Editor-In-Chief Chair
Dr. Shiv Kumar
Ph.D. (CSE), M.Tech. (IT, Honors), B.Tech. (IT), Senior Member of IEEE
Professor, Department of Computer Science & Engineering, Lakshmi Narain College of Technology Excellence (LNCTE), Bhopal (M.P.), India

Associated Editor-In-Chief Chair
Dr. Dinesh Varshney
Professor, School of Physics, Devi Ahilya University, Indore (M.P.), India

Associated Editor-In-Chief Members
Dr. Hai Shanker Hota
Ph.D. (CSE), MCA, MSc (Mathematics)
Professor & Head, Department of CS, Bilaspur University, Bilaspur (C.G.), India

Dr. Gamal Abd El-Nasser Ahmed Mohamed Said
Ph.D (CSE), MS(CSE), BSc(EE)
Department of Computer and Information Technology, Port Training Institute, Arab Academy for Science, Technology and Maritime Transport, Egypt

Dr. Mayank Singh
PDF (Purs), Ph.D(CSE), ME(Software Engineering), BE(CSE), SMACM, MIEEE, LMCSI, SMIACSIT
Department of Electrical, Electronic and Computer Engineering, School of Engineering, Howard College, University of KwaZulu-Natal, Durban, South Africa.

Scientific Editors
Prof. (Dr.) Hamid Saremi
Vice Chancellor of Islamic Azad University of Iran, Quchan Branch, Quchan-Iran

Dr. Moinuddin Sarker
Vice President of Research & Development, Head of Science Team, Natural State Research, Inc., 37 Brown House Road (2nd Floor) Stamford, USA.

Dr. Shanmugha Priya. Pon
Principal, Department of Commerce and Management, St. Joseph College of Management and Finance, Makambako, Tanzania, East Africa, Tanzania

Dr. Veronica Mc Gowan
Associate Professor, Department of Computer and Business Information Systems, Delaware Valley College, Doylestown, PA, Allman, China.

Dr. Fadiya Samson Oluwaseun
Assistant Professor, Girne American University, as a Lecturer & International Admission Officer (African Region) Girne, Northern Cyprus, Turkey.

Dr. Robert Brian Smith
International Development Assistance Consultant, Department of AEC Consultants Pty Ltd, AEC Consultants Pty Ltd, Macquarie Centre, North Ryde, New South Wales, Australia

Dr. Durgesh Mishra
Professor & Dean (R&D), Acropolis Institute of Technology, Indore (M.P.), India

Executive Editor Chair
Dr. Deepak Garg
Professor & Head, Department Of Computer Science And Engineering, Bennett University, Times Group, Greater Noida (UP), India

Executive Editor Members
Dr. Vahid Nourani
Professor, Faculty of Civil Engineering, University of Tabriz, Iran.

Dr. Saber Mohamed Abd-Allah
Associate Professor, Department of Biochemistry, Shanghai Institute of Biochemistry and Cell Biology, Shanghai, China.

Dr. Xiaoguang Yue
Associate Professor, Department of Computer and Information, Southwest Forestry University, Kunming (Yunnan), China.
Dr. Labib Francis Gergis Rofaiel  
Associate Professor, Department of Digital Communications and Electronics, Misr Academy for Engineering and Technology, Mansoura, Egypt.

Dr. Hugo A.F.A. Santos  
ICES, Institute for Computational Engineering and Sciences, The University of Texas, Austin, USA.

Dr. Sunandan Bhunia  
Associate Professor & Head, Department of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia (Bengal), India.

Dr. Awatif Mohammed Ali Elsiddieg  
Assistant Professor, Department of Mathematics, Faculty of Science and Humanitarian Studies, Elneilain University, Khartoum Sudan, Saudi Arabia.

Technical Program Committee Chair  
Dr. Mohd. Nazri Ismail  
Associate Professor, Department of System and Networking, University of Kuala (UniKL), Kuala Lumpur, Malaysia.

Technical Program Committee Members  
Dr. Haw Su Cheng  
Faculty of Information Technology, Multimedia University (MMU), Jalan Multimedia (Cyberjaya), Malaysia.

Dr. Hasan. A. M Al Dabbas  
Chairperson, Vice Dean Faculty of Engineering, Department of Mechanical Engineering, Philadelphia University, Amman, Jordan.

Dr. Gabil Adilov  
Professor, Department of Mathematics, Akdeniz University, Konyaalti/Antalya, Turkey.

Dr. Ch.V. Raghavendran  
Professor, Department of Computer Science & Engineering, Ideal College of Arts and Sciences Kakinada (Andhra Pradesh), India.

Dr. Thanhtrung Dang  
Associate Professor & Vice-Dean, Department of Vehicle and Energy Engineering, HCMC University of Technology and Education, Hochiminh, Vietnam.

Dr. Wilson Udo Udofia  
Associate Professor, Department of Technical Education, State College of Education, Afaha Nsit, Akwa Ibom, Nigeria.

Convener Chair  
Mr. Jitendra Kumar Sen  
Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., Bhopal(M.P.), India

Editorial Chair  
Dr. Sameh Ghanem Salem Zaghloul  
Department of Radar, Military Technical College, Cairo Governorate, Egypt.

Editorial Members  
Dr. J. Gladson Maria Britto  
Professor, Department of Computer Science & Engineering, Malla Reddy College of Engineering, Secunderabad (Telangana), India.

Dr. Sunil Tekale  
Professor, Dean Academics, Department of Computer Science & Engineering, Malla Reddy College of Engineering, Secunderabad (Telangana), India.

Dr. K. Priya  
Professor & Head, Department of Commerce, Vivekananda College of Arts & Sciences for Women (Autonomous, Elayampalayam, Namakkal (Tamil Nadu), India.

Dr. Pushpender Sarao  
Professor, Department of Computer Science & Engineering, Hyderabad Institute of Technology and Management, Hyderabad (Telangana), India.

