Android Application

Abstract: Now-a-days notice board plays a crucial role in many institutes/organizations or in railway stations, bus stands, schools, hospitals and in many other public places. Paper notices stacked on the notice board is a time lagging, cost effective process which includes wastage of time, paper and human work. The main purpose of the notice board is used to view the information in an efficient way to the people, on the other hand to update the messages immediately is not easy on the notice board. This project, deals about an advanced Hi-Tech wireless communicated Notice Board. We are introducing a new “VoiceToText.apk” android application software which would convert the voice to text. It works on all android platforms, but also it can work with a working internet in the mobiles or any other PC’s.

Keyword: Notice Board, Internet, Android App, Paper Notices, Smart Phones, messages

References:
Abstract: A mechanical seal is a device that is used to reduce leakage containing pressure or ignoring contamination. Mechanical seal is the device used in centrifugal Pumps, Mixers, Agitators and Compressors to arrest or reduce the leakage. The mechanical seal standard API 682 provides the design guidelines for the seals which are fits below 110mm shaft diameter and 4.2 N/mm² seal chamber pressure. Any seal more than these parameters required special engineering or guidelines needs from technical service. The main aim is to design the mechanical seal for more than 110mm shaft diameter and more than 4.2 N/mm² pressure. Since the basic seal components are mostly standardized and already tested than the seal gland connections are seems to be critical for large shaft diameter and high or heavy pressure applications. Hence the stress and deflection of the mechanical seal gland is analyzed based on barrier pressure and seal chamber pressure with the help of Inventor and another critical area is the seal drive arrangements.

Keyword: Mechanical seal, Mixer Pump, Analysis, Barrier pressure, Seal chamber pressure.

References:

Keywords: fire retardant, fire hazard, android application, global system for mobile, power interruption.


References:

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Author(s):

N. V. V. Satyanarayana, J. M. S. V. Ravi Kumar, M. Babu Reddy, N. Leelavathi, B. Sujatha

Paper Title:

A Symmetric Searchable Encryption Identification of Data on Probabilistic Trapdoors

Abstract:

Password-less Searchable Encryption (SE) permits a client in accordance with transfer records in accordance with the astronomer and according to seem thru it of a faraway manner while defending the security concerning each the statistics yet the inquiries. Right now, entrust a generative then the simple in imitation of actualize Symmetric Searchable Encryption Scheme because instance (SSE) [4]. This tale takes the some round concerning correspondence namely O(n) instances on calculations upstairs n range regarding records . We likewise presented some other variety of Search Pattern Privacy, as gives a percentage about safety on the spillage structure trapdoor [4]. We also advocate the modifications over our graph because of batch inquire who can no

Keyword:

Hash, transmission, inclination, space, pardon

References:


Authors:

Sharma Dinesh, Sharma Devinder, Vikram Singh

Paper Title:

Performance Assessment of 1.20 MLD Sewage Treatment Plant
Abstract: A study was carried out to evaluate the performance of Sewage Treatment Plant in Ghummarwin area and the following conclusions have been drawn. The ranges of physical, chemical and biological characteristics of waste water quality which is in the permissible limits given by waste water/sewage effluent standard as per pollution control board. The results of parameters i.e. pH, BOD, COD, TSS, Oil & Grease after the sewage treatment is under the standards limits. The standards of sewage treatment parameters pH, BOD, COD, TSS, Oil & Grease up to 5.5-9.0, 30mg/l, 250mg/l, 100mg/l and 10mg/l. The results of pH, BOD, COD, DO and SS were 7.0 to 7.5, 18.0 to 22.0 mg/l, 150.0 to 165 mg/l, 5.0 to 6.0 mg/l and 50.0 to 56.0 mg/l, which are within the permissible standard limits. In the present study, all the above parameters were compared with the limits given by Pollution Control Board and it was found that all parameters are within the acceptable limits. Hence it is concluded that performance of Sewage Treatment Plant is good and in working condition.

Keyword: pH, BOD, COD, DO, TSS, Oil and Grease

References:
5. NIRAJ S. and TOPARE, “Evaluation and Objectives of Sewage Treatment Plant.”

Authors: K. Rohit Kumar, M. Ravishankar, R. Harish

Paper Title: Design of Semi-Submersible Platform using Computational Fluid Dynamics

Abstract: This paper reports based on an experimental study to simulate flow due to irregular fluid flow in a semi-submersible platform using computational fluid dynamics. In this paper we use computational fluid dynamics tools which solve simple differential equations and finite volume method (FVM). A turbulence model is considered i.e. large eddy simulation (LES). The semi-submersible model is considered as pontoons, columns, horizontal brace and deck. The pontoons are horizontal placed stadium shaped structures which are submerged into the water. The columns are structures which connect the deck and pontoons in these model circular columns are considered. The horizontal braces are circular tube-like structures which connect the two or more columns which increases the rigidity of the columns. The deck is a flat surface which provides workable area. This paper is a comparison of fluid flow at different velocity magnitude. The velocity contour, pressure contour and streamline contour are simulated and graphically represented. The numerical simulations are compared with experimental solutions and focus on vicinity of the platform. The difference in pressure, temperature and streamline flow are tabulated and graphically represented. The average percentage difference in temperature and pressure are calculated to be 73% and 128% respectively. Thus, the causation is investigated for the case and several governing parameters are recognized.

Keyword: Semi-submersible, Computational fluid dynamics (CFD), Finite volume method (FVM), Large eddy simulation (LES), circular column.

References:
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11. R.Harish, K.Venkatasubbaiah, Non-Boussinesq approxim for turbulent buoyant flows in enclosure with horizontal vent and forced inlet

Authors: V. Sharan, D. Bhuvaneshwar, R. Harish

Paper Title: Turbulent Flow Behavior of Mixing Process Inside a Pharmaceutical Stirred Tank

Abstract: As mixing is an essential operation in many engineering fields a mixing system is designed using agitated vessels in which it is difficult to obtain accurate information on induced turbulence by the impeller where CFD can provide detailed understanding of such systems. Here the impeller is designed and tested in both single phase & multiphase. Here specifically incompressible flow is used and multiple reference frame is used to model the motion of the impeller zone. Hence, we study the flow characteristics by comparing the velocity and temperature contour of three different rotating speed of the impeller and predict the percentage increase and decrease for varying boundary conditions.

Keyword: Mixing tank, Moving Reference Frame, Large Eddy Simulation, Turbulent Flow, Computational fluid dynamics

References:

Authors: Akshata Mistry, Raju Narwade, Karthik Nagarajan

Paper Title: Estimation of Water Balance Components of Watersheds in the Manjira River Basin using SWAT Model and GIS

Abstract: This study mainly focus on hydrological behavior of watersheds in The Manjira River basin using soil and water assessment tool (SWAT) and Geographical information system (GIS). The water balance components for watersheds in the Manjira River were determined by using SWAT model and GIS. Determination of these water balance components helps to study direct and indirect factors affecting characteristics of selected watersheds. The Manjira River contains total 28 watersheds among them 2 were selected having watershed code as MNJR008 and MNJR011 specified by the Central Ground Water Board. The SWAT input data such as Digital elevation model (DEM), land use and land cover (LU/LC), Soil classification, slope and weather data was collected. Using these inputs in SWAT the different water balancing components such as rainfall, baseflow, surface runoff, evapotranspiration (ET), potential evapotranspiration (PET) and water yield for each watershed were determined. The evaluated data is then validated by Regression analysis, in which two datasets were compared. Simulated rain data from SWAT simulation and observed rain data from Global Weather Data for SWAT was selected for comparison for each watershed.

Keyword: Water balance components, soil and water assessment tool (SWAT), Digital elevation model (DEM).

References:
Authors: Rafidah Hasan, Nur Ameelia Rosli, Shafizal Mat, Mohd Rizal Alkahari

Paper Title: Failure Behaviour of 3D-Printed ABS Lattice Structure under Compression

Abstract: Lattice structure is a lightweight material that can be produced using the cutting edge additive layer manufacturing process or also known as 3D-printing. This lattice structure material is a periodic cellular structure that can be utilized in various applications especially as core material in sandwich structure configuration, where the ultimate aim is to be a lightweight material with load bearing capability. Researchers are yet to be done to fully understand the behavior of lattice structure materials under several loading conditions such as tensile, bending and compression. The objective of this paper is to discuss the behavior of acrylonitrile-butadiene-styrene (ABS) lattice structure material that was produced using the layer by layer manufacturing, subjected to compressive load. Lattice structure specimens with dimension 20x20x20 mm3 were designed with body centered cubic (BCC) unit cells for three sets of strut diameter size. The specimens were produced using fused deposition modelling (FDM) CubePro 3D printer, with varying default parameters of layer thickness, print strength and print pattern. All specimens were subjected to compressive load until densification stage and the stress-strain curves of the material were plotted. The compressed specimens were observed under an optical digital microscope and a common failure behavior of 3D-printed ABS lattice structure material was highlighted. It was shown that the failure of compressed lattice structure was initiated at joint node areas due to bending tensile stress. It can be concluded that this polymer material showed hybrid strength between stretch and bending-dominated characteristics. This is a good indicator for lightweight material with load absorbing capability. An understanding in the failure behavior of ABS lattice structure material is enriching the knowledge on this material under stress-strain condition.

Keywords: lattice structure, 3D printer, compression load.

References:
absorption capability of functionally graded F2BBC lattice fabricated by SLM, “Materials and Design”, 144, pp. 32–44.


Authors: Anil Kumar Yadava, Syed Aqueel Ahmad

Paper Title: Characterization of Classified Indian Reclaimed Asphalt Pavement (RAP): Aggregate Impact Value and Aggregate Abrasion Value of Rap Aggregates

Abstract:
Reuse of existing deteriorated bituminous pavement material in construction and maintenance of flexible pavement is called recycling of bituminous pavement. Removed and reprocessed deteriorated pavement material which is recycled is termed as Reclaimed asphalt pavement (RAP). In India during construction of flexible pavement different types of bituminous layers are in practice depending upon CBR of sub-grade material which is recycled is termed as Reclaimed asphalt pavement (RAP). Depending upon types of bituminous layer i.e. PC Seal Coat, Bituminous Macadam(BM), Dense grade bituminous Macadam (DBM), Semi Dense Bituminous Concrete (SDBC) or Bituminous Concrete(BC) Reclaimed Asphalt Pavement can be classified in different groups. These classified RAP groups materials will have different characteristics i.e. Rap aggregates and Recovered bitumen of different group of RAP will have different characteristics. In this study characterization of RAP recovered to Aggregate Impact Value (AIV) and Aggregate Abrasion Value (AAV)of RAP aggregates of RAP classified in different groups. Results of this study will be compared to standard value of AIV and AAV required for bituminous construction to predict that RAP aggregates are suitable or not for use in bituminous mixtures.

Keyword: RAP, Reclaimed, Recycling, Aggregates, Bitumen, Bituminous mix, Asphalt, Characterization, Performance, Aggregate Impact Value, Aggregate Abrasion Value, AIV, AAV.

References:
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14. Ministry of Road Transport & Highways, Govt. of India, “Specifications for Road and Bridge Works (Fifth Revision), 2013” Published By The Indian Road Congress, New Delhi, India.
Abstract: Currently, each CPU has one or additional Floating Point Units (FPUs) integrated inside it. It is usually utilized in math-wide-ranging applications, such as digital signal processing. It is found in places be established in engineering, medical and military fields in adding along to in different fields requiring audio, image or video handling. A high-speed and energy-efficient floating point unit is naturally needed in the electronics diligence as an arithmetic unit in microprocessors. The most operations accounting 95% of conformist FPU are multiplication and addition. Many applications need the speedy execution of arithmetic operations. In the existing system, the FPM(Floating Point Multiplication) and FPA(Floating Point Addition) have more delay and fewer throughput. The demand for high speed and throughput intended to design the multiplier and adder blocks within the FPM (Floating point multiplication)and FPA(Floating Point Addition) in a format of single precision floating point and double-precision floating point operation is internally pipelined to achieve high throughput and these are supported by the IEEE 754 standard floating point representations. This is designed with the Verilog code using Xilinx ISE 14.5 software tool is employed to code and verify the ensuing waveforms of the designed code.

Keyword: FPU, FPM, FPA, IEEE 754, Xilinx ISE.

References:
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Authors: C.V. Thejashwini, A. Sumathi

Paper Title: Design and Implementation of FFT IP using Pipelined Hybrid Adder and Distributed Arithmetic Based Complex Multiplier

Abstract: In current inventive technology, latency, power and area are the crucial parameters to outline any kind of the algorithm on FPGA. The fundamental tool used for DSP applications is Fast Fourier Transform. FFT plays a vital role in acquiring the signal characteristics with least use of carrying out parameters. The adder plays an utmost importance. To make the best possible adder design regarding delay and area, various works have been proposed before. In proposed system, a combination different sub adders like Carry Look ahead adder (CLA), Ripple carry adder (RCA), and Carry save adder (CSA) is proposed. This reduces the delay and area but also increases the speed. The hybrid adders is proposed to represent FFT architecture in place of conventional adders. Hybrid adder will act as a complex adder. Speed multipliers are fundamental parts of DSP systems. Multipliers are complex process and consumes more time. In order to lower the complexity multiplication, various multiplier less method are introduced. An efficient DA based complex multiplier is proposed, in place of regular multiplier. The pipelining technique is applied only to hybrid adder. The design of Radix-2 FFT for 8 point of FFT, 1024 point of FFT is done, programmed using Verilog language. Using Xilinx 14.5i tool with Spartan 6 kit, Simulation is achieved.

