International Journal of Engineering and Advanced Technology

ISSN : 2249 - 8958
Website: www.ijeat.org

Volume-4 Issue-6, August 2015

Published by:
Blue Eyes Intelligence Engineering and Sciences Publication Pvt. Ltd.

Technical Advisory Board

Managing Editor

Editorial Board

S. No | **Volume-4 Issue-6, August 2015, ISSN: 2249-8958 (Online)**
Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd. | **Page No.**

1.

Authors: **Nanditha Nandanavanam**

Paper Title: **An Imprint of IC 555 Timer in the Contemporary World**

Abstract: The paper deals with the basic principle of IC 555 Timer, its working and its application in the present world. 555 Timer is part and parcel of almost every electronics project. It is versatile IC whose applications range from simply making a light blink on and off to pulse-width modulation. From the time of its invention, a myriad of several novel and unique circuits have been developed and presented in several trade, professional, and hobby publications.

Keywords: Monostable mode, Astable mode, Oscillator, Speed Detector, Hygrometer, Invertor, Patents.

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1-4

2.

Authors: **Monir M. Kamal, Mohamed A. A. Saafan, Noha M. Soliman, Sumaya A. T. M. Helal**

Paper Title: **Behavior and Strength of Reinforced Recycled-Aggregate Concrete Beams**

Abstract: In recent years, the world was increasingly attacked by the environmental pollution caused by the wastes out of quarries, building materials industry and construction demolishing besides; the conservation of natural materials resources has become of a top priority in all production sectors. The construction industry faced this challenge and has pioneered the development of new techniques for the reuse of the waste materials that it generates. However, these problems could be partially solved by using these wastes after recycling as coarse aggregate in concrete manufacture. This research was conducted to investigate the behavior and strength of reinforced recycled aggregate concrete beams cast with construction demolition wastes as coarse aggregates under flexural load. The effect of using recycled aggregate (RA) as total or partial replacement of natural aggregate on the behavior of this beams was studied. The main variables of this research were the type of the recycled aggregates (RA) and the percentage of the replacing the dolomite aggregate by recycled aggregates. Among these wastes were ceramics, marble, cement bricks, red bricks and lightweight bricks. Ten beams were cast and tested with dimensions (10×15×120cm). The reinforced recycled aggregate concrete (RRC) beams were divided into two groups according to the percentage of the replacement of the natural aggregate (NA) by recycled aggregates. The performance of the beams was investigated in terms of the initial crack load, ultimate flexural load, load-deflection response, energy absorption capacity, ductility index, load-strain response and cracking patterns. Out of this research wide applications could be achieved in concrete industry in structural applications with special precautions and protection regulations.

Keywords: Demolition Wastes, Recycle, Recycle Concrete, Recycle Aggregates, Recycled Concrete and Reinforced Concrete Beam.

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3.

Authors: **Munipally Prathibha, M. Satyanarayana Gupta, Simhachalam Naidu**

Paper Title: **CFD Analysis on a Different Advanced Rocket Nozzles**

Abstract: The reduction of Earth-to-orbit launch costs in conjunction with an increase in launcher reliability and operational Efficiency is the key demands on future space transportation systems, like single-stage-to-orbit vehicles (SSTO). The realization of these vehicles strongly depends on the performance of the engines, which should deliver high performance with low system complexity. Performance data for rocket engines are practically always lower than the theoretically attainable values because of imperfections in the mixing, combustion, and expansion of the propellants. The main part of the project addresses different nozzle concepts with improvements in performance as compared to conventional nozzles achieved by Different Mach numbers, thus, by minimizing losses caused by over- or under expansion. The design of different nozzle shapes and flow simulation is done in gambit and fluent software's respectively for various parameters

Keywords: launcher reliability, future space transportation systems, theoretically attainable, mixing, combustion, and expansion.

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4.

Authors: **Avinasha P. S, Krishnamurthy K. N, Akash Deep B. N**

Paper Title: **Performance and Emission Analysis of Mahua Biodiesel Blends with Diesel Oil using Single Cylinder Diesel Engine**

Abstract: Now a day's world facing fuel problems because of increasing automobiles, power plants and factories, Increasing of this automobiles, power plants produce the more emissions like CO, HC and NOx. So we need alternative source, in this direction lot of work is going on to find out a suitable alternative to the diesel oil. Biodiesel is one of the main solutions to the global energy crisis. In this present work studied the performances and emission characteristics of Mahua Bio-diesel. The blends of Mahua methyl ester and Diesel in the proportion B10, B25, B50, B75and B100 were prepared analyzed and their performance and emissions characteristics compared with performance and emission characteristics of diesel. In engine performance and Emission test obtained the thermal efficiency, Mechanical efficiency, fuel consumption and indicated thermal efficiency for different blends and also obtain the emissions like CO, HC, NOx and CO2. The results are compared with pure diesel.