Dr. Nitasha Soni  
Assistant Professor, Department of Computer Science, Manav Rachna International Institute of Research and Studies, Faridabad (Haryana), India.
Authors: Dina M. Ibrahim

Paper Title: Protocol Converter between Mobile IP and WATM Wireless Networks

Abstract: This paper is concerned with the problem of designing and verifying internetworking protocol converters on the basis of timed Petri nets. The Petri net protocol conversion designated between the Mobile Internetworking Protocol (Mobile IP) and the Wireless Asynchronous Transfer Mode (WATM) protocol is investigated. Due to protocol complexity in this case, we propose a routing arrangement scheme for either protocol and for the intended protocol converter, in order to facilitate the derivation of the various traces involved. Petri net-based converter between Mobile IP and WATM protocols is constructed and verified. The converter is verified by simulation to guarantee liveness, safety, and responsiveness.

Keywords: Mobile IP, Petri Nets, Protocol Converters, Wireless Network Protocols.

References:

Authors: Steven Valentino E. Arellano, Kierven R. de Mesa, Lawrence Alexis P. Desuasido

Paper Title: Child Detector Android Application using Bluetooth Low Energy (BLE) Beacon Technology

Abstract: The Child Detector Android Application through Smartphone Using Bluetooth Low Energy (BLE) Beacon Technology was developed to prevent the child from getting lost. The researcher mainly utilized beacon and Android application in developing the system. Smartphone with installed application will detect and display the distance of the child, and it will also alert whether the child is going far from the user. The beacon is detected through smartphone’s Bluetooth within 30-meter range proximity, while it is attached to the child. The objective of this study was to determine the effectiveness of the system and satisfaction level of the users. This was tested to Grade One students of one of the private schools in the Philippines were the parents, teachers, and school administrators served as respondents to the conducted survey. Obtained results indicated that the Android application were effective for child detection. Overall, this would be a new security Android application for children.

Keywords: Android Application, Bluetooth Low Energy, Beacon

References:
2. Bluetooth-technology-basics/low-energy
5. -Technology on campuses -7 reasons to use.
11. /package-summary.html.
Authors: S. Gopinath, N. A. Natraj, N. Suresh Kumar

Paper Title: An Effective Reliable Secure Data Gathering and Intrusion Detection Scheme for WSN

Abstract: Wireless Sensor Network is a indivisible part of network where it has no infrastructure. In the past, Intrusion detection systems were used to detect intrusions in network effectively. Most of the systems are able to detect intrusions with high false alarm rate. In this paper, we propose a Effective Trust based Intrusion Detection System (ETIDS) for detecting malicious activities and providing authentication as well as data integrity. To achieve this, Cluster based routing is established based on trust vector of neighbor nodes in random topology. Trust based Recommendation and key based authentication protocol is integrated with clock based verification method to identify malicious nodes. Simulation results shows that the ETIDS provides better detection efficiency, packet delivery ratio, low end to end delay, successful certification rate and low overhead than existing schemes.

Keywords: WSN, Intrusion Detection System, Data Gathering, Malicious, Mobility, packet delivery ratio, Detection efficiency and delay.

References:
5. Ching-Hsien Suo, Xiaoming Li, Xuanhua Shi, Ran Zheng, 10th International Conference on Network and Parallel Computing (NPC), Sep 2013, Guyang, China.

Authors: M. Karthik, Nikhil Singh, Eshan Sinha, Bharani S. Anand, Gowreesh S. S.

Paper Title: Design and Development of Unmanned Chemical Spraying Rover for Agriculture Application

Abstract: There is an increase in usage of Unmanned Ground Vehicle (UGV) in the field of agriculture, specifically for the purpose of spraying fertilizers and pesticides. However despite existing technologies, no such platform has been created so far which aims to provide rover chemical spraying that can be used in a high risk areas at a low cost for extended periods of time. The principal objective of the present work is to Design and Develop a Unmanned Chemical Spraying Rover, to be able to overcome any kind of obstacle on the agricultural field, and a simple yet indigenous low cost mechanism for precise spraying agricultural enhancers such as fertilizers, pesticides, and insecticides. These primary objectives must be realized in a platform costing lower than similar alternatives in the market. The user can achieve controllable motion and variable flow of the enhancer by a suitable tethered, ground based remote control interface. Objective of the present work also aims to develop a multi-purpose rover machine, which can be used in tortuous terrain, crops and plantations of diverged heights. The Rover is maneuvered with the help of six geared motors each attached to one wheel. The rover’s movement will be controlled using Bluetooth remote control, where the transmitter will be a smart phone.

Keywords: Bluetooth Controlled Rover, Fertilizer Spraying Rover, Geared and Servo Motor, Mini-Hydraulic Pump, Rocker Bogie Mechanism, Solid works.

References:
2. Jindal, H., Stair Climbing Robot. coordinates, 1, p.2


Authors: Mohammed Nazeer, Garimella Rama Murthy


Abstract: In the region of mobile wireless sensor network, getting least energy consumption is a very important research problem. A number of energy proficient protocols have been implemented for static wsn, generally built on a layer design approach, i.e. they are motivated on designing ideal strategies for “single” layer by considering the sensor nodes as static. In proposed paper, we consider a cross-layer design. A new MAC protocol termed MAC-SWITCH is proposed. In this new approach, the communication between MAC and routing layers are fully exploited to achieve energy efficiency for various paradigms of mobile wireless sensor networks. More surely, in the proposed MAC-SWITCH algorithm, routing and data information at the network layer is used by the MAC layer such that it can reduce number of contention for channel and perform protocol switching based upon type of data. The performance of the proposed MAC-SWITCH is evaluated by quantification and simulation. The quantification is done by using gauss lattice point theorem and simulation by using the NS-2 simulator. It has been evident that the proposed MAC-SWITCH outperforms the existing aloha and SMAC protocols in terms of energy efficiency, contention packet transmission and network lifetime.

Keywords: MAC, Energy Efficiency, Routing, Wireless Sensor Networks.

References:


Authors: Mahmoud Maher El-Sayed Mohammed, M. Elgazzar

Paper Title: Hardware Threat Effect on Parallel CORDIC in IoT Devices

Abstract: Internet of Things (IoT) devices starts to spread all over the world. IoT revolution makes the devices smarter and improves the performance of the devices. The devices can now exchange information between each other and distribute data analysis effort between each other or send it to data analysis center. As a prediction from Cisco, the number of IoT devices will be 50 billion IoT device connected together in 2020. This enormous number will make us think about immunity of these IoT devices against the Hardware attacks. We propose in this paper the effect of inserting Hardware Threat in Coordinate Rotation Digital Computing (CORDIC). Methods are presented in this paper to identify Hardware Trojan and its effect on the CORDIC performance.