Keyword: CSA, CLA, Distributed Arithmetic algorithm, FFT algorithm, Pipelined Hybrid adder, RCA

References:
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Authors: Nguyen Thi Nu, Do Minh Ngoc

Paper Title: Effect of Salt Solution on Plasticity and Permeability of Vietnam’s Soil Liners

Abstract: In Vietnam, there are a lot of landfills to block pollutants and one of materials used for impermeable liners is soil liners (soil – bentonite mixture). In order to use as impermeable liners, the properties of soil liners such as plasticity and permeability were affected by many salt solutions which are leaching from decomposition of waste materials in the landfills. Those salt solutions can reduce the stable of impermeable liners. So, this paper presents a series of experimental studies in the laboratory to investigate the effect of some salt solutions on the properties of compaction, consolidation and plasticity of soil liners. The experimental results indicated that the salt concentration affected complex on the Atterberg limits and the vertical coefficient of permeability. It also found that increase in the salt concentration from 0N to 0.05N cause increase in plasticity index, liquid limit and decrease in the vertical coefficient of permeability. After that, the increasing of the salt concentration up to 1N resulted in decrease in the liquid limit and plasticity index and increase in the vertical coefficient of permeability increases.
Keyword: Soil liners, permeability, plasticity, compaction.

References:

Authors: Norsyazwana Jenuwa, Mohd Saidin Misnan, Mat Naim Abdullah

Paper Title: The Framework of Competency Facilities Manager in Pre-Construction Hospital in Malaysia

Abstract: This paper distinguishes was conducted on the importance of the facility manager's competence for a complex construction project such as hospital construction. There is thus a need to study the competence of facilities managers at the level of hospital construction. Directly, the involvement of the facility manager at the construction stage can reduce the cost of operating the building. This paper was carried out using two methods, namely questionnaire method and interview method. The study involved the construction of architects, engineers, quantity surveyors, public hospital staff and facilities managers directly involved in the construction of public hospitals in Malaysia. The data obtained were analyzed using descriptive analysis techniques, relative value index (RII) and analysis using SEM Smart PLS method. The findings found that almost all respondents felt that leadership factors, communication factors, operating and maintenance factors, human factors, property and property management factors, and business preparedness and business balance factors were factors influencing facility manager competence at the construction stage.

Keyword: Facilities management; Pre-construction; Facility Manager

References:

Authors: Norsyazwana Jenuwa, Mohd Saidin Misnan, Mat Naim Abdullah

Paper Title: The Framework of Competency Facilities Manager in Pre-Construction Hospital in Malaysia

Abstract: This paper distinguishes was conducted on the importance of the facility manager's competence for a complex construction project such as hospital construction. There is thus a need to study the competence of facilities managers at the level of hospital construction. Directly, the involvement of the facility manager at the construction stage can reduce the cost of operating the building. This paper was carried out using two methods, namely questionnaire method and interview method. The study involved the construction of architects, engineers, quantity surveyors, public hospital staff and facilities managers directly involved in the construction of public hospitals in Malaysia. The data obtained were analyzed using descriptive analysis techniques, relative value index (RII) and analysis using SEM Smart PLS method. The findings found that almost all respondents felt that leadership factors, communication factors, operating and maintenance factors, human factors, property and property management factors, and business preparedness and business balance factors were factors influencing facility manager competence at the construction stage.

Keyword: Facilities management; Pre-construction; Facility Manager

References:
Abstract: Recent research in computational engineering have evidenced the design and development of numerous intelligent models to analyze medical data and derive inferences related to early diagnosis and prediction of disease severity. In this context, prediction and diagnosis of fatal neurodegenerative diseases that comes under the class of dementia from medical image data is considered as the challenging area of research for many researchers. Recently Alzheimer’s disease is considered as major category of dementia that affects major population. Despite of the development of numerous machine learning models for early diagnosis of Alzheimer’s disease, it is observed that there is a lot more scope of research. Addressing the same, this article presents a systematic literature review of machine learning techniques developed for early diagnosis of Alzheimer’s disease. Furthermore this article includes major categories of machine learning algorithms that include artificial neural networks, Support vector machines and Deep learning based ensemble models that helps the budding researchers to explore the scope of research in predicting Alzheimer’s disease. Implementation results depict the comparative analysis of state of art machine learning mechanisms.

Keywords: Alzheimer’s disease, Dementia, Deep learning, Machine learning, Artificial neural networks, Ensemble methods.

References:


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**Authors:** Dekka Satish, K.NarasimhaRaju, Bonu Satish, Koduru Suresh, Dasari Manendra Sai

**Paper Title:** Fuzzy Logic Based Alert on Cochliobolus Miyabeanus to Control the Rice Crop Loss

**Abstract:** Agriculture is a source of living in many areas and acts a backbone for the Indian economy. Agriculture crops are affected by fungus and bacteria to cause diseases in the plant. Brown spot is a serious hazard that takes place on leaves of the rice plant. The presence of fungus ‘Cochliobolus miyabeanus’ is the main factor for brown spot disease. The severity of the disease depends on growth of the fungus. The development of fungus depends on several factors such as temperature, humidity and rainfall. Whenever the disease occurs on a plant, level of the infection plays an importance in crop yield. Most of the farmer follow books or use their experience to detect the disease in rice plants which is a time-consuming process and requires lot of attention to produce more rice yield is a challenging task. Fuzzy logic is identified as powerful tool for disease detection. In this paper, fuzzy logic system is proposed to determine the level of presence of Cochliobolus miyabeanus and alert the farmer to take the primitive steps.

**Keyword:** Fuzzy Logic, Disease Determination, IoT, Rice Crop,

**References:**


Authors: K. Narasimha Raju, Dekka Satish, Koduru Suresh, Bonu Satish, Dasari Manendra Sai

Paper Title: Design and Development of Secured Data Transfer System in Li-Fi

Abstract: The internet users are exponentially increasing day by day with a heavy load on spectrum. Li-Fi – a new trending technology opened the doors for communication with high speed. It is a visible light communication to transmit or receive data. The protection of data from unauthorized users is highly needed in this communication in its vicinity. Existing algorithms provides security but it involves lot of processing time which is higher than the communication time. Therefore, light weight algorithms are very much in demand. In this paper, a new light weight security mechanism is presented to avoid the access from others. The proposed mechanism provides better security in Li-Fi communication with high speed for future networks.

Keyword: Li-Fi, Light weight algorithm, Security.

References:


Authors: Elsa Maria Jose, P. Jagannathan, S. Venkatesh

Paper Title: An Effective Safety Handling System for Construction Industry in Kerala

Abstract: The construction industry plays a prominent part in the progress of a country socially and economically. Nowadays construction industry has grown profit driven and the management focuses more on completing the projects on time neglecting safety of the workers. Construction works involving intricate works leading to accidents or injuries resulting in loss of life and body parts are rampant. So a proper safety management system is required to avoid accidents and improve safety at construction sites. Factors affecting safety at construction workplaces were identified and was surveyed through a quantitative questionnaire and analysed to form a basis for the total construction safety management model. The Total Construction Safety Management (TCSM) based on the PDCA modelling is proposed to improve safety at construction sites. This model can act as a guide to the present organizations and helps them to implement safety in quicker manner at construction site.

Keyword: Safety management system, Plan Do Check Act, Construction worksites, accidents

References:

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Authors: V. G. Smilin Shali, S. Asha

Paper Title: Power of 2 Decomposition of a Complete Tripartite Graph K2,4,M and a Special Butterfly Graph

Abstract: Let G be a finite, connected simple graph with p vertices and q edges. If G1, G2, …, Gn are connected edge-disjoint subgraphs of G with E(G) = E(G1) ∪ E(G2) ∪ … ∪ E(Gn), then {G1, G2, …, Gn} is said to be a decomposition of G. A graph G is said to have Power of 2 Decomposition if G can be decomposed into edge-disjoint subgraphs {G2, G4, …, Gq} such that each Gi is connected and |E(Gi)| = 2i, for 1 ≤ i ≤ n. Clearly, q = 2(n - 1). In this paper, we investigate the necessary and sufficient condition for a complete tripartite graph K2,4,m and a Special Butterfly graph BF(22m+1-4, 3) to accept Power of 2 Decomposition.

Keywords: Decomposition of Graph, Power of 2 Decomposition, Complete tripartite graph, Special Butterfly graph.

References:
2. Frank Harary, (1972), Graph Theory, Addison-Wesley Publishing Company.

Authors: Babloo, Devendra Singh, Ajay kumar sharma

Paper Title: Upgraded Service Oriented Architecture for Smart Injection Molding.

Abstract: This paper investigates current advances towards Smart Injection Molding, and presents the idea of Smart Molds or Molds 4.0. It exhibits a contextual analysis of the assembling of a medicinal gadget, including the test-set up of an instrumented shape, just as general suggestions on the most proficient method to actualize a Smart Manufacturing vision in the plastic Industry 4.0. Moreover, it incorporates a proposition of an Advanced Cyber-Physical System (CPS) Service Oriented Architecture (SOA) for constant observing and information examination of a shrewd microinjection trim procedure and for brilliant molds instrumentation as an approach to acknowledge such savvy vision.

Keywords: Smart Injection Molding, Smart Molds, Molds 4.0, Cloud Manufacturing, Cyber-Physical System, Industrial Internet of Things, Service Oriented Architecture, Industry 4.0.

References:
Authors: Satria Gunawan Zain, Nirwana, Andi Baso Kaswar, Suharton, Abd. Rahman Patta

Paper Title: Implementation of Text Compression using Adaptive Shannon-Fano Algorithm

Abstract: This study aims to implement the Shannon-fano Adaptive data compression algorithm on characters as input data. This study also investigates the data compression ratio, which is the ratio between the number of data bits before and after compression. The resulting program is tested by using black-box testing, measuring the number of character variants and the number of types of characters to the compression ratio, and testing the objective truth with the Mean Square Error (MSE) method. The description of the characteristics of the application made is done by processing data in the form of a collection of characters that have different types of characters, variants, and the number of characters. This research presents algorithm that supports the steps of making adaptive Shannon-fano compression applications. The length of the character determines the variant value, compression ratio, and the number of input character types. Based on the results of test results, no error occurs according to the comparison of the original text input and the decompression results. A higher appearance frequency of a character causes a greater compression ratio of the resulting file; the analysis shows that a higher number of types of input characters causes a lower compression ratio, which proves that the proposed method in real-time data compression improves the effectiveness and efficiency of the compression process.

Keywords: Data Compression, Shannon-Fano, Text Compression

References:
Abstract: The concentration and activity of water in Azadirachta indica describes the shelf life of Neem. The physical and chemical properties of many biological materials depends on the level of water content, which affects the maturity of the fruits and vegetables. Biospeckle technique is a tool used for contrast analysis and hence distinguishes the water activities at different stages in shelf-life of the specimen. Decomposing condition of Azadirachta indica is indicated by Time History of Speckle Pattern (THSP) during different stages with histogram analysis and fractal box counting methods.

Keyword: Azadirachta indica, biospeckle images, histogram, fractal box counting.

References:

Authors: Pankti P. Bhatt, Jeegar A. Trivedi

Paper Title: IR Remote Control and Eye Blink Sensor based Implementation of Driver Drowsiness Detection

Abstract: Street mishaps are a typical marvel in our everyday lives. Every year these street mishaps prompted numerous passings, deadly wounds and monetary misfortunes everywhere throughout the world. India positions first in the number of street mishap passings over the 199 nations announced in the World Road Statistics, 2018 followed by China and the USA. According to the WHO Global Report on Road Safety 2018, India represents practically 11% of the mishap related passings in the World. One of the major reasons for these mishaps is the sleepiness of drivers. Accordingly, it is important to build up a strategy to recognize the driver's laziness to decrease the mishap rates. In this paper, we have proposed a recognizing, avoidance and alerting system to minimize the street mishaps which are caused due to the sleepiness of drivers using Arduino Microcontroller, Eye Blink Sensor, IR Remote Control and IR Remote Receive Module.


References:
Volume 119, Special Issue No. 15, 2018, pp. 2055-2063.


Authors: Prathyusha Chalasani, S. Rajesh

Paper Title: Lung CT Image Classification using Deep Neural Networks for Lung Cancer Detection

Abstract: In Recent years, image processing strategies are broadly utilized in a few restorative territories for image improvement in prior division and treatment stages, where the time factor is imperative to find the variation from the norm issues in target pictures, particularly in different malignant growth tumors, for example, lung disease. Lung cancer is the most important disease cause high mortality rate. And computer-aided diagnosis can be useful for physicians to accurately identify the cancer cells. Many computer-aided methods have been studied and applied using image processing and machine learning. But, they are not acceptable for a health-based classification models to have high false positive and true negative rates as it they can devastate lives through false diagnosis. To reduce the effect of them in classification, to perform experiments JSRT data set is considered as it is the most widely used benchmark data set. The proper segmentation of lung tumor from X-ray, CT-scan or MRI these are the stepping stone towards automated diagnosis system for lung cancer detection. Our detection is to train this neural network using volumes with tumor size and position. In recent techniques like machine learning can predict lung cancer but this technique is not suitable for predicting segmentation of images in that particular area.

Keyword: Classification, Data Augmentation, Deep learning, Lung Cancer, Prediction.

References:
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Authors: Saaniya Qaiser, Anurag Sharma, Harini Murugan

Paper Title: Fire Safety in Indian Coal Mines using Machine Learning Techniques

Abstract: There are around 493 coal mines in India (300+ underground and around190 opencast mines) engaged in coal production for meeting energy and other requirements of our country. Coal and the process of mining itself creates an environment conducive for self-oxidation leading to build up of heat and subsequently break out of fire. This causes safety hazards, decrease in production, increased in de-settlement of colonies, fire related fatalities and risk to life and property. Occurrence of fires in coal mines has always been an undesirable proposition for the coal mining community worldwide due to its high hazard potential towards loss of human lives and property. However, with advent of AI/ML and deep learning, there emerges a vast scope of leveraging its application towards significantly reducing fire hazards in coal mining. Data capturing from such fiery mines, providing machine learning and predicting it beforehand for similar mining situations would significantly enhance safety standard in coal mining industry. This project proposes to develop an algorithm on getting input data from the past incidences/accidents of fire in coal mines and apply machine learning software to help it learn pattern/features via a vis the fire outcomes. Once the learning is over and data trained, the programme would process the test data of other active projects and may predict for fire threat during forthcoming mining operation. The algorithm aims to enable mining personnel to assess and evaluate the risk of fire in their workplace and take informed decisions based on the predictions based on Machine learning outputs. Also, active fires can as well be studied and predicted in a similar way. This will help the mining team to decide about the right approach of continuing mining operation in such an affected area.