Keywords: Mahua oil, Mahua bio-diesel, Diesel oil, Engine performance and engine emissions.

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5.

Authors: **Appese S. D, S. B. Prakash, Krishnamurthy K. N**

	Paper Title:	**The Performance and Emission Analysis of Neem Oil Blends with Diesel Fueled in CI Engine**	
	Abstract: In the present paper, the performances and emission of Neem Bio-diesel are tested. The freely available resources can be used. The blends of Neem methyl ester and Diesel were prepared analyzed and their performance compared with performance of diesel oil. The engine performance intended variables are thermal efficiency, Mechanical efficiency, fuel consumption have been obtaining from different blends and results are compared with pure diesel. In this paper, the emission characteristics of Neem oil have been tested. The blends of varying proportions of Neem oil are B10, B20, B40, B60, B80, B100 with Diesel were prepared analyzed and their emission compared with emission of diesel fuel. The basic engine emissions are CO, CO2, HC, and NOx have been obtained from different blends and results are compared with pure diesel. The goal of this study is to verify the affiliation between engine performances and emission by means of diesel. **Keywords:** Neem oil, Neem bio-diesel, Diesel oil, Emission **References:** 1. Kandu Kalpatti Chinnaraj Velappan, Less NOx biodiesel: CI engine studies fuelled with rice bran oil biodiesel and its five blends, Journal of scientific and Industrial Research, 66, 2001, 60-71. 2. A. Siva Kumar, D. Maheswar and K. Vijay Kumar Reddy (2009), comparison of Diesel engine performance and Emissions from Neat and Transesterified Cotton Seed oil, Jordan Journal of Mechanical and Industrial Engineering. 3(3), pp.190-197. 3. Ramesh, D., A. Samapathrajan, and P.Venkatachalam, 2006 "Production of Biodiesel from Jatropha curcas oil by using pilot Biodiesel plant". The Jatropha Journal 18-19: 1-6.18. 4. Parametric studies for improving the performance of a jatropha oil-fuelled compression ignition engine by j. Narayana Reddy, A. Ramesh_, Internal Combustion Engines Laboratory, Mechanical Engineering Department, Indian Institute of technology Madras, Chennai-600036, India 5. Allen CAW, Watts K, Ackman RG, Pegg MJ (1999) Predicting the viscosity of biodiesel fuels from their fatty acid composition. Fuel 78:1319-1326. 6. Srivastava, A., Prasad, R. (2000). Triglycerides based diesel fuel. Renewable sustainable energy reviews, 4(2), 111-133.	**27-29**
6.	**Authors:**	**Subodha Jalote, R. K. Pandey, C. B. Gupta, C. S. Mishra, Vikas Shrivastav**	
	Paper Title:	**Application of Vastu in Construction**	
	Abstract: Vastu science is applicable to solve the building problems with planetary position and ten directions. Different planets have different directions and have specific effect on the building and persons. Vastu deals the equilibrium balance between the structures.Vastu concept can be applied in construction engineering. It is not only a religious symbol but a scientific solution also. For simple understanding it is applied and related to religion in the from of temple, forts, town planning astrology and old civilization. The architecture of India is rooted in its history, culture and religion. Indian architecture progressed with time and assimilated the many influences that came as a result of India's global discourse with other regions of the world throughout its millennia-old past. The architectural methods practiced in India are a result of examination and implementation of its established building traditions and outside cultural interactions.Though old, this Eastern tradition has also incorporated modern values as India became a modern nation state. The economic reforms of 1991 further bolstered the urban architecture of India as the country became more integrated with the world's economy. Traditional Vastu Shastra remains influential in India's architecture during the contemporary era. Effort has been made to discuss how to incorporate vastu law in present constructions. **Keywords:** Vastu, Astrology, Civilization, Green Building, Radiations, Materials, Architecture. **References:** 1. Bharat Gandhi, Unnaty Vastu Consultants(1996) ,the university of Michigan ,20 may 2009 Vastu shashtra and 21st century. 2. Chandra, Pramod (2008), South Asian arts, Encyclopædia Britannica. 3. Coomaraswamy, Ananda K. (1914). Viśvakarmā ; examples of Indian architecture, sculpture, painting, handicraft. London. 4. Evenson, Norma (1989). The Indian Metropolis. New Haven and London: Yale University press. ISBN 0-300-04333-3. 5. Fletcher, Banister; Cruickshank, Dan, Sir Banister Fletcher's a History of Architecture, Architectural Press, 20th edition, 1996 (first published 1896). ISBN 0-7506-2267-9. Cf. Part Four, Chapter 26. 6. Foekema, Gerard (1996), A Complete Guide to Hoysaḷa Temples, Abhinav Publications, ISBN 81-7017-345-0. 7. Gast, Klaus-Peter (2007), Modern Traditions: Contemporary Architecture in India, Birkhäuser, and ISBN 978-3-7643-7754-0. 8. Havell, E.B. (1913). Indian Architecture, its psychology, structure, and history from the first Muhammadan invasion to the present day. J. Murray, London.	**30-32**
7.	**Authors:**	**Manjare Chandraprabha A, Shirbahadurkar Suresh D, Patil Prerna R**	
	Paper Title:	**Generating Expressive Degree of Emotion in Neutral Speech**	
	Abstract: This paper proposes a statistical phrase/accent model for speech synthesis. In recent years, the work on expressive speech has increased rather than basic emotions. Our aim is to obtain expressive speech from neutral speech. In this proposed method there are two components one is phrase and other is accent. Expectation-Maximization algorithm is used to train statistical speech data. The output generated by proposed method is compared with TD-PSOLA method. The results generated from proposed work is better than TD-PSOLA method. **Keywords:** Intonation Modeling, Accent/Phrase, Statistical parametric Speech Synthesis, TD-PSOLA. **References:** 1. Welsey Mattheyses ,Werner Verhelst and Piet Verhoeve, "Robust pitch marking for prosodic modification of speech using TD-PSOLA". 2. Andrej Ljolje ,Frank Fallside,"Synthesis of natural sounding pitch contours in isolated utterances using HMM", 1986. 3. Hansjorg Mixdorff, "A novel approach to the full automatic extraction of Fujisaki model parameters", 2000. 4. J.A.Louw and E.Barnard," Automatic intonation modelling with INTSINT", 2001. 5. Dimitrios Rentzos, Saeed Vaseghi, Emir Turajlic , Qin Yan, Ching-Hsiang, "Transformation of speaker characteristics for voice	**33-37**