Keywords: Internet-of-Things (IoT), Denial of Service, Side-Channel Analysis, Hardware Attack, CORDIC.

References:

### Authors: Alaa M. Ali

**Paper Title:** Effect of Type and Percentage of Unconventional Mineral Fillers on the Performance of Hot Mixed Asphalt

**Abstract:** There were several studies, analysis and research projects concerning the performance, practicability and environmental suitableness of using recycled products in highway construction. There are plenty of local waste materials that might be utilized effectively as mineral filler in hot mix asphalt concrete (HMA) rather than traditional limestone dust. The main objective of this study is to explore through an experiment the effect of amount and quality of appending three different unconventional types of mineral filler include waste glass beads (WGB), local loam redbrick dust (LRD) and coal fly ash (CFA) as proposed alternative materials instead of the traditional limestone powder (LSP), for this purpose, a comprehensive laboratory-testing program was performed to determine the effect of different sorts and amounts of those fillers on the engineering and mechanical properties of HMA, and then verify the consequents on design properties and performance of the surface layer of flexible pavement. Based on this investigational program, it is verified that fillers comprise important influence on the properties of HMA mixtures. In addition, inclusion of theses non-conventional fillers could be utilized efficiently in asphalt-concrete mixture as a replacement in terms of stability, deformation and voids characteristics.

**Keywords:** Mineral Filler, Waste Materials, Hot Mixed Asphalt, Flexible Pavement.

**References:**

### Authors: Ritu Maheshwari, Anil Rajput, Anil K. Gupta

**Paper Title:** “VCPHCF-RTT” Estimation in Private Virtual Cloud Infrastructure

**Abstract:** For the security of proposed model of Private Virtual Cloud Infrastructure model, Security Agent technique has been designed to fight against IP-Spoofing based DDoS Attacks. Virtualization Enhancement has been done in Cloud using proposed and designed Security Agent VCPHCF-RTT. Performance Parameters have been analysed after introspection to existing cloud security mechanisms and tried to resolve focussed Research Problem. Issues and Challenges. VCPHCF-RTT improves the efficiency of the probabilistic HCF technique using HCF for virtual intermediate nodes between the Virtual Machines of Client VM and Server VM along with RTT. It helps in reducing the probability of guessing the RTT and VCHCF parameter values at the intermediate virtual routers by the attackers. VCPHCF-RTT technique has been examined to lessen down the probability of random IP spoofed packets correctly, efficiently and effectively. Through this, detection rate of the malicious packets have been improved up to 99% which is 80-85% improved for probabilistic Hop Count Filtering approach and 90% improved for conventional i.e. CHCF approach. It prevents the VM server from the IP spoofed DDoS attacks and it also eradicates the CPU cycles wastage. VCPHCF-RTT focuses on lessening down IP spoofing based attacks. The computation time has been reduced comparatively. Detection rate of malicious packets has been improved tremendously up to 99.7%.

**Keywords:** Distributed Denial of Service (DDoS), Clouds, Virtual Machines (VM), Filter, Hop Count Filtering (HCF), Time-to-live (TTL), Virtual Cloud PHCF with RT Time (VCPHCF-RTT)

**References:**
Abstract: Sentiment analysis is helpful in finding the opinion of writer’s feeling towards a specific topic. Teaching evaluation is a useful tool of assessment for teaching and courses at many universities, colleges and schools. Mostly close-ended questions and open-ended questions are used in teaching evaluation process. This paper used open-ended questions to provide the opinion result for teachers’ effectiveness of teaching and over all course condition. In this paper, teaching sentiment lexicon, Afinn lexicon and Opinion lexicon are used to get the scores of opinion words in feedback comments. The students’ feedback comments are analyzed by using three methods and display the opinion result as positive, negative and neutral class. According to the experimental results, the intensifier words are needed to consider in some feedbacks to get the correct opinion result. The accuracy of Method 1 using teaching sentiment lexicon is better than other two methods.

Keywords: Lexicon Based, Opinion Mining, Sentiment Analysis, Students’ Feedback.

References:
Influence of Stiffness and Mass Parameters on Seismic Damping of Structures

The fundamental objective of this paper is to determine the dynamic response of the structure by the influence of stiffness and mass parameters. In this paper, we are presenting time stepping methods to obtain solutions for nonlinear dynamic problems in structural engineering using numerical evaluation. A benchmark structure having three degrees of freedom is considered and analyzed using Newmark’s method for nonlinear system by implementing International Workshop on Web Intelligence and Virtual Enterprises 2 (2010).

Vibration Analysis

Based Diagnosis of High-Power Diesel Generator Turbocharger

The diesel engine of a high-power generator is equipped with two turbochargers. These are mounted on the gas exhaust above the diesel engine. Most investigative studies on vibration analysis of diesel power generators typically focused on the main bearing line in the diesel engine, on alternator rotor [1]. Turbochargers, however, play a very important role in the working line of diesel engine. This article reports a study on the turbochargers of high-power diesel generator. A diesel engine and its turbochargers do not bear the same mechanic loads. While the diesel engine is the seat of violent shocks brought about by explosions in cylinders, the turbochargers are driven by the action of exhaust gas from explosions, without being affected by explosion shocks. Despite its limitations in diesel engine diagnosis, FFT method is adequate for a correct diagnosis of turbochargers. As a result, following several campaigns of measurements we experimentally defined minimal admissible vibration values for turbochargers, and we detected a defect in bearing among the turbochargers tested.
Keywords: Diesel generator, FFT method, high-power, turbocharger, vibration.