Keyword: open cast ventilation pillar, logistic regression, spontaneous combustion.
Abstract: Functional Magnetic Resonance Imaging (fMRI), a non-invasive technique, is used for the recognition of different Cerebral Blood Flow (CBF) and Blood Oxygenated level dependent (BOLD) measures which result into the identification of various neural activities related to different physiological processes such as Hunger Regulation, Water Balancing etc. Different BOLD contrast levels (blood oxygenated and deoxygenated level) specify diversity in various state of human brain functioning subject to various tasks. The proposed model is a hybrid combination of Sparse method (Carroll et al., 2009) and Hypothalamic Hunger Regulation Model i.e. Sparse matrix for Hypothalamic BOLD Signal method (SMHB Method). SMHB method is dynamic and linear in nature. It defines the sparse parameters which act on the mapping between the fMRI signal for hunger regulation process and sparse representation of the signal segmented from the input image by which every voxel of fMRI signal in temporal domain can be expressed as a sparse signal. A sparse model provides a well defines results for task based localized activity. It can be applied on a single image as well as an fMRI dataset. The implementation of SMHB method divided into different sub-modules such as Input image analysis and visualization, Linear Voxel Module and Neuro Activation Module. Our study have completed first two module with different pre-processing techniques used for image analysis and linear representation of each voxels of fMRI signal in the form of sparse parameters.

Keywords: Hunger Regulation, fMRI, BOLD, Linear Sparse Model, Sparse Matrix.

References:


Authors: Divya, Saurabh Mukherjee

Paper Title: Simulation of Sparse Model for fMRI Signal with Brain Activation During Hunger Regulation Process

References:

2. Assessment of Fire Risk of Indian Coals Using Artificial Neural Network Techniques (Devidas S. Nimaje , Debi P. Tripathy).
3. Fire Risk Assessment of Some Indian Coals Using Radial Basis Function (RBF) Technique (Devidas Nimaje Debi Prasad Tripathy).
4. Prediction of spontaneous heating susceptibility of Indian coals using fuzzy logic and artificial neural network models. Author links open overlay panel B.Sahu S.Padheeb S.S.Mahapatraa.
6. Application of Naive Bayes on satellite images to detect hot-spots in Jharia coal field region of India (R.S.Gautam D.Singh A.Mittal P.Sajan).
In this paper, we proposed a link based fast connection recovery strategy. A backup path either reserved in advance or searched dynamically after the failure occurred in the network. Both these recovery strategy required large backup capacity. We analyse three network parameters such as recovery time (RT), bandwidth blocking probability (BBP), and network capacity utilization ratio (NCU) for randomly generated source to destination request for three topologies that is COST239, ARPANET and NSFNET and compare the results for shared link protection (SLP), dedicated link protection (DLP), and our proposed link protection (PLP) scheme. Our proposed scheme shows the minimum RT compared to other two strategies.

**Keywords:** Dedicated link protection, Elastic optical networks, Frequency slots, shared link protection, and Proposed link protection.

**References:**
2. F. Shirin Abkenar and A. Ghaffarpour Rahbar, “Study and Analysis of Routing and Spectrum Allocation (RSA) and Routing, Modulation

Authors: Shailendra Deva, Anil Kumar, Ravindra Kumar

Paper Title: Microstructure Design for Artificial Superhydrophobic Surfaces

Abstract: Superhydrophobic surfaces are the surfaces that do not allow the droplets of liquid to spread and wet it. Ideally, the droplets remain almost spherical in shape and with a very small angle of tilt, slide away from the surface. This occurs due to very high contact angle. A perfectly spherical droplet would make 1800 angle of contact, but practically this high contact angle is never possible for a stable droplet. The surfaces that make contact angle (CA)>90O are said to be hydrophobic surfaces. If CA is greater than 1500, the surface is known as superhydrophobic surface. This property of the surface is termed as superhydrophobicity.

In this paper, the surface morphology to be engineered is studied, which is governed by certain principles. Theories of Thomas Young [1], Wenzel [2] and Cassie-Baxter [3] are reviewed and effect of micro and nano level of roughness, producing hierarchical structures is analyzed. Subsequently, the designing of such super hydrophobic surfaces is attempted.

Keyword: Hierarchical, Lotus, Roughness Superhydrophobic

References:
1. Young, T. Philos. Trans. R. Soc. London 1805, 95, 65
14. Marmur A. Wetting on Hydrophobic Rough Surfaces: to be Heterogeneous or not to be; Langmuir 2003;19:8343–8

Authors: Mamatha Balipa, Balasubramani R.

Paper Title: Online Healthcare Medium for Disease-Treatment using Modified ANN based Classification and Ranking

Abstract: The fundamental purpose of the healthcare information medium in social networks is centered on ascertaining the opinions of several people regarding specific user queries. In the backdrop of ever-increasing accessibility and attractiveness of the opinion-rich resources as evidenced by the online review sites and personal blogs, the emerging opportunities and challenges dynamically make use information technologies to go in for and to comprehend the outlook of the vast majority of users. However, it is unfortunate that the time-honored finds its waterlo in locating the impending issue of deploying internet with a view to identify and generate appropriate conclusions regarding the specified ailments. The current investigation effectively carries out the function of processing the user query with the able assistance of the MedHelp website and subsequently forwards the pertinent traits to the sentiwordnet for performing the sentimental examination. It is followed by the creation of the score in accordance with the positivity and negativity of the content in the website. In this regard, the Artificial Neural Network (ANN) is ably guided with the aim of creating rank for the websites. And the weight optimization for ANN is elegantly executed by the efficient Grasshopper Optimization Algorithm (GOA). The technique is performed on...
the powerful platform of JAVA and the consequent outcomes assessed exhibits incredible decrease in the error rate.

**Keyword:** User query, Sentiwordnet, Artificial Neural Network(ANN), Grasshopper Optimization Algorithm(GOA), error rate.

**References:**

4. Paloma Martinez , Jose L. Martinez , Isabel Segura-Bedmar , Julian Moreno-Schneider , Adrian Luna , Ricardo Revert,“ Turning user generated health-related content into actionable knowledge through text analytics services”Computers in Industry, Volume 78, Pages 43-56,2016
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20. Jing Liu, Songzheng Zhao , Gang Wang,”SSEL-ADE: A semi-supervised ensemble learning framework for extracting adverse drug events from social media”, Artificial Intelligence in Medicine, Volume 84, Pages 34-49,2018

**Authors:** Sasmita Padhy, Akash Kumar Sahu, Susanta Kumar Das

**Paper Title:** Concurrent Defects, Methodologies and Recommendations

**Abstract:** Software testing is a major process in every software development cycle so as to produce superior quality products that can cater to the customer needs. In the beginning of the IT industry testing was a simple process since competition was not enough so as to produce good quality software. With the development of technology and fierce competition over recent years the needs to develop simultaneous methods of testing have been proposed. Reviewing the given application remains one of the major setbacks of concurrent code and the other being data flow in given request stack. Testing becomes really difficult when the function not returning the output to the caller function in requisite time but later on returns it via call-back functions, messages or other such processes. So this paper aims at viewing the tools and techniques available for better testing, removing bugs so as to make software good. Here the defects as well as directions need to remove it are also focussed.

**Keyword:** Simultaneous, Concurrency, Testing, Tools, race conditions, dynamic analysis, static analysis

**References:**

Authors: D. Madhavi, N. Jyothi, Md. K. M. Chisti

Paper Title: Composite Method for Image Retrieval

Abstract: In the present day to day life the retrieval of images from the larger database has become important like Google search. Presently, CBIR is trending method. In this paper images are retrieved in three stages with color, texture and shape feature extracted in each respective stage. The color feature extraction is done through finding different parameters for an RGB image, combined texture feature extraction through Gray level co-occurrence matrix GLCM and Gabor filter and shape feature extraction through region growing. The experiment is done on images present in coral database. The simulation results have been compared and it has been shown that the proposed method show high retrieval rate in terms of the average precision and average recall.

Keyword: Image Retrieval, Gray level co-occurrence matrix (GLCM), Region growing.

References:
Abstract: Nowadays the environmental health is considered to be the most important topic for concern. The emission of CO2 and other harmful gases to the atmosphere become a serious problem and the root cause of environmental alteration. In other ways, the production of cement is reducing continuously due to the unavailability of resources and a large amount of carbon footprint. To overcome all these problems the low CO2 emitting and alumina silicate rich sources are used as binders instead of ordinary cement. The paper reviews all the recent and experimental works done by the researchers in order to study the physical and mechanical properties of Geopolymer Concrete with different mixtures of binders and additives introduced for increasing the strength and durability. The use of different industrial by-products in concrete development is encouraged and the workability, effects of temperature variation, use of admixture, fibers and effects of water-binder ratio for the Geopolymer Concrete are examined. Reviews indicate that the compressive strength of the Geopolymer Concrete with additional hooked end steel fibers are more than that of controlled Geopolymer Concrete mix.

Keyword: Geopolymer Concrete (GC); Compressive strength; Splitting Tensile strength; Durability.

References:


Authors: Gautam Acharyya, Sridhar Reddy E, Pralhad Pawar

Paper Title: Sensitivity Assessment using Genetic Algorithm for Optimal Design of RC Ring Wall Foundation of Liquid Storage Tanks

Abstract: Hydrocarbons and chemical industries extensively use storage tanks made of steel for storing large quantities of liquids. These tanks are typically supported on a RC ring wall foundation. This paper presents a method to minimize the cost of RC Ring Wall Foundations and study the sensitivity of this cost towards the different design parameters. The optimization process is developed through the use of genetic algorithm which simulates the biological evolution for the fittest (optimized) organism. Previous studies on use of genetic algorithm in structural engineering have been applied to different structures like frames, beams, columns etc. This paper extends the use of genetic algorithm to ring wall foundations of liquid storage tanks. The objective function for optimization includes the costs of concrete, steel, formwork and excavation whose sensitivity is analysed for parameters like grade of steel, concrete, seismic and wind loading for different tank sizes. All the constraints functions are set to meet the design requirements as per Indian Standard Codes and construction industry practices. Eight cases of parametric study are considered in order to illustrate the applicability of the genetic algorithm design model. It is concluded that this approach is economically more effective compared to conventional methods for design and sensitivities of different design parameters can be quickly assessed. Additionally, this design methodology can be extended to deal with other types of structures as well.


References:

Authors: K. Venkateswarlu, G.V.K Murthy, D. Prasad, K.V Narayana

Paper Title: Fuzzy With Hysteresis Controller for Power-Quality Improvement of Grid Interconnected System

Abstract: The grid connected distribution systems are providing the energy to the load from the grid. During the period of energy transmission, the issues are occurred on the power quality in transmission line. In the power system, the power quality issues are occurred due to the following issues as instability of the system, voltage sag, harmonic distortion, over voltage, unbalanced voltage etc. In this paper, the power quality improvement is designed using the inverter which compensates the voltage and current when the fault occurred. This inverter is used to inject the power using a DC source. This improvement of power quality is controlled by the hysteresis controller with fuzzy logic control. The feedback is given to the controller which reduces the error from the system and provides the control variables to the inverter terms of switching gate signals.

Keyword: Grid, fuzzy logic, hysteresis controller, power quality.

References:


Authors: S. Nagaraj, R. Ranheimamalini, L. Rajaji, K. Srividya, A. Mohandoss

Paper Title: LLC Resonant Tank based Converter for EV Charging Application

Abstract: The aim of the article is to maximize the battery life using LLC resonant tank. LLC tank designing methodology and also the practical designing examination is introduced in LLC multi converter. Designed dc-dc converter increases the battery life by eliminating low and high frequency current ripples. In addition, bridgeless cuk converter is used for power factor improvement. To achieve the better power factor and to reduce the conduction losses the cuk converter is aimed to function in discontinuous mode of conduction (DCM). DC output voltage ranging 42-24 V for 650 W is obtained from the modelling for battery charging application.

Keyword: Discontinuous conduction mode (DCM), LLC multi resonant converter, Bridgeless cuk converter.

References:

Authors: Ranjadeep Kaur Khera, V. K. Banga

Paper Title: An Energy Efficient Hybrid PSO Algorithm in Cloud Environment

Abstract: Algorithms exist to schedule various tasks in real time cloud environment. Nowadays many researchers are trying to schedule heavily loaded situations in real time cloud environment using swarming technique. For such studies many parameters need to be considered like cost of the system, processor latency, number of tasks and so on. With the increase in the number of tasks in the set, processing time also increases. In this situation, processor latency is at peak as the number of tasks increases and system costs increase. So the above mentioned problem is handled by proposing a task scheduler that uses a PSO algorithm to remove the limitations of past studies in a heavily loaded situation. The Particle Swarm optimization (PSO) and Invasive Weed Optimization (IWO) are combined to propose a new technique called the HWO algorithm. The proposed algorithm is recommended for preventive tasks in the single-processor in real-time environment systems.

Keyword: Cloud Computing, Particle Swarm optimization, Invasive Weed optimization.

References:
A shaft is subjected to tensile stress, compressive stress, torsional force and bending moment due to reaction on the components. The stress distribution in a shaft can be is similar to the flow of fluid in a channel. So, it is perfectly logical to use the fluid analogy to understand the phenomenon of stress concentration. When the cross section is uniform the flow is uniform whereas if there is a sudden change in the cross section then the velocity increases to keep the flow rate constant. The same phenomenon is observed in the shaft i.e. when the cross section of the shaft is uniform throughout, the stresses are uniform where as if the cross section changes abruptly then the stress lines come closer to each other in order to keep the force same. When there are sharp changes then it results in stress concentration. The effect of stress concentration can be reduced effectively as there are numerous discontinuities which makes it impossible to eradicate it fully. This can be done by numerous some of which are removal of material, providing fillet radius and also by choosing appropriate material for manufacturing. Software like Solid works can be used for the design and analysis of the component. An object drawn with Solid works can be analysed interactively and physical information can be extracted from it.