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Authors: **Suparna Sreedhar A, Suma Sekhar, Sakuntala S. Pillai**

Paper Title: **Improved Preamble Structure for Timing Synchronization in MIMO-OFDM Systems**

Abstract: In Multiple Input Multiple Output (MIMO) Orthogonal Frequency Division Multiplexing (OFDM systems, symbol timing synchronization is important inorder to find an estimate of where the symbol starts. In this paper, an efficient preamble structure is proposed for improving the timing synchronization in MIMO-OFDM systems. The proposed short preamble consists of four sub symbols having equal duration. The first and third sub symbols are Constant Amplitude Zero Autocorrelation (CAZAC) sequences while second and fourth are CAZAC sequences weighted by Pseudorandom Noise (PN) sequences. Simulation results show that the proposed preamble structure could provide sharper correlation peak when compared to the conventional Schmidl's and Minn's methods in both AWGN and Rayleigh channels. Also the Correct Detection Rate (CDR) of the proposed method is better than the conventional methods at high SNR values. Hence a better timing synchronization can be achieved.

Keywords: CAZAC, Correct Detection Rate, MIMO, OFDM, Timing Synchronization.

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38-41

9.

Authors: **Divya Dileep, Naveen S**

Paper Title: **Differential Video Encoder Design Using Cascaded DWT and DCT**

Abstract: Digital video technology has a wide variety of applications due to its several advantages over its analog counterpart. The use of digital video has been limited by its higher bit rate requirement. In this paper a novel technique for compression of video is proposed. This technique uses difference frames and Discrete Wavelet Transform and Discrete Cosine Transform. Wavelet transform provides approximations at different levels which require very less memory for storage compared to the original data. Cosine Transform represents approximation of signal with fewer coefficients. The algorithm has been implemented using Haar wavelet, Daubechies wavelet and biorthogonal wavelet and the performance in each case is evaluated using parameters such as Mean Square Error and Peak Signal to Noise Ratio.