References:
2. D. CARREAU. « Surveillance des roulements par l’analyse des vibrations » - CETIM Information N° 115
3. Cours CETIM « Vibrations »
4. S.BRAUN, “Mechanical Signature Analysis” – Academic Press
5. M.SIDAHMED, Y. GRENIER, « Le traitement du signal en mécanique » – Recueil de conférences, CETIM
6. J.C. LECOUFLE, « Objectif Zéro panne » - CETIM Informations N° 109
7. A. BOULENGER, « Vers le Zéro panne avec la maintenance conditionnelle » - Ed. AFNOR
8. norme ISO 95
11. Metaga Jerem S. (2016) : Diagnostic of groups électrogènes diesels de forte puissance par analyse des vibrations, thèse de doctorat, 161

Authors: Anurag Tamrakar, V. B. Reddy

Paper Title: An Associative Binary Particle Swarm Optimization for the Diagnosis of Transformer Failure

Abstract: In this paper an associative binary particle swarm optimization (BPSO) for the diagnosis of transformer failure. In this approach transformer oil gas have been considered for the fault diagnosis so that proper functionality of transformer can be enhanced and the efficiency of transformer can be improved. For this dissolve gas analysis (DGA) and IEC standards have been used for weight assignment of different gas ratios. Rule mining have been applied where these standards fails in the weight assignments. Finally based on the rules associates with different gas ratios have been analyzed separately for each clusters. Finally based on BPSO faults have been diagnosed in several iterations. The results clearly indicate that our approach has better fault diagnosis and individual gas associations.

Keywords: BPSO, Associations Rules, DGA and IEC Standards.

References:
16. Bandara DU, Kumara JR, Fernando MA, Kalpage CS. Possibility of blending sesame oil with field aged mineral oil for transformer applications. InIndustrial and Information Systems (ICIIS), 2017 IEEE International Conference on 2017 (pp. 1-5). IEEE.

Authors: V. Kakulapati

Paper Title: Prioritization of Key Objectives During Floods

Abstract: Now a day social networks generates large volume of data per sec and one of such network is Twitter. Twitter is one of the popular public platforms with an extract of openly express user’s opinion. Our work aims focus on tweets generated in regard to floods and especially the tweets posed by those affected by floods so that we may prioritize objectives in order to facilitate aid and relief to those affected people. This task is accomplish by identifying the needs and requirements of the survivors of these calamities using responses via twitter analysis, these needs and requirements are certain objectives such as provisioning of food, tents for people, etc., all of these objectives can be prioritize based on certain words used by the survivors and transforming into tokens. These token are called as lexical...
normalization. In this work we analyze the lexical normalization of data generated by twitter by applying various techniques and visualize the investigations as the techniques are applied to process raw data from Twitter.

Keywords: Priority, Lexical, Tweets, Floods, Token, Opinion.

References:
15. https://x.company/loon/

Authors: K. Lakshmi Prasanna, Jangala. Sasi Kiran, K Sreerama Murthy

Paper Title: Significance of Metadata and Data Modeling of Metadata by using Mark Logic

Abstract: Metadata means data about data which illustrates, traces, and is simple to locate a resource. Metadata has been impacting almost every firm. It has become mandatory for organizations to know the data flow across business processes to take strategic decisions. But, collecting metadata across departments/business processes and putting into a commonality is very difficult by using conventional databases. We need to concentrate on the metadata managing technologies. There are data models that are designed which work on NOSQL database. Envelope pattern in Marklogic provide commonality for the metadata across processes. The data that is gathered across different processes need to be managed in a consistent way. We want to verify metadata management in banking domain. In this paper, we have ingested metadata across multiple departments in banking domain and verified the performance of search results.

Keywords: Metadata; Data modeling; Mark logic; envelope pattern.

References:
15. Casey, Eoghan. “Disk Data Acquisition” (47-66), and “FileSystem Analysis” (173-210).]
16. Casey, Eoghan. “Disk Data Acquisition” (47-66), and “FileSystem Analysis” (173-210).]

Authors: M. Sugunadevi, S. P. Jeyapriya
Experimental Study on Piles with Pile Cap at Varying Position under Different Loading Conditions

Abstract: High rise buildings and offshore structures are usually constructed over foundation which comprises of several number of piles connected together using pile cap. These piles and pile caps frequently are subjected to a mixture of lateral, vertical as well as twisting forces. Conventional method tends to emphasis predominantly on foundation resistance under vertical loading. The piles are essential subjected to horizontal loads along with vertical loads. Resistance to the vertical and lateral loading is generally provided by base and side friction, pile-soil-pile interaction between pile and surrounding soil, position of the pile cap, number of piles and piles arrangement with respect to the loading direction. In this study, the piles are placed in the sand with pile cap i) above the soil surface at a height of 35mm ii) pile cap bottom resting on surface of soil medium iii) pile cap top placed at the surface of soil and iv) pile cap placed below soil surface to a depth of about 35mm. Experimental analysis were carried out for all the above cases under vertical, lateral and combined loading conditions. Parameters like position of the pile cap, quantity of piles and their arrangements were varied and analysed. The test results reveal that the pile cap placed below the soil surface increases lateral resistance capacity of the piles in the range of 56% to 66% compared with pile cap placed above the soil surface under both independent and combined loading conditions in cohesionless soil.

Keywords: Cohesion less Soil, Lateral Resistance Capacity, Pile Foundations, Pile cap, Pile - Soil - Pile Cap Interaction

References:
12. K. M. Rollins and E. Stendlund, “Laterally loaded pile cap connections”, Revised Final Report, Brigham Young University, Provo, UT, USA.

Experimental Investigation of Insulated Concrete Form (ICF) Wall Panels under Quasi Static Cyclic Load

Abstract: Insulated Concrete Form (ICF) is a promising construction technique that provides fast construction, energy efficient, cost effective, sound proof and disaster resistant building. ICF is made from expanded polystyrene (EPS) and reinforced concrete. EPS occupies permanent position on the surface of concrete wall that offers insulation and structural benefits to the building. In this study, quasi-static cyclic load behavior of ICF wall panels were examined and test results were reported. ICF wall panels were made with 60 mm thick core concrete and 100 mm thick of 12, 20 kg/m3 density EPS provided as a facesheet. The specimens were tested in 100 T capacity loading frame under horizontal quasi-static cyclic load. The experimental results were analyzed with hysteresis loops and load-deflection curves. From the study of cyclic load behavior ICF wall panel is recommended for the construction of seismic resistant buildings.