**Keywords:** Stress Distribution, Phenomenon, Analyzed Interactively, Physical Information.

**References:**
1. Saxena, Gaurav. “Optimal design and analysis of composite drive shaft for a light commercial vehicle”.
3. S.F. Asokanathan, P.A. Meehan, Non-linear linear vibration of a torsional system driven by Hooke’s joint.
6. M. Choukey, J.K. Dutt, S.V. Modak Modal analysis of rotor-shaft system under the influence of rotor-shaft material damping and fluid film forces.
9. Ercan Sevkat, Hikmet Tumer Residual torsional properties of composite shafts subjected to impact loadings.
11. A V Hari Baba, Dr B Durga Prasad Failure analysis of rear axle differential pinion shaft.

Authors: Ravindra Kannojiya, Akshat Shukla, Mohit Jain, Sarthak Kaintura, Aditya Bachchan

**Paper Title:** Performance Assessment of Stress Concentration Reduction Methods in Mild Steel Transmission Shaft

**Abstract:**

This paper deals with development of a Vehicle Security and Entertainment System, which is being used to monitor, track the vehicle, and to offer local entertainment system. The development system makes use of two embedded devices to split the entertainment system from the security system to ensure isolation and security. The security system is equipped with camera, distress signal switch and GPS/GPRS module to track, report a problem, and monitor the vehicle by sending data to a centralized database server where vehicle owner can access and retrieve these data to guarantee the safety of the passengers and the vehicle too. The second system is the entertainment system, where this system uses a powerful Intel atom embedded device and local network to allow users to connect and offer entertaining services. These services include, E-Book library and multimedia streaming. The main concept of research to develop a low cost system to secure and entertain passengers on vehicles like buses, train and even cars. The development is cost effective and as well as can be modified to add extra modules or to develop extra entertainment services. If the vehicle is stolen the system is able to send a distress signal to the owner or company. They can help the passengers by monitoring through the vehicle camera. In this research we have successfully developed and tested the system.

**Keywords:** Vehicle Security; Entertainment System; Raspberry pi 2, Minnow Board MAX.
References:

Authors: K. Sai Manoj, P. S. Aithal
Paper Title: Data Mining and Machine Learning Techniques for Cyber Security Intrusion Detection

Abstract: An interference discovery framework is customizing that screens a singular or an arrangement of PCs for toxic activities that are away for taking or blue-penciling information or spoiling framework shows. The most methodology used as a piece of the present interference recognition framework is not prepared to deal with the dynamic and complex nature of computerized attacks on PC frameworks. In spite of the way that compelling adaptable methodologies like various frameworks of AI can realize higher discovery rates, cut down bogus alert rates and reasonable estimation and correspondence cost. The use of data mining can realize ceaseless model mining, request, gathering and littler than ordinary data stream. This examination paper portrays a connected with composing audit of AI and data delving procedures for advanced examination in the assistance of interference discovery. In perspective on the number of references or the congruity of a rising methodology, papers addressing each procedure were recognized, examined, and compacted. Since data is so fundamental in AI and data mining draws near, some striking advanced educational records used as a piece of AI and data burrowing are depicted for computerized security is shown, and a couple of recommendations on when to use a given system are given.

Keyword: Cloud Computing, Data mining, Block Chain, Machine Learning, Cyber Security, Attacks, ADS, SMV.

References:
7. What is Ethereum, https://cryptocrawl.in/what-is-ethereum/

Authors: Abdul Nazeer, Mir Safulla
Paper Title: Mechanical and Wear Properties of Cold Extruded Al6063 Metal Matrix Alloy Reinforced with Silicon Carbide, Alumina and Cerium Oxide

Abstract: Metal matrix composite is considered in various engineering fields like Automobile, medical, electronics aerospace, marine, recreational sectors, of which Aluminum metal matrix composite is considered mostly because of its high strength to weight ratio, easy of fabrication, corrosion resistance, good aesthetic appearance and high resistance to wear etc. This paper concentrates on the effect of secondary processing (Cold Extrusion) on mechanical and wear properties of Al6063 reinforced with SiC, Al2O3 and CeO2 particles. Here composite systems prepared by varying reinforcement from 0% to 8% in steps of 2%. Stir casting route adopted for casting composite systems after casting the composite is made to pass through extrusion process with an extrusion ratio of 1.93 with a total strain of 1.45. All composite systems tested for mechanical properties as per ASTM and ISO standard. Wear test was conducted on pin on disc setup for different loads, reinforcement, sliding distance and sliding speed. Results reveals that due increase in reinforcement the mechanical properties have improved further improvement observed when subjected to extrusion process, similar observation was made for wear studies which conclude the wear rate is improved for extruded composite as compared to cast composite systems observed by various researchers.

Keyword: Aluminum 6063 matrix composite, Silicon Carbide, Stir Casting, Pin on disc and Mechanical Tests.

References:
Postharvest Application of Moringa Gum and Cinnamon Essential Oil as Edible Herbal Coating for Extending Shelf Life and Quality of Guava (Psidium Guajava)

Abstract:
In recent years, the use of various chemicals before and after harvest has become common to boost shelf life. However, the use of these chemicals has its own drawbacks, as some of them are considered to be harmful to the environment and also unfeasible. The main objective of this study is to use edible herbal coating formulations based on Moringa gum [MG] (Concentration: 1, 2, 3, 4 and 5 %) and cinnamon essential oil (1 %) for the enhancement of quality and lifespan of guava kept at room temperature for 15 days by applying two methods of coating; dipping and brushing. The guava was dipped and brushed in MG solution for 2 minutes. Analyses of the guavas were done at every 3 days interval. The treatment C3D (Concentration 3 %; dipping) showed the minimum shrinkage index (13.34 %), Physiological Weight Loss [PWL] (27.09 %), fungal decay (70 %), pH (3.76), Total Soluble Solids (TSS) (11.14 °B), mesophilic microbial count (6.73 log CFU/g) as compared to the other samples. The maximum firmness (190.72 N), Titratable Acidity [TA] (0.28 g/L), antioxidant content (15.58 ± %) and phenolic content (15.93 mg GAe/g) were also observed in C3D coated guavas. These findings indicates that usage of C3D MG coating was successful in maintaining the physiochemical properties of guava and in preserving the fruit's sensory qualities. Future studies would benefit the industries on the utilization of MG for postharvest management of fruits and vegetables as a healthy alternative to chemical fungicides.

Keywords: coating, dipping, brushing, quality

References:

Authors: Sumita Nuanmesri, Lap Poomhiran
Paper Title: Development of Low-Cost Auto Robot Collecting Floating Garbage using Shortest One-Way Path of Energy Saving
Abstract: Today, floating garbage is a global problem that needs to be cleared and disposed of from the sea and rivers or canals. Especially the floating plastic garbage that directly affects the ecology and the aquatic animals.

References:

Authors: G. Vara Prasad Babu, M. Pramila Devi
Paper Title: Protection of Port and Yard Equipment’s and Back to Operational Effectiveness under Abnormal Cyclonic Conditions
Abstract: The purpose of this study is to assess the effect of the cyclones and its influence on port performance. The techniques of percentages and frequencies are applied to 141 cyclones as a sample, obtained from various cyclones happened around the world. The results identify and measure the factors that characterize the operational factors and affects port performance. Factors effecting including service level, partner network, ship services, cargo logistics, ship services and advanced services, affect port performance, operational performance, effectiveness and efficiency. The primary contribution of this study deals with analysing the criticality of the cyclones and taking the appropriate measures, considering wind speeds ranging from 20 to 350 km/h. PYE (Port and Yard Equipment) which sub part of the equipment should be locked on safety measures and are more likely to get effected by the wind speeds and the sub equipment parts need to be locked considering are long travel, slow and boom conveyor.

Keyword: port and yard Equipment’s, stacker cum reclaimers, long travel, slow, boom Conveyor.

References:


6. How operational efficiency of India's ports impacts its manufacturing exports


Authors: Jyoti, Neetu Gupta

Paper Title: The Commercial Impacts of Reverse Logistics in E-Commerce in India

Abstract: In e-commerce business, one of the important factors is effective logistics management, specifically the back-end supply chain management. Logistics management involving e-commerce can also be considered as the reverse logistics that is the procedure that works as a profit center, i.e., product returns, repairs, maintenance, recycling, dismantling, etc. This research paper has studied the commercial impact of the reverse supply chain in e-commerce in India. For the unprecedented growth of e-commerce in India, some of the major factors are the emergence of retail as a dominant segment of the market, the dedication of government to 'Digital India', and an Internet user database of 400 million. Whereas, profitability is reduced to an average percentage of 8% and 15% of the total costs of logistics in the industry is represented by the average costs of reverse logistic. This research is centered upon local garments manufacturers and shoe manufacturers which provide 30–45 days of return and face complexities in reverse logistics.

Keyword: E-Commerce, India, Logistics, Supply Chain.

References:

Authors: Muhtar

Paper Title: The Flexural Strength of Concrete Panels with Crystalline Ceramic Waste Aggregates

Abstract: Increased development has an impact on increasing material requirements and environmental pollution due to waste. Material needs must consider the energy-saving aspects and the thought of useless material to be useful, one of which is a crystalline ceramic waste. The crystalline ceramic waste is very sharp and hard. The utilization of crystalline ceramic waste as a concrete panel material is very important to reduce environmental pollution. The purpose of this research was to utilize crystalline ceramic waste as a concrete panel material and test its flexural capacity. Panel testing was carried out on specimens measuring 30 mm x 400 mm x 800 mm assuming the panel as a deep beam on simple support. Testing is done by a three–point bending flexural test method. Loading is carried out monotonically until the panel collapses. From the results of the ceramic concrete panel test showed that the flexural strength increased by 31.89% compared to the flexural strength of normal concrete panels.

Keyword: Ceramic concrete panel (CCP), waste aggregate, flexural strength.

References:

Authors: K. Prithivi, S. Thenmozhi, K. R. Vanathi, R. Gokulakrishnan, N. Praveen, M. Sivachitra

Paper Title: Automatic Yarn Cut Detection in Power Loom using Iot

Abstract: Textile trade has occupied second place next to agriculture. Due to the increase in population growth, textile trade in today's world is growing in plenty. A power loom is one of the main advances within weaving industrialization. It employs the country’s more than thirty-five million people. Trade's main objective is to know its high-productivity power. The biggest downside which a textile trade is facing is that once the thread is cut in a loom. Using raspberry pi, this device mainly aims to detect the yarn cut in a loom. In this paper, the use of a single controller controls four power looms. Once the yarn cuts, the fault is detected, the supply may cut off immediately and then the fault is corrected.


References:

Authors: Debasis Behera, Asutosh Patnaik, Prabhat Kumar Barik, Girija Sankar Rath

Paper Title: VLSI Implementation of Digital Filter using Novel RTSD Adder and Booth Multiplier

Abstract: Finite Impulse Response (FIR) filters are most important element in signal processing and communication. Area and speed optimization are the essential necessities of FIR filter design. This work looks at the design of Finite Impulse Response (FIR) filters from an arithmetic perspective. Since the fundamental arithmetic operations in the convolution equations are addition and multiplication, they are the objectives of the design analysis. For multiplication, Booth encoding is utilized in order to reduce the quantity of partial products. Consequently, considering carry-propagation free addition strategies should improve the addition operation of the filter. The
redundant ternary signed-digit (RTSD) number framework is utilized to speedup addition in the filter. The redundant ternary representation utilizes more bits than required to denote the single binary digit because of which most numbers have several representations. This special behavior of RTSD allows the addition along with the absence of typical carry propagation. Xilinx ISE design suite 14.5 is used for the design and validation of proposed method. From the implementation result, the proposed design of FIR filter is compared with other conventional techniques to show the better performance by means of power, area and delay.

**Keyword:** Finite Impulse Response (FIR) filters, Redundant Ternary Signed-Digit (RTSD) adder, Booth Multiplier, low power and delay.

**References:**

61. Thakkanthan, N. and Cyraic, S., "Efficient Design of FIR Filter using Modified Booth Multiplier".

**Authors:** Greeshma Arya, D. S. Chauhan

**Paper Title:** A Novel Energy Efficient Multi Level Leach Protocol with Multi Grouping at Various Levels

**Abstract:** Traditionally, Wireless sensor networks (WSN) are powered by battery. Power diminish aggressively in various operations like data communication, aggregation and data compression so due to these constraints Multi hop routing becomes very promising solutions for high end applications of WSN such as defence area surveillance, monitoring of sensitive environmental conditions, also in precision agriculture, pervasive computing etc. In this paper we proposed that classic Multi Level Leach (ML-Leach) protocol can be further refined to achieve optimum utilization of energy by performing re-grouping at various levels in network considering uniform distribution of node.

**Keyword:** Cluster Head, Homogeneous, Multi- Grouping. Reliable data transfer

**References:**


**Authors:** Gireeshma Arya, D. S. Chauhan

**Paper Title:** A Novel Energy Efficient Multi Level Leach Protocol with Multi Grouping at Various Levels

**Abstract:** Traditionally, Wireless sensor networks (WSN) are powered by battery. Power diminish aggressively in various operations like data communication, aggregation and data compression so due to these constraints Multi hop routing becomes very promising solutions for high end applications of WSN such as defence area surveillance, monitoring of sensitive environmental conditions, also in precision agriculture, pervasive computing etc. In this paper we proposed that classic Multi Level Leach (ML-Leach) protocol can be further refined to achieve optimum utilization of energy by performing re-grouping at various levels in network considering uniform distribution of node.