Keywords: Biorthogonal, Daubechies, difference frame, Discrete Cosine Transform, Haar, video compression, Wavelet transform

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10.

Authors: **V. Tapasvi, M. Satyanarayana Gupta, T. Kumaraswamy**

Paper Title: **Designing and Simulating Compressible Flow in a Nozzle**

Abstract: Compressible flow is the branch of fluid mechanics that deals with flows having significant changes in fluid density. Gases, but not liquids, display such behavior. To distinguish between compressible and incompressible flow in gases, the Mach number must be greater than about 0.3 before significant compressibility occurs. A nozzle is a device designed to control the direction or characteristics of a fluid flow (especially to increase velocity) as it exits (or enters) an enclosed chamber or pipe. Now we are designing a nozzle by using agambit design software and then converting that into a ansys software for analysis .In that analysis we are giving boundary conditions and inlet and outlet. This analysis totally on c-d nozzle. By using supersonic steam

Keywords: fluid mechanics, density, incompressible flow, Mach number, compressibility, fluid flow.

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46-54

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Authors: **Raju Tayade, Harishchandra Gadekar, Suchita Kadam, Sandesh Bhingardeve**

Paper Title: **Engine Analyser Software Version 6.0.0 MPFI Engine by Using Fuel Catalyst for Improving Its Performance**

Abstract: As everyone is aware, the price of fuel keeps on fluctuating from time to time, therefore, oil conservation and saving on fuel is everybody's concern. We all know that extensive use of petroleum products has left our environment highly polluted, leading to various health hazards, ozone layer depletion and global warming. Therefore, it has become inevitable to have some solution at our disposal so as to conserve fuel, reduce pollution and save our environment. One way to conserve fuel, reduce pollution and save our environment is the use of fuel catalyst. Fuel catalyst is a mixture of compounds which helps in efficient burning of fuel. We have carried out a test on MPFI engine with plain petrol and mixture of plain petrol and fuel catalyst. Work also reports evaluation of thermal performance of plain petrol with 0.38% and 0.79% by mass of fuel catalyst and compared with that of plain petrol. Also fuel properties relevant to the fuel were determined for the various concentrations of fuel catalyst, in a mixture of plain petrol and fuel catalyst and also for plain petrol. In this paper it is shown that higher concentration of fuel catalyst in plain petrol leads to effective combustion of supplied fuel which results in lower air fuel ratio for same speed. There is improvement in the thermal performance of engine due to blending of fuel catalyst with plain petrol. Also effect of fuel catalyst on the environment is noted by the measurement of exhaust emission of plain petrol and mixture of plain petrol & fuel catalyst.

Keywords: Work also reports evaluation of thermal performance of plain petrol with 0.38% and 0.79% by mass of fuel catalyst and compared with that of plain petrol.

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12.

Authors: **Lini T Koshy, Rini Jones S.B**

Paper Title: **A Model Based Maximum Power Point Tracking for PV Panels using Genetic Algorithm**

Abstract: This paper presents a genetic algorithm (GA) based technique in Model Based (MB) maximum power point tracking (MPPT) controller for photo voltaic (PV) system. Maximum power point tracking is the main solution to reduce the power loss in the photo voltaic system when temperature and solar irradiance variation occurs. The PV system has an operating point that can supply maximum power to the load. The point that gathers the power called the maximum-power point (MPP). A model-based MPPT offers a better dynamic performance, because it is relatively easy to obtain an accurate model of a single PV panel, thus predicting the maximum power point voltage for given environmental conditions. Experiments reveal that the existing MB MPPT gives improved tracking error but minimum power extraction. To overcome this disadvantage an optimization algorithm called Genetic Algorithm based MB MPPT is presented. The proposed GA based MB MPPT can reduce the tracking error as well as maximum power is extracted as compared to the existing MB MPPT.

Keywords: Energy efficiency, Genetic Algorithm (GA), Modeling, Maximum Power Point Tracking (MPPT), Parameter estimation, Photo Voltaic (PV) system.

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59-63

13.