Keywords: Energy Dissipation, EPS, ICF, Hysteresis Loops, Load-deflection Curve

References:
Optimization of Regular Lattice Structure for Maximum Shear Capacity

The present study was undertaken to optimize the shear strength of the regular hexagonal, triangular and square lattice structures which can be used in the exterior beam column joint. Here, shear strength and shear stress values are compared to the normal exterior beam column joint which is detailed as per IS13920:2016 and IS456:2000. Optimization of the shape of the unit cell was carried out to obtain maximum shear stress. The optimum shear stress of lattice unit cell is found by varying the thickness and length of lower limit and upper limit. The unit cell of 10mm is taken as a maximum length and the thickness is varied for various shapes. Genetic Algorithm which is a non-traditional optimization is used for optimizing the shear stress.

Keywords: Regular lattice; Genetic algorithm; Shear strength

References:
Abstract: In today's Technological World, Information Security is an essential aspect for the internet applications. Cloud computing is an increasing current class of services for any type of users of the internet. In every modern technology like Cloud, authentication is very serious problem. So, many researchers apply various cryptography techniques to protect the sensitive data in the cloud systems. In this research work proposed on Client-Authentication-Verification Algorithm, Client–One- Time-Password-Authentication Algorithm, and Client - Authentication-Storage Algorithm for security and authentication in the cloud Model. These proposed algorithms have to provide strongest authentication mechanism to a cloud client. These techniques easily fit into any type of service in the cloud system.

Keywords: Security, Authentication, Cryptography, Microsoft Azure Cloud.

References:

Authors: Aman Dubey, Sandhya Tarar

Paper Title: Evaluation of Approximate Rank-Order Clustering using Matthews Correlation Coefficient

Abstract: In this postulation, we proposed a technical review of different strategies that are generally used to evaluate the accuracy of calculations, accuracy and F measure. We briefly discussed the points of interest and detriments of each approach. For grouping errands, we firstly made neighbors of each picture in dataset utilizing Approximate Rank Order Clustering. Algorithm and watched and measuring and Intelligent Digital Work for three

Keywords: Face Recognition, Face Clustering, Deep Learning, Scalability, Cluster Validity.

References:
Abstract: In this postulation, presents the clustering of facial images using machine learning algorithm such as nearest neighbor and approximate rank order clustering. Clustering is a technique for classifying similar kind of object based on their trait. Clustering of images is challenging problems and there is still a considerable measure of work that needs to be done in this area. Problems in clustering large dataset is to choose the quantity of clusters and evaluating the obtained clusters. Clustering regard as the most important unsupervised learning as it manages finding a structure in an accumulation of unlabeled information. A loose meaning of clustering could be "the way toward sorting out articles into clusters whose people are nearby one means or another." A cluster in this manner is an accumulation of items which are "comparable" amongst them and are "divergent" to the articles which are place with different cluster. This thesis presents a work to improve clustering method to decrease the number of clusters in a LFW (Labeled face in wild) dataset. Previous work uses kd tree a nearest neighbor method and approximate rank order clustering method to find cluster on LFW dataset. our proposed method implement ball tree a better nearest neighbor algorithm to reduce the number of clusters created by previous method.

Keywords: Face Recognition, Face Clustering, Deep Learning, Scalability, Cluster Validity.

References:
are popular. This paper describes a new design and development of adjustable height belt conveyor system which works satisfactorily to meet design point of view. It is reliable, compact, adjustable, saves working man-hours and increasing profitability of small units engaged in material handling. These transports are versatile and it tends to be adjusted by the activity and its need. A legitimate structuring of the adjustable height belt conveyor will influence its productivity, working, and life expectancy. Our current attempt is towards fabricating an economical adjustable belt conveyor material unloaded by adopting the existing simple design procedure.

**Keywords:** Adjustable height, belt conveyor, food processing, Funnel shape hopper.

**References:**

**Authors:**
K. Amarnath, G. Sanjeev, P. Surendernath, V. Kumar

**Paper Title:**
Modelling and Scheduling of Flexible Manufacturing System

**Abstract:** Production scheduling of an FMS is formulated as a multi-level integer program. The structure proposed includes machine loading, part input sequence and operation scheduling. Flexible manufacturing system is the better option to meet the effective utilization of resources, for which scheduling is the only solution. A simple numerical problem approach is proposed, and some computational results of simulation are analyzed and an attempt is made in arriving general conclusions.

**Keywords:** The Structure Proposed Includes Machine Loading.

**References:**

**Authors:**
Li J R F, M. Saksikumar

**Paper Title:**
An Exploration of Digital Image Inpainting Techniques

**Abstract:** This paper gives an overview of different digital Image Inpainting techniques used contemporarily for image restoration and enhancement process. Inpainting, dis-occlusion, image completion, retouching and filling-in are different terms for the same task: if an image is given with a missing section, the values in the missing area has to be restored by its values in an undetectable way. The patches are filled in from the neighbouring pixels. Inpainting can be used for removal of objects from an image also. Inpainting techniques are made more sophisticated by applying Neural Network and Fuzzy logic for fast and accurate filling of patches.

**Keywords:** Image Inpainting, Partial Differential Equation, Curvature Driven Diffusion, Examplar- Based, MAP, SOM.

**References:**

Authors: Ashish Bansal, Neha Gupta
Paper Title: Adaptive Watermarking using PSO and Fuzzy Logic Approach

Abstract: Digital Watermarking with PSO and Fuzzy Logic is an attempt to find suitable locations for inserting watermark bits using PSO and Fuzzy Logic, by looking at the surrounding pixels and adaptively adjusting the pixel intensity values to encode the watermark bits. The result obtained in this technique indicate that following adaptive insertion on the pixels after finding location by PSO is even more effective to obtain better fidelity and robustness. The inverse tradeoff between robustness and fidelity is also demising.

Keywords: Digital Watermarking, Fuzzy Logic, PSO, Robustness, Fidelity, Digital Security.

References:

Authors: Sunita Panda, Padma Charan Sahu
Paper Title: Equalization of Supervised Data Trained RBFNN using MSFLA

Abstract: In order to avoid the channel distortion in signal processing recently, RBFNN based equalizers is mentioned. Hit and trial method is the main provocation problem for design of RBFNN Equalizer. Here the initiation is start with use of the population based optimization algorithm trained RBFNN equalizer, such as Shuffled Frog-Leaping Algorithm as well as its modified forms. The observation is made on the basis of its performance as compared to the other equalizers.