**Keyword:** Cluster Head, Homogeneous, Multi- Grouping. Reliable data transfer

**References:**


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4145-4150

Authors: Greeshma Arya, D. S. Chauhan

Paper Title: Realization of Various Gate level Combinational Circuits using Reversible Fredkin Gate

Abstract: This paper presents the digital logic gates which are reconstructed using fredkin gate [1]. The advantage of basic fredkin gate is that we could save the thermal waste which comes out due to computation that causes heat as bits just disappear into loss of energy. Such computation won't need any energy input. These assumptions make the gates sound like an energy efficient solution. However the implementation is done at level of logic gates. This can further be used in sequential circuits to increase the life time of transmitter and receiver circuitry of nodes. It will make the transmission and aggregation of information at node very energy efficient. The drawback of this application is it will cost fare amount of time to process data. These technical hurdles will increase latencies at node level. The protocols infused with energy optimization methods and reversible logic gates offered noticeable improvements in achieving performance and ensuring security of data and graphics. Since the 1980s, with work of Fredkin [1], the reversible circuits have been used in building large scale integration of circuits as elementary units of mobile computing, and recently in wireless networks, drug designing and ultra-fast computing technologies [4].

Keyword: Entropy, Fredkin gate, Quantum Computing, Reversible Computing,

References:

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4151-4153

Authors: V. Baby Shalini, K. Nagasujatha

Paper Title: Energy Optimization of Buildings through Sustainable Materials

Abstract: Worldwide, buildings are accountable for a huge share of electrical energy, materials and water consumption. Buildings and construction causes for 39% of energy related CO2 emissions as per world green building council. Aim of Green building is to reduce emissions and also reduce energy consumption by using energy efficient appliances. green building design features have higher initial costs, but the payback period for the incremental investment is less. eco- friendly buildings can grant indirect cost-effective benefits to both the building owner and society in addition to direct cost savings. In this paper design of green building and analysis has been done with BE opt software by considering different parameters.

Keyword: BE opt simulation, Conventional Vs Green Building, Co2 Emissions, HVAC.

References:

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4154-4159

Authors: Dipen Deka

Paper Title: Detection of Congestive Heart Failure using Naive Bayes Classifier

Abstract: Congestive heart failure (CHF) is gradually becoming more prevalent due to the stressed lifestyles in modern life. Accurate detection with lower computational complexity and lower cost of diagnosis is a challenge to the researchers in this domain. In this work, I have proposed an approach using naive Bayes algorithm with a lesser number of significantly discriminating features for differentiating the CHF subjects from the normal subjects. The small size of feature sets enhances the computational efficiency and the choice of strong features improves the accuracy. The features are chosen on the basis of p-value of the 2-sample t-test performed between the two types of subjects. Using the p-value, 6 features are selected to train, validate and test the classifier. Publicly available benchmark PhysioNet datasets for congestive heart failure patients and normal subjects are used to carry out the
experimentation. This approach is able to provide 100% classification accuracy as well as sensitivity and specificity of 100% in identifying CHF patients employing Gaussian naive Bayes algorithm.

**Keyword:** Congestive Heart Failure, Time Domain Analysis, Discrete Wavelet Transform, Naive Bayes Classifier,

**References:**

**Authors:** Ashitha Ebrahim, Fathimuthul Harshima P. T., Aby Abahai T.

**Paper Title:** Driver State Alert Control using Head Shoulder Inclination and Facial Landmarks

**Abstract:** Driver sleepiness is one in all the most important causes of most of the accidents within the world. Detecting the driver’s eye weariness is the simplest way for detecting the somnolence of the driver. The prevailing systems in the literature cannot discover sleepiness in folks having lagophthalmos (condition that forestalls eyes from closing utterly) and monocular vision (person with one-eyed or sight loss in one eye). To solve this downside a Driver State Alert Control system is projected which makes the use of head-shoulder inclination, face detection, eye detection, emotion recognition, eye openness estimation and blink counts for detecting the sleepiness and collision liability associated with robust emotional factors. The projected framework endlessly analyses the head shoulder inclination and facial lineaments of the driver to alert the driver by activating the alarm once he/she is drowsy or showing emotion unstable to drive. The typical separation between upper eyelid and lower eyelid of adults suffering from lagophthalmos is about 1-5mm. The EAR (Eye Aspect Ratio) is calculated supporting this separately for each eye. Thus, the proposed technique can be used for folks with lagophthalmos and monocular vision. Also, the entities don’t solely rely on blink count to ascertain the sleepiness, collision risks related to robust emotional factors are considered too. The projected system which is enforced with one camera view on open CV and raspberry pi setting illustrates the systems good efficiency in particulars of authentic sleep identification results and thus reduces road mishaps. It is easy to place in any type of vehicle and price effective too.

**Keyword:** Lagophthalmos, EAR, Open CV, Raspberry pi

**References:**
1. B. Mandal, L. Li, G. S. Wang and J. Lin, “Towards Detection of Bus Driver Fatigue Based on Robust Visual Analysis of Eye State,”

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Authors: Prafull Tiwari, Kunal Jain, Kushagra Dubey, Mohammed Ali, Manish Thakur

Paper Title: Feasibility of Fuel Synthesized from Solid Plastic Wastage

Abstract: The growing human population is increasing the consumption of fuels day by day in order to fulfill the requirement of human activities. This demand is also resulted in hiking the fuel prices. Also, the electric vehicles have not so far able to impress the market since their prices are comparatively higher than their counterparts that is motor fuel vehicles and hence isn't the first choice for people. Also, the rapid growing human population has introduced other problems like pollution and waste produced by humans from different activities like construction, household, industrial, etc. One of the most common waste produced in a large quantity is plastic which is non-biodegradable. Existing way to deal with the plastic is to recycle it which itself produces toxic wastes. As an alternative pyrolysis method can be applied by treating the solid plastic wastage thermally which will break the long polymeric chain structure of the plastic. This will result in the conversion of plastic into hydrocarbon fuels like jet fuel, kerosene, gasoline, auto-gas and other inflammable products which can be used in aerospace industries, general transportation sector, thermal power plants and other industrial sectors. Different types of fuels with different properties can be obtained from different grades of plastics.

Keywords: Decomposition, Hydrocarbon Fuel, Green technology, Plastic waste, Pyrolysis, Waste management.

References:
7. D. Almeida and M. D. F. Marques, "Thermal and catalytic pyrolysis of plastic waste".

Authors: Arijit Das, Diganta Saha

Paper Title: Enhancing the Performance of Semantic Search in Bengali using Neural Net and other Classification Techniques

Abstract: To know the information from the internet searching is one of the most important part for any user. In case of ‘Syntactic Search’ keyword based matching technique is used. Search accuracy is improved applying the filter like location, preference, user-history etc. However, it can happen that the user query or question and the best available answer or result in the internet domain has no terms in common or ignorable number of terms is common. In such case syntactic search cannot give the desired output. The role of ‘Semantic Search’ becomes prevalent in this scenario. The execution of semantic search faces challenge due to unavailability of resources like WordNet,
Ontology, Annotation etc. An end to end algorithm is described to improve the accuracy of the semantic search in this work. Four classification techniques are used. They are ANN, Decision Tree, SVM and Naïve Bayes. Dataset is provided from the TDIL project of the Ministry of Electronics and IT, Govt. of India. The repository contains 86 categories of text having more than a million sentences. After getting the impressive result for the Bengali language test run was done for other Indian languages and a very good result is achieved. This research is extremely useful for the automatic question answering system, semantic similarity analysis, e-governance and m-governance.

**Keyword:** Semantics, ANN, SVM, Naïve Bayes, Decision Tree, Classification Techniques, Semantic Search.

**References:**

**Authors:** Jamhani Ravi, R. Narmadha

**Paper Title:** Image Fusion Based on Non sub sampled Shearlet Transform

**Abstract:** In current days, an image fusion is a powerful method and developing field in the area of image processing. The image fusion is the process of combining two or more images into a single image then the resulting image will appear more informative than any of the input images. It is the process of assimilation of numerous input images into a new single fused image with highly informative than the input image. There are various image fusion transform techniques are proposed. Out of that techniques a Non-subsampled shearlet transform includes shift invariant property, highly directionality, feasible and more efficient information as compared to previous techniques such as wavelet transform(WT), DWT, LWT, MWT, CWT, Curvelet transform, Counterlet transform, and Nonsubsampled Counterlet transform(NSCT). This NSST technique is carried out by adjusting the levels with filter banks. Downsampling is used to reconstruct. NSST decomposition provides a simple hierarchical framework for image fusion with different geographical resolution.

**Keyword:** Image fusion, NSCT, NSST, Quality parameters.X

**References:**

**Authors:** M. Z. Shaikh, Sulakshana B. Mane

**Paper Title:** Injection, Execution and Infection Working of Ransom ware

**Abstract:** Ransom ware is type of Cyber malware which is used by attacker to block the computer system until some ransom is paid by victim .It propagates by malicious email attachments, links offering free software internet downloads etc.During given time it has to pay money which is demanded by ransom ware. This paper indicates the introduction of Ransom ware. How it works and types, attack methodology and threat carriers of Ransom ware and preventative precautions.

**References:**
Abstract: This paper demonstrates the Digital semi Adaptive Filter which is applied to Radar signals to reduce the blast. Semi Adaptive filter has the strong anti-noise ability; it can also achieve accurate Radar Signal in a very noisy situation. The clatter removing application of the semi Adaptive Filter has been used in spectrum cleaning of the atmospheric radar signals. The object of this work is to plan and rectal assessment of band pass Bartlett and chebyshev semi adaptive filters. This design used MATLAB and XILINX software’s. FPGA hardware SPARTAN kit use for translates realistic research design. The simulation results indicate that Adaptive Filter has strong anti-noise ability for Radar. These works keeping the sampling frequency at 5 MHz were compared and analyzed, optimized evaluated for 64 orders.

Keywords: Digital filter, Field Programmable Gate Arrays (FPGA) MATLAB software and XILINX software, SPARTAN-3E, DSP Chips.

References:
Effect Of Al³⁺ Inclusion on Characterization Exploration, Magnetic and Anti-Cancer Properties of Cobalt Ferrite Nanoparticles Synthesised by Co-Precipitation Process

Abstract: In current years cobalt ferrite (CoFe₂O₄) nanoparticles are widely utilized in electronics and biomedicine. Undoped and Al doped cobalt ferrite nanoparticles were manufactured through cost operative coprecipitation process. X-ray diffraction analysis (XRD) showed single cubic phase of cobalt ferrite and a constant reduction of the lattice constant upon aluminum content. The scanning electron microscope (SEM) analysis acquired the uniform scale dispersion of the well crystallized grains. Optical band gaps (Eg) were observed utilizing Transmittance spectra. Photo Luminescence (PL) studies displayed wide emission peak of energy 3.45 eV, credited to the charge recombination that is attributable to deep traps and lattice faults of confined surface states. Raman Transmittance spectra. Photo Luminescence (PL) studies displayed wide emission peak of energy 3.45 eV, credited to the charge recombination that is attributable to deep traps and lattice faults of confined surface states. Raman Transmittance spectra. Photo Luminescence (PL) studies displayed wide emission peak of energy 3.45 eV, credited to the charge recombination that is attributable to deep traps and lattice faults of confined surface states.

Keywords: MTT assay, Nanoparticles, Raman, SEM UV-vis, VSM, XRD

References:


4191-4198


Authors: K. Purushotam Naidu, P. Krishna Subba Rao, MHM Krishna Prasad

Paper Title: IoT Based Atmosphere Monitoring System using Hadoop Map Reduce Paradigm

Abstract: In today’s world there are a host of serious environmental problems, and air pollution is one of the top causes of many chronic respiratory diseases with accelerated aging of lungs and possibly cancer. Air pollution is the most widespread pollution which is inevitable, since air being an ever pervading medium and carrier, which can transfer the pollutants very fast in no time. It is generally caused due to pollutants like carbon dioxide, carbon monoxide, nitrogen oxides, sulfur dioxide that are released especially when fuels are burnt. This paper aims at designing an Internet of Things (IoT) based atmosphere monitoring system using Hadoop ecosystem. Internet of things (IoT) provides a platform that allows devices to be connected, sensed and be controlled remotely across a network infrastructure. Hadoop is an open source framework which is used to store and process large amount of data using commodity hardware. The key feature of this paper is to measure the level of air contaminants, temperature in the atmosphere using sensors, and also store the sensor data into the cloud server that is Adafruit. Thereby, we redirect the data into Hadoop Distributed File System (HDFS) and process the sensor data to list out the areas with highest pollution level and temperature.

Keywords: IoT, sensors, Hadoop, HDFS, Adafruit

References:

9. A.P. Plageras, K.E. Psannis, C. Stergiou, H. Wang, B.R. Gupta, Efficient IoT-based sensor BIG Data collection-processing and analysis in...
Abstract:
Nowadays people share their views and opinions in twitter and other social media platforms, the way of recognizing sentiments and speculation in tweets is Twitter Sentiment Analysis. Determining the contradiction or sentiment of the tweets and then listing them into positive, negative and neutral tweets is the main classifying step in this process. The issue related to sentiment analysis is the naming of the correct congruous sentiment classifier algorithm to list the tweets. The foundation classifier techniques like Logistical regression, Naive Bayes classifier, Random Forest and SVMs are normally used. In this paper, the Naive Bayes classifier and Logistic Regression has been used to perform sentiment analysis and classify based on the better accuracy of categorizing Technique. The outcome shows that Naive Bayes classifier works better for this approach. Data pre-processing and feature extraction is realized as a portion of task.

References:
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8. Akshi Kumar and Tejia Mary Sebastian “sentiment analysis on twitter” International Journal of computer science
9. science issues volume 9 Issue 4, No 3, july 2012
19. M. N. Dhanya and U.C Harish “Sentimental analysis on twitter data on demonetization using machine learning techniques” Springer International Publishing AG 2018 DOI:10.1007/978-3-319-71767-8_19

Authors:
K. Sentamisvelan, D. Aneri, A. C. Athithiya, P. Kani Kumar

Paper Title: Twitter Sentiment Analysis using Machine Learning Techniques

Keywords: Feature extraction, Logistic regression, multinomial Naive Bayes, Sentiment Analysis.