Authors: **Shilpa S. Nair, Naveen S., Moni R.S**

Paper Title: **3D Face Recognition Using Weiner Filter and DFT Based On Optimized Directional Faces**

Abstract: Traditional 2D face recognition methods based on intensity or color images, face challenges in dealing with pose variations or illumination changes. The face recognition based on combination of 3D shape information and 2D intensity/color information is a novel approach, which provides an opportunity to improve the face recognition performance. This paper proposes an efficient multimodal face recognition method by combining the textural as well as depth features, extracted from directional faces of input image. To overcome problems occurred due to low quality image, pre-processing is done before extracting features from the image. The directional faces captured using Local Polynomial Approximation (LPA) filters are adaptively optimized. The modified LBP (mLBP) is used for the feature extraction from these directional faces. The spectral transformation of the concatenated block histogram of mLBP feature image acts as the robust face descriptor. Discrete Fourier Transform (DFT) is used as the transformation tool. The fusion of both modalities is performed at score level. The experimental results shows that the proposed method gives better performance than single modality.

Keywords: DFT, MLBP, multimodal, ODF, Weiner filter.

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64-69

14.

Authors: Sreeja P, Hariharan S

Paper Title: A Technique for the Detection of Cystic Focal Liver Lesions from Abdominal Images

Abstract: Computer aided detection of cystic focal liver lesions (FLL) from Computed Tomography (CT), Magnetic Resonance (MR) or ultra sound (US) abdominal images is a challenging task in pattern recognition and image processing. Region of interest (ROI) is taken from unenhanced/enhanced images from different imaging modalities. A simple and novel algorithm is applied in MATLAB platform and the lesions are clearly identified and highlighted. The proposed algorithm is based on template matching, but it overcomes certain difficulties incurred while applying to biomedical images. The new algorithm progresses in a semiautomatic fashion and can be modified to a fully automatic system for the detection of liver lesions. The algorithm was evaluated on different CT, MR and US abdominal images. The results demonstrate the efficiency of the proposed technique for reliable detection of liver lesions from different imaging modalities.

Keywords: Imaging modalities, template matching, cystic focal liver lesions and correlation.

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15.

Authors: Haider A Abdulkarim, Ibrahim F Alshammari

Paper Title: Comparison of Algorithms for Solving Traveling Salesman Problem

Abstract: Travel Salesman Problem is one of the most known optimization problems. While an optimal solution cannot be reached, non-optimal solutions approach optimality and keep running time fast. In this paper, the most used algorithms to solve this problem are comparedin terms of route length, elapsed time and number of iterations. The TSP is simulated using different scenarios examples and the convergence is checked for each case.

Keywords: TSP, Nearest Neighbor, Genetic Algorithm.

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Authors:	**Saleh Abd El-Aleem Mohamed, Wafaa Mohamed Morsi**
Paper Title:	**Performance of Nano–Modified Cement Pastes and Mortars in Caron's Lake Water**

Abstract: Nanomaterials (NMs) are gaining widespread attention to be used in construction sector so as to exhibit enhanced performance in terms of smart functions and sustainable features. The understanding of complex structure of cement based materials at nano-level will definitely result in a new generation of stronger and more durable concrete; with high range of newly introduced properties. This work aims to study the effect of nano-silica (NS) on hydration characteristics, mechanical, microstructure and durability of OPC-slag-NS cement pastes and mortars subjected to Caron's Lake water. The hydration characteristics were followed by estimation of setting times, chemically combined water, free lime, total chloride and sulphate contents, as well as bulk density, compressive and flexural strengths. The hydration process and durability of cement pastes were monitored using SEM and XRD. The results of these investigations indicate that, NS improves the compressive and flexural strengths of cement specimens subjected to Caron's Lake water up to 12 months. The accumulation of additional hydration products within the pore system enhances the densification of cement paste matrix to form closed structure with narrow pores. NS decrease the accessibility of SO42- and Cl- to penetration into the pore system to form ettringite and chloroaluminate hydrate, hence the total sulfate and total chloride contents decrease with NS content. Mortars containing 4 mass, % NS possess higher values of compressive and flexural strengths than those of the other mortars containing NS. Partial inhibition of chloroaluminate formation and the fine closed microstructure of composite cement containing NS caused an increase of compressive and flexural strengths.

Keywords: Slag, Nano-silica, cements, Mechanical properties, Durability

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17.