Keywords: RBFNN, Equalization Technique, SFLA.
References:

Authors: Albert Eddy Husin, Bernadette Detty Kussumardianadewi
Paper Title: Cost Performance Review on Value Engineering Optimized Floor Cover Finishing Work of High Rise Office Building

Abstract: The need for office space in urban areas could be considered really high because of the economic activities involved and because of its role in global economic growth. While Jakarta may seem to already possess a lot of office buildings, it turns out that they are not enough to compensate the growing demand for office spaces, with the demand reaching 6,928,500 m2 of rental office space at the end of 2013. Floor cover finishing is a generalized term for the permanent cover of the floor and the works involved. Floor cover itself is a term used to illustrate every finishing materials that would be applied on the floor structure to provide walking surfaces. The goal of this research is to acquire any work items that are viable to be value engineered. The floor cover finishing work is considered as the limitation of this research by the consideration of the said work to be the highest cost contribution to the interior architecture and could be the key factor in defining the image of the company that uses the office building. After the implementation of value engineering, the cost saving reached 12%, reducing the cost contribution of the floor cover finishing work to 4.7% from the initial 5.4%.

Keywords: Floor cover finishing, High rise office building, Value Engineering.
developed countries has showed a clean increase in the vehicle production as well as transport volume. Global warming, acid rain, greenhouse effect and air pollution problems related to emission of CO2, NOx, PM, CO and unburned HC, together with the consumption of fossil fuels, unite to create serious problems at a global level. Therefore it is a research study considering all these current issues and taking it to a new level of optimization for the output of a better efficiency, better economy and less pollution. Performance of Diesel Engine is evaluated by parameters like Power, Torque and Specific Fuel Consumption.

**Keywords:** Diesel Engine, Exhaust Gas, Genetic Algorithm, Performance Evaluation

**References:**

**Authors:** Aniu Wang, Jianqiang Xu, Xingya Rui, Liufen Li

**Paper Title:** Study on Heat Insulation Clothing Based on Parabolic Differential Model

**Abstract:** With the development of industry, high temperature operation becomes a necessary work. To ensure the safety of the work, the need for thermal insulation of clothing. In this paper, a parabolic differential model is established to analyze the thermal insulation of professional clothing. The optimal thickness of the heat insulation clothing is obtained under different conditions by establishing the finite difference model to solve the differential equation. Hereby there are some ways to design the performance of heat protective clothing to make sure that the cost is the lowest as possible in the case of effective heat insulation.

**Keywords:** Parabolic differential model, Heat conduction, Simulation model.

**References:**
2. Ilott, Sarah. “We are here to speak the unspeakable”: voicing abjection in Raj Kamal Jha’s Fireproof.", Journal of Postcolonial Writing, 50.6 (2014): 664-674.

**Authors:** S. Vaishnava Devi, D. Vignesh D. M.

**Paper Title:** Public Transportation Management Strategy for Temple City

**Abstract:** The bus Transport industry has a lion’s share in India’s economic development. Due to easy accessibility, flexibility of operations, door to door service, the bus transportation is a boon to the public. In fact, the progress of a nation and progress of its transport industry is complementary to each other. India has the world's fastest growing economies today, which increased thrust on development of infrastructure in the country to reduce the traffic congestion due to increased traffic demand. Nowadays, various mode of transportation is being used in metro cities such as Chennai, Mumbai, Delhi, etc [2]. Comparing other modes of transportations bus transportation in India supports for the poor and the lower middle class as an easy and affordable mode of transport. The contribution of bus transport in GDP to the nation is of about 1.2% which is 25% of contribution of all the transportation sectors in India [1]. Hence, to use the bus transportation effectively, bus management and depot management is necessary. Madurai is a lots shaped city built around the Meenakshi temple with the city streets in concentric circles. Madurai is well versed with air transport, rail transport and bus transport network but most of the people use two wheelers and buses for transportation. The city’s bus transportation is contributed by 16 depots totally with five depots in zone I, two depots in zone II, three depots in zone III and six depots in zone IV to spread the bus service throughout the city. This paper, in prior concentrates only on bus transportation, though 70% of Madurai population uses bus transport to migrate. A study of category analysis among the depot in Madurai has described in this paper.

**Keywords:** Bus; Category analysis; Depot; Madurai.

**References:**
transportation studies, pp 540-552.


11. TNSTC website.

Authors:
Arti M. Sorte, A. N. Burile, K. V. Madurwar

Paper Title: Study of Performance of Steel and Polypolypropylene Fiber Reinforced Concrete

Abstract: In this paper, we studied the performance of fiber reinforced concrete (FRC) with steel and polypropylene fibers. Here M 40 grade of concrete reinforced with different percentage of steel and polypropylene fibers was experimentally investigated for the compressive strength and tensile strength of FRC. The percentage variation of steel fiber is taken as 0.5%, 1.0% and 1.5% by volume of concrete for steel fiber reinforced concrete (SFRC). The percentage variation of polypropylene fiber is taken as 0.1%, 0.2% and 0.3% by volume of concrete for polypropylene fiber reinforced concrete (PPFRC). The practical results obtained has been studied and analyzed by comparing it with a control sample specimen (0% fiber). The relationship of compressive strength, tensile strength vs. percentage of fiber, has been represented graphically. Observations clearly shows the significant improvement in 28 and 45 days compressive strength and tensile strength for M 40 grade of concrete on addition of fibers along with enhanced properties of fiber reinforced concrete.

Keywords: Compressive Strength, Polypolypropylene Fibers, Reinforced Concrete, Steel Fibers, Split Tensile Strength

References:


5. Project synopsis on “Effect of blast furnace slag on strength of gi fiber reinforced polymer concrete”, Posted 19th February 2013 by kumar mayank. (http://itskumar-mayank.blogspot.com/)


24. IS:1122013, 43 Grade Ordinary Portland Cement – Specification (First Revision), Bureau of Indian Standards, New Delhi, India, 1989


Authors: Vishaday Jindal, Jashandeep Singh

Paper Title: A Chemically Customized Ester Fluid- A More Effective Liquid for Insulation

Abstract: Mineral transformer liquids are used as dielectric liquids from a long time and preferred by power utilities worldwide because of its good physical, mechanical & dielectric properties, ease of accessibility and low cost. But due to environmental constraints, non-biodegradability nature and less fire resistive nature of it proves to be destructive for surroundings as well as to the manpower dealing with it. Number of alternatives were suggested by researchers have been implemented in distribution and power transformers. In current research work, biodegradable modified synthetic ester fluid is proposed as an alternative to mineral transformer oil because of its electrochemical properties such as; dielectric strength, resistivity, flash and fire point, acidity and water content which have been practically analyzed in laboratory. Analysis reveals that ester oil has astounded fire resistive properties and moisture tolerant liquid over mineral oil.