Authors:
Vishnu Prasad S, T. Shanmuganantham

Paper Title: Robot Assisted Navigation and Routing System for Visually Impaired People

Abstract: This paper deals with the work on creating a robot assisted navigation system for the visually impaired people. The ability to see is an important gift that helps human beings to live their everyday lives, but not all people are blessed with this ability. The normal blind navigation devices deals with on-body devices that the user must carry, but this paper is talking about is a small rover that can be held by the user using a handle. The device will contain a raspberry pi module for taking data from a camera on-board to see the environment and make object and obstacle detection. The 4-WD rover will be controlled by an Arduino device which will be connected to the mobile of the user via a Bluetooth module. The user just has to say the name of the location he needs to go to by opening an
application, the rest of the routing and transport will be done by the raspberry pi and Arduino.

**Keyword:** Arduino, Compass Sensor, Mobile application, Raspberry Pi

**References:**

Authors: M. Balal Siddiqui, M. T. Beg, S. N. Ahmad

**Paper Title:** Implementation of GA with Position Based Crossover-PX Technique for Size Optimization of BDD Mapped Adder Circuits

**Abstract:** Binary Decision Diagrams or BDD are data structure used to represent single and multi-output digital circuits. BDD mapped adder circuits are used to represent different adder functions in a digital system. Optimization of adder circuits are done by optimizing the corresponding BDDs. In this work the optimization of BDD Mapped adder circuits are proposed by using genetic algorithm with position-based crossover-PX technique. The main feature of position-based crossover technique is that it is suitable for order-based solution formation. We compared our result with other existing variable order method available in BDD manipulation tool BuDDy-2.4. The result is obtained for Full Adder circuits of 1 to 8-bit size. Experimental results show the improvement of the proposed work over other techniques. The result is quite significant for large circuits i.e. full adder circuit having larger bit size.

**Keyword:** Adder, BDD, Binary Decision Diagram, Optimization, Variable Ordering.

**References:**

Authors: Josna Raphael.P.

Paper Title: Conceptual Model for Urban Interventions in Historic Cities based on Space Syntax

Abstract: Urbanism today is a synthesis of inheritance, prevalence and futurism. As our inheritance struggles with the rapid transformations and anxiously waits for the future, their conservation becomes an issue related to our cognizance of the genuine relations between tangible and intangible properties. While urban development strategies enormously emphasise the issues on sustainability, social balance, public realm, environment and heritage, the space proxemics of cities are very often ignored. This model is designed in a way that combines analytical techniques of space syntax and cultural context for an objective enquiry into user precise space proxemics of the city and scientifically states the spatial configuration as visible spatial rules or principles of urbanism in the traditional urban cores, thereby evolving a rational approach towards urban interventions. This model caters both for conservation studies and as well for rejuvenation of existing built environments or to design new urban centers for developing traditional urban cores of any city. The model has its application for urban interventions in the chosen area with quantified syntactic parameters for their spatial configuration. This resulted in both cases improving and depriving the culture-precise-human-predictions about space proxemics affecting cultural integration values.

Keywords: Historic Cities, Space Syntax, Culture, Urban Interventions

References:

Authors: Chetana Tukkoji, Mahidhar R, Mahesh Krishna V, Shashank D, Vedanth S

Paper Title: Prevention of Accidents using Automated Railway Crossing System

Abstract: Railways is the most prominent mode of transport across the country, which reaches every corner of the country. Accidents have been a major headache to the Indian Railway. Accidents that have been occurring at the railway crossing is increasing marginally at a higher rate. Therefore, new technology needs to be considered that is reliable, effective and functional for automatic railway gate closure. This Automatic railway gate crossing is an IR sensors based system. This system is implemented using IoT technology. Whenever the train base is sensed by the IR sensor (placed at around 1.5 km distance away from the railway gates) the microcontroller (Arduino Nano) activates the closure of gates that are connected to the driver circuit operated by DC motors. This system also detects obstacles/vehicles using IR sensors (placed at the railway gates) that are preventing the closure of railway gates and alerts the train accordingly, then the train is mechanically slowed down or stopped if necessary. This system is developed to be a fail-proof system to avoid accidents at the railway crossing.

Keywords: Internet of Things, Automated Railway Gates, Transportation, Microcontroller, Arduino Nano, Sensors, Driver circuit, DC motors

References:
Authors: Harini, M. Harini, T. Roxanna Samuel

Paper Title: Design and Implementation of Air Selection based Augmented Reality Serious Game for Learning Capability Analysis

Abstract: Rising advancements and ICT have changed the way of life of society, every single logical zone are exploiting innovation to get a genuine improvement. Specialists understand the advantages of utilizing genuine games as a dependable device in psychoanalyst. Hence, the exploration looks at important issues in regards to Dyspraxia issue in youngsters and presents a similar report in the treatments strategies by utilizing a non autonomous riddle and by utilizing the game, a Serious Game created in the intension of helping kids suffering from Dyspraxia to enhance their engine aptitudes and deftness through innovation. The investigation of information results indicated that exist a critical distinction among the two strategies, demonstrating that youngsters spending time with Serious Game got little schedule in the movement running and furthermore enhanced execution.

Keyword: SG; AR; dyspraxia; Children; Arduino; Ultra Sound Sensor.

References:

Authors: Nitin Jain, Surendra Singh Chauhan, Alok Raj

Paper Title: Security Enhancement of RSA Algorithm using Increased Prime Number Set

Abstract: In this era of digital age a lot of secret and non-secret data is transmitted over the internet. Cryptography is one of the many techniques to secure data on network. It is one of the techniques that can be used to ensure information security and data privacy. It is used to secure data in rest as well as data in transit. RSA in the most commonly used cryptographic algorithm and it is also used for the creation on Digital Certificates. RSA algorithm is now not considered to be as secure due to advancement in technology and newer attack vectors. This paper proposed an algorithm for security enhancement of RSA algorithm by increasing prime numbers count. Proposed algorithm has been implemented to encrypt and decrypt the data and execution results for encryption and decryption time have been compared for increased prime numbers count. This proposed algorithm of RSA can be used to replace the existing RSA algorithm in digital signature certificates as well as in all other places where the
base RSA algorithm is currently being used. In the proposed technique, as the number of prime number count increases, prime factor calculation becomes difficult. If the attacker has encryption key (e) and Product of prime numbers (N) then it is not easy to find out the prime number combinations and hence decryption key (d) will be more secure by using proposed algorithm. This will be more difficult because given a number n, it is easy to find two numbers whose product is equal to n using Shor's algorithm and Grover’s Search Algorithm but it is not very difficult and time taking to exactly determine n numbers whose product is equal to n.

**Keyword:** Cipher Text, Decryption, Decryption Time, Encryption, Encryption Time, Plain Text, RSA Algorithm.

**References:**

1. RSA algorithm using modified subset sum cryptosystem, Sonal Sharma, Computer and Communication Technology (ICCCCT), pp-457-461, IEEE 2011

**Authors:** Ramachandran N, Ajay aravind J, Ajithkumar M, Dhivakar M, Dinesh krishna M

**Paper Title:** Design and Fabrication of Steam Sanitiser

**Abstract:** We use water from taps to wash our hands and subsequently hand blowers to dry them. As we think our hands are clean, still the possibility of germs, bacteria, microbes and mites remain in hands which may have come from the water or the air is used in this cleaning process. The steam sanitizer project is to design and manufacture an equipment to help people sanities their hands instead of washing. In this equipment steam is used instead of water and so the problem of water wastage does not exist.

**Keyword:** water, cleaning process, equipment steam

**References:**

1. William A. Rutila. Ph.D., M.P.H. Hospital Epidemiology, University of North Carolina Health Care System, Chapel Hill, NC 27514 Division of Infectious Diseases, University of North Carolina School of Medicine, Chapel Hill, NC 27599-7030
2. David J. Weber, M.D., M.P.H. Hospital Epidemiology, University of North Carolina Health Care System, Chapel Hill, NC 27514 Division of Infectious Diseases, University of North Carolina School of Medicine, Chapel Hill, NC 27599-7030

**Authors:** J. Jayashree, Ch. J. V. S. Snehith, K. Venkat, P. Chaitanya, V. Vijayashree

**Paper Title:** CROWDBC: A Blockchain-Based Decentralized Framework for Crowdsourcing

**Abstract:** Due to lack of server reliability and user data privacy encryption of data is required before the cloud is outsourced. We have found a compromised method within the blockchain in order to perform a keyword search which is secured on data that is encrypted against malicious service providers and users in cloud. SSE: Privately offers the cloud storage used in symmetric search encryption (SSE) systems, which cannot be regarded as a true cloud. The cloud service is also known to be credible. Let us start by emphasizing the importance of data storage within a public chain. The client is allowed by system to upload them in form which is encrypted, data content is distributed to the nodes of cloud and make sure that the data is available through encryption techniques. Presentation of a blockchain based system for providing the keyword search service with secure storage of distributed data. TKSE performs verifiability on server side so that true cloud servers are protected from being posed by owners of malicious data in the data storage process. Furthermore, technology of blockchain and hash functions are used to allow payment which is fair without third parties involvement for research fees, although if cloud or user is harmful. Our review of security and evaluation of performance show that TKSE is efficient and safe and be suited for cloud computing.

**Keyword:** blockchain, encryption, CrowdBc, crowdsourcing, cloud

**References:**

Video-Based Person Re-Identification: Methods, Datasets, and Deep Learning

Abstract: Video Analytics applications like security and surveillance face a critical problem of person re-identification abbreviated as re-ID. The last decade witnessed the emergence of large-scale datasets and deep learning methods to use these huge data volumes. Most current re-ID methods are classified into either image-based or video-based re-ID. Matching persons across multiple camera views have attracted lots of recent research attention. Feature representation and metric learning are major issues for person re-identification. The focus of re-ID work is now shifting towards developing end-to-end re-ID and tracking systems for practical use with dynamic datasets. Most previous works contributed to the significant progress of person re-identification on still images using image retrieval models. This survey considers the more informative and challenging video-based person re-ID problem, pedestrian re-ID in particular. Publicly available datasets and codes are listed as a part of this work. Current trends which include open re-identification systems, use of discriminative features and deep learning is marching towards new applications in security and surveillance, typically for tracking.

Keywords: Person Re-Identification, Camera Network, Video Analytics, Deep Learning, pedestrian detection

References:
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3. Xiaoke Zhu, Xiao-Yuan Jing, Xinge You “Video-Based Person Re-Identification by Simultaneously Learning Intra-Video and Inter-Video Distance Metrics”, IEEE transaction on image processing, Vol. 27, No. 11. Nov.2018
Abstract: Diabetic retinopathy (DR) is a widespread difficulty of diabetes and is considered as a main reason for vision loss in all over the globe. Several difficulties of DR can be avoided by controlling blood glucose level and timely medication. In real time, it is difficult to detect the DR and consumes more time in a manual way. This paper introduces a new Gradient Descent (GD) based Hyper parameter tuned Xception model called GD-Xception model to detect and classify DR images in an effective way. The GD-Xception model involves a series of subprocesses namely preprocessing, segmentation, feature extraction and classification. A set of extensive simulation takes place to ensure the effective outcome of the presented GD-Xception model. The presented model is tested using a DR dataset from Kaggle. The extensive experimental study clearly portrayed the superior outcome of the GD-Xception model with the maximum accuracy, sensitivity and specificity of 99.39%, 98.50% and 99.62% respectively.

Keywords: About four key words or phrases in alphabetical order, separated by commas.

References:


Authors: Ramesh Krishnan, K. Gnanasekaran, M. Thayumanavan, R.Suganthi Rekha, D. Murali

Paper Title: Optimization of Truck Chassis Frame using Ansys

Abstract: Chassis frame is the skeleton of an automobile industry. It must be hard to resist the adequate shock, twist, vibration and bending stress occurred in operating condition. The material selection and design of chassis frame plays vital role in automobile industry. The chassis can resist the total load acting on the system and it holds the entire body of an automobile. So, highest stress, most equilateral stress and deflection are considerable factors while design of the chassis. In this Paper stainless steel, epoxy and aluminum are the different material used for chassis frame and it is modeled using solid works software and the Finite element analysis has been carried out using with using ANSYS. The chassis frame has been optimized based on the most shear stress, equivalent stress and deflection and also responsiveness inspection is carry through to minimize the weight.

Keywords: Chassis frame, Vibration, Automobile, Sensitivity Analysis.

References:

Authors: Karchung, Zepa Tenzin, Sonam Tenzin, Sonam Tobgay, Dorji Gyeltshen

Paper Title: Smart Street Lighting Detecting Vehicle and Pedestrian Movement Aiming for Sustainable Bhutan

Abstract: An energy crisis is global issue nowadays. Bhutan however, does not realize it being blessed with good geographical and demographical diversity. It is high time that Bhutan realize the need of energy conservation technique. The electrical energy is wasted unnecessarily which starts from keeping the mobile charger plugged in the socket when not in use to lamps keeping ON in streets throughout day and night. People don’t seem to care but monitoring it for better conservation benefit has become crucial in underdeveloped countries like Bhutan whose source of energy is limited to hydropower only. Wind and solar generations are feasible but the energy cost per unit would be very high due to high initial cost. A case study conducted within the college campus revealed tremendous savings a college can make just by replacing conventional compact fluorescent lamp (CFL) with light emitting diode (LED). Therefore, the best option for Bhutan and Bhutanese people is to take better care of the existing energy sources and use it judiciously. This paper proposes a method to monitor and control the street/compound lighting in a smarter way. The two types of sensors are employed. The light dependent resistor (LDR) is used to monitor the intensity or brightness of surrounding and passive infrared (PIR) sensor is employed for detecting infrared source. The sensor output is processed and monitored by the PIC16F877A microcontroller. Moreover, the incandescent lamp and the compact fluorescent lamp will be replaced by LED lamps. The project aims to reduce power consumption in

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Bhutan through proposer control of street/compound lighting so as to have better economy of the country by exporting more unit of energy to neighboring country.