Authors:	**Bloomi Rachal Saji, Kanjana G**
Paper Title:	**A Novel Method for Iris Recognition Using Fusion of Wavelets and DFT**

Abstract: A robust approach for iris recognition using wavelet based feature extraction and decision level fusion is proposed. In this method, circular Hough transform is used for iris segmentation and Daugman's rubber sheet model for normalization. For feature extraction, a combination of Haar wavelet decomposition and spectral transformation of 1D log Gabor wavelet transform is used. Discrete Fourier transform (DFT) is used as spectral transformation tool. The spectral transformation reduces the redundancy of the feature vectors, which adds the recognition rate. Euclidean distance classifier is used for classification and decision level fusion is employed. The experimental results shows that the proposed method gives better performance. CASIA database is used for evaluation.

Keywords: Iris recognition, Haar wavelet, 1D log gabor wavelet, Euclidean distance, decision level fusion.

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18.

Authors:	**Resmi H. B, Deepambika V. A, M. Abdul Rahman**
Paper Title:	**Lifting Based DWT for Object Tracking Using Variance Method**

Abstract: Fast and accurate object tracking is very important for real time applications like video surveillance, traffic monitoring etc. In most of the conventional object tracking methods environmental changes, memory requirement and computation speed are the major constraints. This paper proposes an efficient object tracking method to compensate for all these challenges. Here a Lifting based Discrete Wavelet Transform (LDWT) has been used in order to compensate for fake motions and low memory requirement. Lifting based 9/7 Discrete Wavelet Transform is proposed to reduce the computational cost and preserve fine object boundaries. For fast object tracking variance method is adopted where maximum nonzero pixel value is considered. The experimental results show that the proposed method yields better result on the basis of computational time, memory requirement, speed of operation and environmental changes than the conventional DWT based approach.

Keywords: Object detection, Object Tracking, DWT, LDWT, Frame Differencing, Variance Method.

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Authors: **Sarika S, Deepambika V. A, M. Abdul Rahman**

Paper Title: **An Efficient Relative Gradient Based Radiometric Invariant Stereomatching Using Guided Filter**

Abstract: Stereomatching algorithms provide a better disparity map only when the stereo image pairs under consideration are under similar radiometric conditions, but under real world scenarios this condition may not hold. As a result of this corresponding pixels in the left and right image will be at different intensities and most of the state of the art stereomatching algorithm fails to provide a better disparity map. To overcome this issue this paper proposes a relative gradient based approach. Also inorder to have better edge preservation and faster result guided filter based cost aggregation is used. The result shows that the proposed method performs well under varying radiometric conditions where the conventional state of the art stereomatching algorithms fail.

Keywords: Stereomatching, Radiometric variations, Relative gradient, Guidedfilter

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105-108

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Authors: **Rakesh R J, Jayasudha J S**

Paper Title: **Dynamic Placement of Autonomic Internet Services**

Abstract: The placement of services available in an optimal manner determines the capability of a data network to efficiently support user's service demands. The paper includes the optimal placement and the dynamic creation of the services. The algorithm described in the paper specifies the enhanced form of service demand concentrator on the basis of traffic aware centrality metric. The accessing of the services is based on the evaluation of the access points as well as network bandwidth. Broadcast routing is also performed and message as well as file transfer is carried out between the nodes. The storage of the services is also made possible in the cloud network developed in apache cloudstack. The solution applies to a broad range of networking scenarios in network storage and involvement of the end-user in the creation and distribution of lightweight service facilities.

Keywords: Service, Service Migration, Broadcast routing, CloudStack Storage.

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Authors:	**A. N. Afandi**
Paper Title:	**The New Opportunity for Carrying Out a Dynamic Economic Dispatch using the Latest Evolutionary Computation Method**

Abstract: Practically, a power system is operated by combined various types of generating units for determining a committed power schedule to meet load demand changes at all period times of the operation in order to reach the most economical operation. The committed power schedule of generating units is obtained by allocating power outputs based on the given load demand at a certain period time for minimizing the total cost considered some constraints. The total cost changes of operation are expressed by dynamic economic dispatch (DED) problems with considering load demand changes for each period time of the operation. In this paper, the harvest season artificial bee colony (HSABC) algorithm is used to solve the DED problem for 24 hours of operating times using IEEE-30 bus system. Simulation results show that the best solution of the problem is obtained by HSABC within the shortest iteration step. The computations used load demand changes for all period times are quick and smooth with stable characteristics of convergences. The DED problem is solved using HSABC in different convergence speeds, power outputs and total operating costs for 24 hours.

Keywords: dispatch, dynamic, economic, HSABC, power.