Keywords: Oil Insulation, Synthetic Ester (SE), Mineral Oil (MO), Fire Point, Pour Point, Breakdown Voltage (BDV), Water Content.

References:

33. 175-181
A Survey on Machine Learning Approaches in Gene Expression Classification in Modelling Computational Diagnostic System for Complex Diseases

Abstract: In recent days, the survivability of people around the world has increased in a higher rate. The notable reason is the impact of the evolution of new technologies in medical systems that are invented to provide and improve healthcare for peoples. But still, there are some diseases, which may be identified also can be controlled. But there isn’t any permanent solution for them such as cancer, psychiatric disorders etc. For those diseases, medical practitioners finds some way to discover medicine by analyzing the patient’s genetic information such as DNA. Microarray technology is helpful in capturing biological genetic information to computer data. Computational techniques can be applied on those large set of genetic data of every individuals with or without disease, so that the genes that are responsible for the disease occurrence can be pointed out. Differentially Expressed Genes (DEG) are identified using many techniques. Machine Learning (ML) algorithms plays a significant role in identifying the distinction between normal genes and unhealthy genes, extracted from human genome. This paper is focusing on providing an in depth overview on different techniques on ML that are used to analyze and classifies the gene expression profiles of various diseases are discussed.

Keywords: Gene Expression, Healthcare Systems, Machine Learning, Microarray data, Pattern Recognition.

References:


Authors: **Krishna Moorthy V*, Uma, Jaanaki S.M, N. M. Hariharan, S. Kasthuriengan**

**Paper Title:** Simulation and Experimental Studies of Twin Thermoacoustic Prime Mover

**Abstract:** Thermaco acoustic prime mover (TAPM) converts thermal energy to acoustic energy and it is one of the alternative method to replace traditional compressor which will drive any cryocooler . The advantages of TAPM are the absence of moving components and they can be driven by solar energy, waste heat etc. In order to develop TAPMs their design and fabrication should be guided by numerical modeling and this may be done by several methods such as solving the energy equation, enthalpy flow model CFD, Delta EC etc. We studied the TAPMs with CFD technique, and Delta EC methods since it provides a better insight into the velocity and temperature profiles. In this article we discuss the influence of working gas (helium, argon and its mixtures). The theoretical results and experimental results are compared and they are in reasonably good agreement.

**Keywords:** CFD, Thermoacoustic, Delta EC, 192-194

**References:**


Authors: **K. S. Meena, M. Rajeswari, Krishnadas J, Soumya Varma, Deepa Devassy**

**Paper Title:** Emerging Trends in Computing: Reliability Design for A VANET with WUGFT Subject To Time and Cost Constraints

**Abstract:** Reliable and quick communication is of prime importance in VANETs. Introducing clustering technique will ensure a robust data exchange in VANET. The emphasis on this work is to select the reliable cluster that make an appreciable communication in VANET with in a fixed time and cost. Hence this work considers the Cluster Head (CH) selection using Bully algorithm and Lamport time stamp. Furthermore, the traffic in the network is modelled using Weighted Universal Generation Function Technique (WUGFT). This will diminish the computation burden in reliability calculation. Reliability of VANET is defined as the probability of a successful delivery of data from source to destination. Reliability ratio has been considered to identify the efficient reliable cluster. A Simulation is carried out in NS – 2 with respect to delay, packet delivery ratio, and throughput and packet drop ratio. Simulation results indicate that our proposed method produces optimal results on the defined parameters.

**Keywords:** VANET, SU, WUGFT, Bully Algorithm, Reliability, Clustering

**References:**


Authors: Burhan Aslam Arain*, Muhammad Farrukh Shaikh, Bharat Lal Harijan, Tayab Din Memon, Intiaj Hussain Kalwar

Paper Title: Design of PID Controller Based on PSO Algorithm and Its FPGA Synthesization

Abstract: A Proportional-Integral-Derivative (PID) controller make its appearance in various control mechanism due to its adaptively, applicability and simple structure. The tuning for parameters KP, KD and KI selection for PID is a tedious task. A Particle-Swarm-Optimization (PSO) algorithm is an evolutionary method that simulates the particles to provide best solutions in a given search-space based on fitness value. It provides another design of optimization for PID controller that provides better gain parameters, fast convergence and quick computation, in this paper an efficient designed PSO based PID controller is then synthesized with the help of Xilinx SYSGEN. To evaluate the effectiveness and usefulness of PSO the DC motor based system response is figured and compared it with conventional method.

Keywords: PSO algorithm, PID controller, FPGA synthetization, PID optimization, PSO-PID controller


Authors: G Ramprabu, T Saravanan, G Saritha

Paper Title: Wireless Audio Signal Communication using Li-Fi Technology

Abstract: As a next generation signal processing method, Visible Light Communication (VLC) is developing for low distance signal processing applications. Two archetype wireless audio data processing techniques are execute and describe using VLC. For stream and process data, software design is urbanized and it is linked with a hardware element, by encouraging free-space VLC channel, over a Universal Serial Bus (USB) to serial interface. An especially appealing element of our framework is that it utilizes generally accessible, minimal effort elements by empowering its execution in ordinary purposes. The scheme incorporates both transmission and reception section. The transmission section comprises of voice playback with a system contribution from which the voice is transmitted by means of light transmission and the voice gets got in a lift reception and opened up in audio amplifier.

Keywords: Visible Light Communication, LED, LCD, Wi-Fi and Li-Fi.