**Keyword:** smart street light PIC16F877A microcontroller, Proteus software, light dependent resistor, passive infrared sensor

**References:**


**Authors:** Shilpa Jahagirdar, Sanjay Koli

**Paper Title:** Automatic Accident Detection Techniques using CCTV Surveillance Videos: Methods, Data sets and Learning Strategies

**Abstract:** Intelligent communities are utilizing different creative ideas to improve the quality of human life. Due to fast growing sizes of our cities, need of travelling is constantly increasing, which in turn has increased count of vehicles on the roads. Increasing number of vehicles on the roads has brought about numerous difficulties for Street Traffic Management Authorities. Amongst different traffic related issues, road accidents are something worth giving attention to and have to be on the priority list. This paper describes various automatic road accident detection techniques, which automatically detect accidents using surveillance videos in real-time. As these methods do not consider various lighting conditions, changing weather conditions and different traffic patterns, none of the methods are robust enough to address all the incidences of the accident. In this paper, authors have described and compared many such methods.

**Keyword:** accident detection, CCTV, DNN, surveillance videos

**References:**


12. Zu hui, Xie yaohua, Ma lu,Fu Jiangsheng, “Vision-based real-time traffic accident detection”, IEEE, Proceedings of 11th World Congress on


Authors: Karthika S, Marshia Therias S, Mukesh K

Paper Title: Integrated Query Data Communication using Arti-Q System for Placement Cell Automation

Abstract: Maintaining database of students in colleges is being an issue for placement cell since the data is maintained online and it is difficult to get access the system. Hence come up with idea of maintaining a database in offline mode using an integrated ARTI-Q system which is using simple tools like Microsoft visual studio(version 2008) as front end and Microsoft SQL server(version 2005) as back end. The main aim of this project is to move packets from source to destination without an internet connection. Packets will only communicate through the assistance of base stat ions in which they are transmitted as Unicode transmission. The high transmission baud rate 115200 is set to increase the transmission. The program must aim to consolidate a Q system which is using simple tools like Microsoft visual studio(version 2008) as front end and Microsoft SQL server(version 2005)

Keyword: NET, database, SQL server, messages, query.

References:
2. Hayala N. Curto, Humberto Torres MarquesNeto, Artur Ziviani, Jussara
5. In proceedings with IOSR Journal of Mobile Computing & Authentication (IOSRJ-MCA), Olusanya Olamide, Onazi Ogaba and O. "An SMS and e- mail response alert system."
7. Science and Technology Journal: Niranjan A. Software & Data Engineer

Authors: Gurvinder Singh, Gulshan Taneja

Paper Title: Stochastic Modelling of an Aircraft Considering the Possibility of Precautionary Landing Due to Fuel - Filter Clogging

Abstract: The present work deals with the stochastic and cost - benefit analysis of a helicopter taking into account the situation of precautionary landing caused by blockage in its fuel - filter. The system has been analysed by developing a model and finding the various indices of system effectiveness like mean time to filter clogging, expected up (flying) time, expected number of precautionary landings etc. The regenerative point technique has been used for the purpose. The obtained measures have been further used to analyse the profit generated by the system. Graphical study of the proposed model has also been done. The suggested methodology finds its application in commercial aviation sector.

Keyword: Helicopter, Precautionary Landing, Fuel - Filter, Clogging, Regenerative Point Technique

References:
4. K. Jenah, K. Rashidi, Operational Reliability Assessment of an Aircraft Environmental Control System, Reliability Engineering and System
Authors: MSA Srivatsava, T. Ramashi, K Soundararajan

Paper Title: Statistical Goodness Factor ‘r’ for Image Fusion Algorithm Based on UGGD Parameters

Abstract: In this paper we propose a novel pyramid decomposition based Image fusion metric, Gamma Factor or Goodness of Fit ‘r’ which describes the statistically amount of information fused by the image fusion algorithm. We first apply steerable pyramid decomposition and then a fitting model for Univariate Generalised Gaussian Distribution (UGGD) parameter estimation. From the UGGD: P and S fitting model coefficients are computed. To estimate the optimum weights for computation a huge data set of complimentary images are used. Using these weights, amount of information contributed by each image to form a fused image can be estimated. Experimental results show the tremendous matching with the quantise information

Keywords: Pyramid, UGGD, Weights, fitting model, Fused Image

References:

Authors: Eman Nabil Alkholly, Amal Elsayed Aboutabl, Mohamed Hassan Haggag

Paper Title: A Proposed Fuzzy Model for Diseases Diagnosis

Abstract: Decision making has become a problem in environments full of uncertain, vague and imprecise information. They face many problems to train computer systems to simulate human thinking to make the right human thinking. Different methodologies and approaches have been used to train computers to understand and mimic human thinking. This paper proposes a fuzzy model for a bone disease to have the right diagnosis answer, as a human expertise doctor. and to prove that using fuzzy logic has a significant ability to mimic human thinking. The model accepts inputs in the different forms as physiological and clinical parameters and all data based on medical expertise, using a rule-based fuzzy system approach applied with fourteen rules to have final accurate output decisions. it has been tested in the orthopedic unit against the real existing diagnosis answer from expertise doctor and found that is capable of assisting medical experts in diagnosing diseases and provide good health services to their patients.

Keywords: Fuzzy logic, medical Diagnosis, Artificial Intelligence

References:
Identification of Sugarcane Foliar Diseases: Methods and Datasets

Abstract:
Agriculture is the major part of the Indian economy as it provides key support to social and economic development of the country. Sugarcane is the leading cash crop in various states of India which has larger share in the net agriculture produce. Recently, researches have highlighted the impact of different disease on various plants. Estimated loss is much severe for the sugarcane crop via foliar diseases. Foliar diseases like rust, eye spot, mosaic and banded chlorosis may hamper the overall productivity of sugarcane and sugar recovery rate (RR). Early prediction of these diseases may limit the losses in terms of produce net benefits. This paper addresses the concerns, types of the foliar disease and researches undertaken to overcome the problems related to the diseases. Morphological characters of these diseases may help in identifying the representative features and to use them for the optimum classification. Currently the use of deep neural networks (DNN) is encouraged for the classification. DNN demands the huge and accurate databases. Intuitively the use and important methods used in database creation for disease diagnostic system (DDS) may be highlighted in the paper. Modifications made to the Convolutional Neural Network architecture have suggested the improved performance in terms of recognition accuracy (RA) and lesser recognition time.

Keywords:
Sugarcane, Deep Neural Network (DNN), Recovery rate (RR), recognition accuracy (RA), Video Signal Processing, Disease Diagnostic System (DDS).

References:

Authors:
Swapnil Dadabhau Daphal, S. M. Koli
Abstract:
This paper presents a cryptography based approach for enforcing security mechanisms in driverless vehicles, used in the banking sector for transporting valuable assets. The proposed idea combines multi-factor authentication along with asymmetric encryption mechanism in order to ensure the required level of security. The system is parallel and distributed; hence it is formally analyzed using Petri-net modeling technique.

Keywords:
Biometric Authentication, Elliptic curve cryptography, Integrity, Petri-Net and Privacy.

References:

Authors: S. Vijayalakshmi, J. Uma Maheswari, G.R. Karpagam, M. Visalakshi
Paper Title: Using Petri-Net for Modeling and Formal Verification of Crypto-security in Driverless Vehicles

Abstract:
This paper presents a cryptography based approach for enforcing security mechanisms in driverless vehicles, used in the banking sector for transporting valuable assets. The proposed idea combines multi-factor authentication along with asymmetric encryption mechanism in order to ensure the required level of security. The system is parallel and distributed; hence it is formally analyzed using Petri-net modeling technique.

Keywords:
Biometric Authentication, Elliptic curve cryptography, Integrity, Petri-Net and Privacy.

References:

Authors: Rameez Muneer, S. M. Koli
Paper Title: Emergence and Functionality of 3D Videos

Abstract:
Millions of videos are created and watched every day. Quality of desired video plays a significant role in modern day applications. Deep fake videos have alarmed the established institutions while amused others. A
Three-dimensional (3D) stereoscopic film or a 3D Video for that instance is a motion picture that enhances the illusion of depth perception, hence adding a third dimension. 3D videos can effortlessly validate and secure the authenticity of communication and broadcast process due to their auxiliary effect. In this research paper we attempt to observe and analyze numerous measures taken towards initiation and rise of 3D videos along with their efficacy of benefit from an end user perspective.

**Keyword:** 3D Video, 3D video Coding and Processing, 3D-HEVC, Virtual Reality.

**References:**


**Authors:** Praveen Kumar Gahlot, Suresh singh Sankhla, Krishan Kumar Saini

**Paper Title:** Use of GGBS as Partial Replacement of Cement in Concrete While using Master REHO Build 823PQ

**Abstract:** Currently cement is the most important material in the construction sector. Ordinary Portland cement is one of the main ingredients used for the production of concrete. Unfortunately, production of cement involves emission of large amounts of carbon-dioxide gas into the atmosphere, a major contributor of greenhouse effect and consequent global warming. While, cement typically comprises only 12% of the concrete mass, it accounts for approximately 93% of the total embodied energy of concrete and 6% to 7% of the world wide Carbon dioxide (CO2) emissions. Hence, it is of utmost importance to either search for another cementitious material or partially replace it by some other material. Currently there is a trend of usage of waste products such as fly ash from coal industries, GGBS from iron smelting process, paper ash from paper industry etc as supplementary cementitious materials to enhance the properties of concrete while also effectively reducing the carbon foot print. Ground Granulated Blast Furnace Slag (GGBS) is a by-product from iron smelting process using the blast-furnace. The present paper is prepared to study the effect on compressive strength of concrete due to partial replacement of cement with GGBS as supplementary cementitious material while using master REHO build 823PQ.

**Keyword:** Concrete, Strength, Ground Granulated Blast Furnace Slag, greenhouse effect, Cement.

**References:**

3. 4322
4. 729.
Assessment of the organizers and the organization to realize the street portions that need support. This significance prompted numerous ones. The removed streets and the data on the condition and the nature of streets can be utilized to make guides, plan new streets, and keep up existing characterization and numerical changes. In this task, we create a coverage and connectivity issue and different routing protocols, which are prominent for the evolution of the wireless sensor network. In this survey, we are going to discuss these different routing protocols which are prominent for the evolution of the wireless sensor network. In this survey, we are going to discuss these coverage and connectivity issue and different routing protocols, so that it can help in future research work.

Keywords: Wireless sensor network, Network sensors, Coverage & Connectivity, Routing protocol, QoS.

References:

Authors: Umashankar Pandey, Ashok Bhansali

Paper Title: Efficient Routing Protocols and Coverage Issues in Wsn

Abstract: Wireless sensor network is the most favorable topic in the current era, as the technology is growing tremendously the size of the devices are decreasing gradually and hence the sensors are getting smaller and inexpensive. This makes the deployment of wireless sensor network less complicated, but not only size of the sensor is the problem other different issues are also there like coverage and connectivity issues, without proper coverage of the monitoring area and isolated sensor nodes will never form a proper network. There are different routing protocols which are prominent for the evolution of the wireless sensor network. In this survey, we are going to discuss these different routing protocols, so that it can help in future research work.

Keywords: Wireless sensor network, Network sensors, Coverage & Connectivity, Routing protocol, QoS.

attempts to extract street from satellite pictures and picture mining. In this paper, we attempted to remove streets in a thick urban region by utilizing of picture mining strategies. Because of ghostly likeness of urban items in thick regions, there is no affirmation to distinguish the urban articles appropriately depended on otherworldly data. In this way in current work, it is meant to exploit two informational indexes including Lidar information and aeronautical pictures.

**Keyword:** Image mining, Gradient filter, Road detection.

**References:**

**Authors:** S. Priya Dharshini, M. Revathy, A. Soundharya, R. Manjula Devi

**Paper Title:** Non-Invasive Blood Glucose Measurement Technique for Diabetic Patients

**Abstract:** Diabetes mellitus is one of the most spreading diseases prevalent in the world. The Diabetic patients where in desideratum of monitoring their blood glucose level conventionally for a certain periodic of time. If they were nescient of their checkup it may lead to sundry symptoms like the feel profoundly slothful, tired etc. So they require for a periodic check up without fail. In clinic the prefer syringes for amassing the samples, in some worst cases there will be a possibility of unhydrated syringes. For checking they were in desideratum of a modicum of blood samples. For a precise quantification they will integrate some chemical substance to detect the value. While taking blood samples they feel so uncomfortable, pain and if the syringes where already used are not felicitously sterilized it may lead to sundry disease. The another method for quantifying the sample is a non-invasive. In non-invasive method there will be no desideratum of any syringe. It will be pain less and withal comfortable for the patients. In this paper we are introducing a non-invasive method in lieu of invasive method to be liberate from pain. Our proposed system consists of near infrared transmitter and receiver, a light dependent resistor etc. The rays are sanctioned to passes through the finger it will quantify the glucose present in our cell and the output is given to the processor. The processed output will determine the quantity of glucose present in the blood. Then determinately the obtained output will be exhibited in the Liquid Crystal Exhibit.

**Keyword:** NIR Transmitter and Receiver, Arduino Uno, Serial Monitor.

**References:**

**Authors:** B. M. Kalbande, A. I. Dhatrak, S. W. Thakare

**Paper Title:** Experimental Assessment of Performance of XCC Pile in Sand

**Abstract:** XCC (X-Section Cast in place Concrete) pile is new type of pile developed on the basis of cast-in-place pile from the conventional circular pile and capable of resisting displacement. In this study, an attempt is made to investigate the performance of XCC Pile under different loading conditions viz., vertical loading, lateral loading and uplift loading. Experimental investigation is carried out on small scale model piles embedded in sand, by changing type of loading and distance between arc to diameter ratio of the pile. The relative density of soil, type of
soil and spacing between the piles are kept constant during investigations. Ultimate capacities of piles are compared with those of conventional circular pile with same diameter and length. The results show that XCC pile with arc distance to diameter ratio equal to 0.3 provides higher vertical and lateral capacity to the extent of 45 % and 39 % respectively compared to that of conventional pile. XCC Pile with arc distance to diameter ratio equal to 0.4 provides higher uplift load capacity to the extent 29 % compared to conventional circular pile.