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Authors: **S. K. Senthil Kumar, P. Balasubramnie**

Paper Title: **Healthcare-As-A-Services – Hospit One – A Cloud Based Healthcare System**

Abstract: Our objective of this proposed research is to improve the reliability of cloud services and availability of cloud resources to efficiently provide services to all patients belongs to the cloud based Healthcare system. With the existing paper and hand written for of patient2,3 records, there are some consequences such as lack of accessibility of historical health and medical details about patient, unnecessary loss of time and money for collecting and /or analysing of patient's health details repeatedly and lack of access the patients' details by other Healthcare institutions even with patient's permission. We propose a new bio-inspired dynamic cloud framework derived from Ruminant Digestive System from Ruminant Animals, called RDS Framework with a set of two algorithms. The first is a LPP-TP (Linear Programming Problem-Transportation Problem) based resource selection algorithm for efficiently identify and select the number of resources are actually available, second 3 Dimension Hybrid Modified Bin Packing with Task Grouping (3DHBPTG) scheduling algorithm for making the maximum utilization of cloud resources for making it highly available and improves reliable cloud Our framework guide and optimize the cloud process to improve the reliable cloud service and availability of cloud resources. With the above framework, we can achieve a cloud based, device independent, platform independent, Language independent, utility based collaborative healthcare system named as HospitOne.

Keywords: Healthcare System, Healthcare-as-a-service, HospitOne, Cloud Computing, Reliability, Availability of cloud.

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Authors: **Manoj Kr. Agrawal, Surender Kumar**

Paper Title: **Change Management in a Lean Manufacturing Environment**

Abstract: Today change is normal. How the industry deals with the change can mean the difference between success & failure. The overall improvement depends upon the implementation of a prioritized change programme, with concentration of effort on change projects, a few at a time, and with frequent measurement of results to determine the extent to which success was being achieved. Managers and executives must be trained for the same. After giving a brief about the change trilogy, change cycle and stages of acceptance, the paper highlights a proven path an integrated approach that identifies an improvement cycle, in order to achieve maximum output after implementing a project for improvement. Before launching a new effort, it is important to evaluate what's working well today, what is not and then to recommend what the correct actions are for improving the company/ professional practice. The concept and hazard of neutral zone which is time of great uncertainly and fear has also been explained briefly along with success ratio and dynamic stability. A case study of change management has been discussed.

Keywords: Change, improvement, neutral zone, change trilogy, change cycle, proven path.

127-132

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Authors: **Girish H, Shashi Kumar D. R**

Paper Title: **A Survey on the Performance Analysis of FinFET SRAM Cells for Different Technologies**

Abstract: This paper presents a survey on the performance analysis of FinFET SRAM Cells for different technologies. Industry requires high performance low power devices and memories. CMOS devices scaled down to reduce the size. As CMOS devices are scaled down the variation in the design metrics like SNM, Leakage power and delay increases. FinFET is an emerging technology in the VLSI design to overcome the drawbacks of CMOS. FinFET has become the most promising alternatives to conventional CMOS. In this paper, comparison of conventional CMOS, Independent-Gate (IG) and Tied Gate (TG) FinFET SRAM standard cells performance analysis is done with respect to leakage power, Static Noise Margin (SNM) and delay.

Keywords: FinFET, SRAM, SNM, Leakage Power, Delay.

133-136

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Authors: **Sruthin R V, Jayasudha J S**

Paper Title: **Protection Against Power Depletion Attack in WLAN**

Abstract: Power depletion attacks in internet are mainly affecting the Wireless LANs, since they are working on battery power which is the main resource of interest. The attack is performed by generating and routing unnecessarily packets in the network there by consuming the nodes battery power. The vulnerable packet movement in the network is identified using entropy estimation model which is different from the packet marking scheme. The vulnerable nodes in the network are identified by a packet routing scheme, which improves efficiency while using the entropy estimation model. The system is scanned for possible attack virus presence in the host node, which in turn spread the virus to the vulnerable nodes in the network. A novel hybrid method is proposed by combining three existing method which is used to protect the WLANs from power depletion attacks.

Keywords: Entropy value, bounce packet, vulnerable host.

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Authors: **Shani S. Das, Rejimoan.R**

Paper Title: **A Novel Approach for Finding Optimal Query Plan in RDBMS**

Abstract: Information must be organized in such a way that it is able to access, update and manage. Database is a collection of such information that is organized in a well structured manner. Since databases allow flexible data storage, huge amount of information can be stored in it. Structured Query Language (SQL) is used to do database operations especially the retrieval of data inside database. The database operations must not be too time consuming. Hence the database operations must be done in an efficient and effective manner. The existing optimizer relies on cost as well as heuristic approach. Our focus is to find an optimal execution plan for a query.