3. Saih Sunita, Sharma Yogesh Kumar, (2016) “Li-Fi the most recent innovation in Wireless Communication”, International Journal of
Investigation of Corrosion Damage and Repair System to Strengthen the Critical Infrastructure

Abstract: This project provides a detailed study on the repair and strengthening of beams made up of concrete by Carbon Fiber Reinforced Polymer (CFRP) sheets. Mostly, structures fail due to the steel corrosion in the concrete. Corrosion remains primarily owing to the chloride ion intrusion in aggressive environment. The defected concrete will affect the strength of the structures. They can be treated with CFRP sheets so that the strength of the structure could be improved to withstand the design loads. The defects of the structures include - spalling of concrete, cracking, honey- combing etc., resulting in the reduction of strength. To strengthen the defected structure, we have implemented an idea of wrapping the corroded concrete with CFRP sheets. Reinforced concrete prisms will be casted and they will be grouped under four categories. First category of specimens will be kept as control specimens and another two groups of concrete specimen will be subjected to accelerated corrosion initiation test. The range of corrosion will be monitored through Half Cell Potential Mapping, after the crack formation on the surface of the concrete. All values are based upon IS 456:2000 and IS 10262:2000.

Keywords: CFRP sheets, Chloride intrusion, Corrosion, Repair, Strengthening, Half Cell Potential Mapping

A Study of the Impact of Scrap on Ground Water: The Case of Scrap Essaada in Meknes–Morocco

Abstract: The purpose of this research is to investigate a subject that is little approached in environmental circles in Morocco. It concerns the domain of scrap considered as an informal sector of important economic and industrial activities. Scrap yards which are generally poorly fitted out and populated spaces are scenes for activities that may cause risks, often ignored, to the natural environment as well as the human health. Indeed, waste stemming from activities of the scrap may present harmful effects on grounds, on groundwater, and on flora and fauna. This study is concerned with the impact of the activities of the Essaada scrap of Meknes on the groundwater. This site constitutes a representative sample of scrap yards in Morocco for they all have (more or less) the same characteristics. To conduct this research, we collected water samples of subterranean waters of wells situated inside and outside of the scrap yard in December, March and May. The collected samples are studied by determining the existence of the compounds of hydrocarbons. Hence the need of the implementation of a device of environmental management. The products used in these environments are hydrocarbons: this includes detergents, antifreeze, liquids for clutches and brakes, (lubricants) engine oils, greases, polyester putties, diluents cellulosic. The majority of these junkyards are poorly designed and are part of the informal sector. However, work there remains generally precarious in very bad sanitary and safety conditions beyond any control of the public authorities: inhuman work and hygiene conditions along with negative externalities are observed in this sense. These externalities, particularly, those related to the landscape, public health and the air should be a concern of policy makers to outsource them or limit them (DJEMACI, 2013). And yet this scrap is neglected: no study, no monitoring and no reaction from the Government departments concerned. This research aims at studying the impact of the activities of scrap on the environment and on human health. (This is how the questions call out to us.)

Keywords: Scrap – Hydrogeology- Hydrocarbons- Water
The world is suffering from an eminent water crisis. Safe and pure drinking water is the necessity and right of everyone. The use of reverse osmosis-based water treatment plants has become a common method for providing clean water in many areas as the global demand for water increases. Automation and monitoring is an important task for such plants at remote distance. A system is needed to prevent difficulties when one needs to control and monitor important parameters such as Total Dissolved Solids (TDS). Water Level, Flow rate manually. Manually operated RO plants have failed due to lack of proper monitoring and maintenance. Designed system in this article is equipped with Arduino microcontroller which controls the operation of system, water level sensors for water level monitoring in particular tank, water flow sensors to measure the flow rate of water during run, pH sensor for product water quality monitoring and a wireless connectivity module, which is used to establish communication between user/operator and the RO system at remote areas. The system not only allows user to monitor the important parameters of RO plant which influence the performance, but also allow to control the plant at remote distance. The system gives the measurement report upon a request message and also alerts the user automatically if any critical situation occurs at plant site. The system can be placed at any location where GSM based wireless connectivity is available and can be controlled from a single location.
Keywords: Reverse Osmosis, Water quality, Remote Monitoring, Wireless GSM Control.

References:

Authors: Ukwuuba, Samuel Ifeanyi, Agberegha, Ogborome Larry, Mohammed, Bello Ahmed

Paper Title: Analysis and Performance Evaluation of Gas Turbine by Incorporating a Wetted Evaporative Media Cooler

Abstract: Gas turbine shows great inverse effect on ambient air temperature. The efficiency and net power output of the gas turbine increases with decrease in ambient air temperature. Nigeria with an average ambient air temperature of 31°C tends to experience a drop in gas turbine efficiency and net power output. It has been proven that by employing wetted evaporative media cooler to the inlet of the compressor, the gas turbine plant performance can be maximized; this employed devise reduces the inlet temperature. An open cycle gas turbine Frame 9E in Ihovbor power plant Benin Edo State, Nigeria generating electricity at a capacity of 450MW was used as a retrofitted study for the research by using Aspen HYSYS V9 simulation one software model. The results, from plots of graphs, when interpreted, depicts a direct proportionality between ambient air temperature and specific fuel consumption; an inverse proportionality between ambient air temperature and net power output of the turbine; a direct proportionality between ambient air temperature and plant efficiency. The numerical value for the drop in ambient air temperature consequent upon the use of evaporative cooler is 11.25°C. Since the gas turbine is a thermal engine, its inlet temperature – ambient temperature – has significant effect on the aforementioned parameters; so that, results from the study, shows; the evaporative cooler results in a drop in ambient temperature of 11.25°C, showing an increase of about 3.7% efficiency and 11.56MW net power output of the turbine. Drop in specific fuel consumption is 0.024kg/KWh. From the research, it is deduced that gas turbine plants perform better in temperate regions than tropical regions. Therefore, to maximize the performance of a gas turbine plants in high temperature climates, retrofitting it with an air cooler will lower the temperature to a value close to the design temperature before compression takes place and it will tend to improve gas turbine performance in tropical country like Nigeria.

Keywords: Gas turbine, efficiency, ambient temperature, net power output, simulation

References:

226-232
15. Hyun Min Kwon, Tong Seop Kim, Jeong Lak Sohn, Do Won Kang. Performance (2018), upgrading of the gas turbine combined cycle power plant by dual cooling of the inlet air and turbine coolant using a gas cooler Absorption, Energy, Volume 163, Pages 1050-1061