**Keyword:** XCC Pile, Ultimate load capacity, Lateral load capacity, Uplift load capacity

**References:**

**Authors:** Leena Jain, Satinderjit Singh

**Paper Title:** Underlying Mental Factors Contributing to Software Complexity

**Abstract:** Software complexity and program comprehension are inversely related. Higher the code complexity, poorer the comprehension. But we neither have good software complexity measure, nor do we understand how the program comprehension took place in human mind. This is because we know so little about the working of the human brain; how it processes internal and external information. In this paper we have identified 5 mental factors which adds into the code complexity. In order to explain these factors, we took 10 code snippet pairs in C language and compared the code or software complexity. We believe these identified mental factors can be validated by various brain experimental methods. We believe these identified factors will increase our understanding of Program comprehension as well as it will lead better software complexity measure. This could be very useful in computer science education. The very process of understanding how the human mind decode the software could be possibly understood. In long run this could help us in better understanding of the functioning of human brain.

**Keyword:** Program comprehension; Software Complexity; Cognitive metrics; Cognitive load; Code snippets; Human brain working.

**References:**
Inventions can't make suitable groups, they are not amazingly vitality. In our convention, a unified bunch. There are several techniques for interpreting a typical cardiotocography data.

**Abstract:**

This paper presents MRMR feature selection algorithms with four classification for Fetal risk prediction based on signal processing and computer programming. Only a few decades after cardiotocography has been before delivery to evaluate maternal and fetal well-being. Doctors can understand the state of the fetus by observing the heart rate and movements. However, some studies have shown that cardiotocography is not always reliable.

Based on the above, we have developed a system to analyze cardiotocography data and predict fetal risk. The system uses MRMR feature selection algorithms to identify the most important features that contribute to fetal risk prediction.

**Keywords:**

- Cardiotocography
- Fetal risk prediction
- MRMR feature selection

**References:**


**Authors:**

- Phani Rama Krishna, M. Venu Bhargavi, P. G. S. Sundeep, M. L. P. Bindu, Lakshmi Pravalika

**Paper Title:**

Advanced Energy-Efficient Clustering Routing Protocol using Centralized Scheme

**Abstract:**

In remote sensor systems with portable hubs, it is imperative to upgrade vitality efficiency. For these systems, a few steering conventions have been displayed to diminish bundle misfortune and increment vitality efficiency. Be that as it may, since these conventions can't make suitable groups, they are not amazingly vitality efficient. Right now, brought together vitality efficient grouping steering convention for versatile hubs (CCECR) is created to limit vitality scattering and boost bundle conveyance proportion. In our convention, a unified bunch arrangement calculation is displayed to deliver ideal groups by using hub versatility and the hub vitality property. Moreover, withdrew a hub chooses its ideal bunch head as indicated by the hub separation property, hub portability, and the hub vitality feature. The exhibition of centralized energy efficient clustering scattering protocol for mobile nodes will be contrasted with grouping based conventions, for example, Filter, Drain C, Drain Portable, Cluster Based Routing, Mobile Based Clustering, and Filter MF. Re-enactment according to the outcome CCECR decreases normal vitality scattering and improves parcel conveyance proportion.

**Keyword:**

- sensor networks, scattering protocols, routers, congregating, lower energy dissipation.

**References:**


**Authors:**

- J. Jayashree, Harsha T, Anil Kumar C, J. Vijayashree

**Paper Title:**

Enhanced Optimal Feature Selection Techniques for Fetal Risk Prediction using Machine Learning Algorithms

**Abstract:**

Cardiotocography (CTG) records fetal heart rate (FHR) and uterine contractions (UC) simultaneously. The CTG, which is one of the most common diagnostic techniques used during pregnancy and before delivery to evaluate maternal and fetal well-being. Doctors can understand the state of the fetus by observing the Cardiotocography trace patterns. There are several techniques for interpreting a typical cardiotocography data based on signal processing and computer programming. Only a few decades after cardiotocography has been implemented into clinical practice, the predictive potential of these approaches remains controversial and still unreliable. This paper presents MRMR feature selection algorithms with four classification for Fetal risk prediction.
using python.

**Keyword:** Fetal heart rate, cardiotocography, uterine contractions, machine learning, MRMR, python.

**References:**

**Authors:** Renjitha.R, Rubashree.D, Priya.V, Preetha.C

**Paper Title:** Generating an Audio and Text for Indian Sign Language

**Abstract:** Every normal people have the ability to observe and respond to the environment. Nearby are several unlucky persons who doesn’t encompass this principal blessing. Deaf and Dumb people have to communicate with normal people, it’s a challenging task. Sign Language is designed for deaf and dumb people to convey message to the society. Sign Language Recognition is a technology which is used to identify human gestures with the help of Arduino uno. Gesture recognition based on the corresponding gesture symbol produces an audio & text output. The flex sensor is used to recognize the hand gestures. Recognized gesture is transferred to the Arduino uno and the output is generated. By these techniques we can implement an efficient audio & text output for physically challenged people. Our technology consists of glove which will be worn by dumb people to communicate with normal people. The proposed prototype could also serve as an intermediate between deaf and dumb people and normal people in everyday life such as bank or post office. The output will be displayed using LCD and also produces a speech signal.

**Keyword:** Audio amplifier, Arduino uno, Flex sensor, LCD ,Sign language, Speaker.

**References:**
Algorithms mapped to a standard metric achieve clinically useful quantification of the progression of Parkinson's disease using speech signal with Extreme Learning Machine. This paper also offers a study of the results obtained by using MRMR feature selection algorithms with four classifications for Parkinson's disease detection using python.

References:

Authors:

Paper Title:
Enhanced Optimal Feature Selection Techniques for Parkinson's disease Detection using Machine Learning Algorithms

Abstract:
Parkinson disease is a common mass measurement problem in public health. Machine-based learning is used to differentiate between the stable and Parkinson's disease people. This paper provides a comprehensive review of the Parkinson disease buying estimate using machine-based learning approaches. A brief introduction is given to various methods of artificial intelligence, focused on strategies used to predict Parkinson disease. This paper also offers a study of the results obtained by using MRMR feature selection algorithms with four classifications for Parkinson’s disease detection using python.

Keyword:
Parkinson Disease(PD), Types of Parkinson’s Disease, Stages, Symptoms, Causes, Risk Factor, Complications, Treatment, Prevention, Statistics, MRMR ,python.

References:

Authors:
Walah Mahmoud Shehata, Ahmad Mohamed Mokhtaar

Paper Title:
Modeling, Analysis, and Optimization for the Biodiesel Production Process from Waste Cooking Oil

Abstract:
The present study proposed a rigorous model using detailed kinetics reaction for the alkali transesterification of waste cooking oil with methanol and Alkalai Catalyst (NaOH). Aspen Plus software is used. The results showed that the rigoroueness of the model helps in predicting more realism and accurate result. The different parameters of the process like temperature, pressure, residence time, methanol to oil ratio, and catalyst (NaOH) weight percentage were studied. All the studied parameters have significant effect on the process performance except pressure. Optimization of the process also carried out to find the best conditions for maximum profit and maximum production. The optimization results showed that the reaction temperature decreased from 60 to 45 °C, the reaction time decreased from 60 to 49 minutes, the molar ratio of methanol/oil increased from 6:1 to 7:2:1 mole ratio and the catalytic concentration decreased from 1 to 0.25 wt%.
Keywords: Biodiesel, transesterification, Waste Cooking Oil, Aspen Plus.

References:
2. ASTM, D 6571 Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels. ASTM International.

Authors: Sarath Chandran, Kochumol Abraham

Paper Title: A Correlative Scrutiny on two Programming Dialects: RUBY Vs PYTHON

Abstract: The two most dominant rising programming dialects in reality, Ruby and Python have many features in common. High-level object-oriented coding, interactive shell, standard libraries, persistence support are some of the common features of Python and Ruby. However, both vary in their approach to solve problems because of their syntax and uses. Power of a language is based on the libraries and popularity defines the frameworks that have been used. This paper primarily focuses on the frameworks and libraries of Ruby and Python. Ruby on Rails is one of the most powerful framework of Ruby and Django for python. Python is used for many purposes beyond web development such as data science and machine learning computations. A spike in popularity is seen for both Ruby and Python but still the question of "which to be opted" for developing an application becomes a query most of the times. Hence, this research scrutinizes both Ruby and Python in terms of framework and libraries.

Keyword: Power of Python, Power of Ruby, Comparison of frameworks, Comparison of libraries.

References:


20. /thankscs/python/english/2e/ch01.html, 21 April 2012.


Paper Title: Mathematical Modeling of the Processes of Polymer Loading in Extruders

Abstract: Based on the state of the problem related to high-quality and reliable insulation coating of high-voltage cables, the problems of mathematical modeling of pro-cesses in the loading zone and the delay of the polymer mixture in a single-screw extruder are formulated, which is crucial in terms of providing a high-quality insulation coating. An iterative numerical-analytical method for solving the corresponding nonlinear boundary value problems is proposed, based on the use of finite integral transformations in the spatial and temporal domains and their implementation.

Keyword: Bessel functions, extruder, integral transformations, mathematical model, numerical-analytical method, Navier-Stokes equation, polymer, screw.

References:

Authors: P. Oliver Jayaprakash, C. Mekala, M. Vishnu Priyan

Paper Title: Subsurface Based Contaminant Transport Modelling of SDS (Nac12h25so4)

Abstract: Subsurface contamination by emerging contaminants from inappropriate effluent discharge is one of the serious issues directly affecting the quality of groundwater. This study is aimed at transport and transformations of anionic surfactant (SDS). Sodium Dodecyl Sulfate [NaC12H25SO4] from grey wastewater containing detergents in unsaturated soils and its impacts on groundwater. HYDRUS-1D model to predict the transport mechanisms was developed. In this regard, surfactant concentrations for SDS from the sewage treatment plant of KCET, Virudhunagar was taken for evaluation. This research work reveals that inlet, outlet, sludge with wastewater, wastewater, and effluent are important in modeling the fate of surfactants. The model estimated sorption parameter: Kd = 0.16. The model was calibrated using the experimental data and was applied to the various scenarios with GWT depth of 30 m. The calibrated HYDRUS model was adopted to study the various scenarios with GWT depth of 30 m. The simulated SDS concentration at GWT of 30m is 4.13mg/litre.

Keyword: SDS, Soil column, HYDRUS-1D, Contaminant transport, GWT, Wastewater.

References:
8. Qing-Song Liu, Tong Zheng, Adsorption isotherm, kinetic and mechanism studies of some substituted phenols on activated carbon fibers

742.


Authors: Shubham Pandey, Gulab Singh Bura

Paper Title: Prioritization of Black Spots in Hilly Road Segment using Road Engineering Data

Abstract: Road accidents are one of the causes of disability, injury and death. As per the latest road accident data released by the Ministry of Road Transport & Highways (MoRTH), the total number of accidents increased by 2.5 percent from 4,89,400 in 2014 to 5,01,423 in 2015. The analysis reveals that about 1,374 accidents and 400 deaths take place every year. Every single year, it has been estimated that over three lakh persons die and 10-15 million persons are injured in road accidents throughout the world. According to the analyses, statistics of global accident indicate that in developing countries, the rate of fatality per licensed vehicle is very high as compared to that of industrialized countries. A road stretch of about 500 metres in length in which either ten fatalities or five road accidents (involving grievous injuries/fatalities) took place during last three calendar years, on National Highways is considered as a road accident black spot according to MoRTH, Government of India. In the present study the identified black spots of Haridwar and Dehradun city were included comprising of a total of 81 black spots out of which there were 49 black spots which were identified in Dehradun followed by 32 black spots in Haridwar. The present study was an attempt to carry out the prioritization of these identified black spots with respect to the factors that were considered to evaluate accident prone locations on the road. The identified black spots were then prioritized using the classification scheme (ranking from low to high). The study reveals that the advantage of using this approach for prioritizing accident black spots on roads is that it requires very less additional data other than the road network maps.

Keyword: Black spot, Prioritization, Road Engineering, Accidents, Uttarakhand.

References:

6. Rakesh Kumar and A kumar (2015)” Identification and Improvement of Accident Black Spot on NH-3, Distt. Una (Himachal Pradesh) - A Case Study” department of civil engineering lovely professional university phagwara, punjab (India) – 144402.

Authors: Ankit Singh, Gulab Singh Bura

Paper Title: Estimation of Economic Loss Due to Road Traffic Injuries using Human Capital Method

Abstract: In the present scenario, Road traffic accidents (RTAs) become an alarming problem over the globe as they lead to approx. 2.6% total loss of country’s gross domestic product (GDP). It is considered as one of the leading cause of mortalities, disabilities and morbidities due to road accidents in developing countries like India. To enable governments to take policy decisions on road safety, it is necessary that good research is undertaken to estimate the cost of accidents. This study will help government to take decisions while planning investment on road safety, facilities on roads, awareness signs and board etc. Meanwhile, estimation and evaluation of economic loss due to RTAs will help governments to frame policy and take important decisions within limited economic resources. Apart from humanitarian losses, there is increase in economic loss due to RTAs because most of the victims involved in accidents are from productive age groups of a society. The main objective of this study is to estimate the cost components of road accidents in two major districts namely Haridwar and Dehradun, Uttarakhand, India. The methodologies for such studies generally vary according to traffic pattern, number of accidents, black spots,
population etc. This study makes use of an empirical approach as Cost benefit Analysis consist of Human Capital Approach for cost estimation which provides a vast understanding of the problem for hilly scenario. Secondary data were taken from Transport Research Wing, Government of Uttarakhand for all road accidents from 2016 to 2018 and primary data were collected from randomly selected victims through structured questionnaire and informed consent.

**Keyword:** Economic burden, Human capital approach, Injuries, Road traffic accidents.

**References:**