Keywords: SQL Query, Query Optimizer, Optimal Query Plan.

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Authors: **P. Ranjith Reddy, Shireesha.V, V. Malapat, K. Venkateswara Rao, Y. Aparna**

Paper Title: **Degradation of Methylene Blue from Water Under Sunlight using SnO2/Graphene Oxide Composite**

Abstract: Tin oxide (SnO2) nanoparticles (NP) has been intensely investigated as photo catalyst for water purification and environment decontamination, while the photon generated electron and hole pair (EHP) recombination is one of factors limiting its efficiency. Tin oxide/Graphene oxide (SnO2/GO) nanocomposite is very promising to overcome this limitation for photo catalytic applications. GO, with its unique electronic properties, large specific surface area and high transparency, contributes to facile charge separation and adsorptivity in this hybrid structure. The SnO2/GO composite under sunlight photo catalytic degradation of methylene blue (MB) has been investigated in aqueous heterogeneous suspensions. It may be used either alone or in combination with H2O2 to enhance their performance and control of bio growth (slime). The hydrogen peroxide may also be used to speed up catalysts reactions for complete degradation. The SnO2/GO composite showed an enhanced photo catalytic degradation activity for the organic dye methylene blue under sunlight compared to bare H2O2. Degradation of methylene blue under sunlight is fast with in 10min with the combination of SnO2/GO and H2O2 as a photo catalyst. The study of the prepared SnO2/GO composite under the sunlight photo catalytic activity of photo catalyst was investigated by the colorimeter by observing the optical density with reference of distilled water.

Keywords: SnO2/GO Composite, methylene blue, Sunlight, Graphene Oxide, Photo catalyst.

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	Authors:	**Munusamy Rani, Srinivasan Sathiya, MaheswaranVimala**
	Paper Title:	**Synthesis, Characterization and Biological Activity of Transition Metal Complexes Supported**

Abstract: Mn (II) and vanadium (II) complexes were synthesized purified by repeated recrystallisation and characterized by IR data. Metal complexes were also tested for their antimicrobial activity. Analysis reveals that all the ligands showed its greater activity against S.Typhi & B.cereus, complex showed moderate activity against p. argeniosa. N (hydroxybenzylidene) 2- chloro aniline found to be moderate against s.typhi and less active against B.cereus. Analysis reveals that all the ligands showed its greater activity against P.aeruginosa and S.typhi,

Keywords: Schiff base,N (2hydroxy benzylidene) 2-amino phenol and N (hydroxybenzylidene) 4-amino azo benzene (2hydroxy benzylidene) Para Toluene sulphonamide

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152-154

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29.	**Authors:**	**Chitra Raju I, Lizy Abraham**

	Paper Title:	**Detection of Lesions in Color Fundus Images for Diabetic Retinopathy Grading**	
	Abstract: Advancement in technology has its impact in many areas especially in the field of medicine. Analysis of medical images have great significance in non-invasive treatment and clinical studies. In the context of computer aided diagnosis of diabetic retinopathy, a new algorithm for the detection of lesions is presented and discussed. The regions where these lesions are present determines the severity of diabetic retinopathy. Thus, the detection of these lesions plays a vital role in computer aided diagnosis. Detection of fovea is indispensable for this approach. Fovea is detected by means of morphological operations. The method has been tested on publicly available databases and the results are better than the conventional approaches. **Keywords:** Diabetic Retinopathy (DR), exudates, fovea, hemorrhages **References:** 1. Vision 2020: The Right to Sight – Diabetic Retinopathy [Online]. Available:http://www.vision2020.org/main.cfm?type=WIBDIABETIC. 2. The Emerging Epedemic of Diaberic Retinopathy in India [Online]. Availbale : http://www.iapb.org/resources/data-and-surveys. 3. D. Vallabha, R. Dorairaj, K. Namuduri and H. Thompson, "Automated detection and classification of vascular abnormalities in diabetic retinopathy", Proceedings of the 13th IEEE Signals, Systems and Computers 2:1625-1629, 2004. 4. C. Sinthanayothin, J. Boyce, T. Williamson, H. Cook, E. Mensah, S. Lal and D. Usher, "Automated detection of diabetic retinopathy on digital fundus images." Diabet. Med. 19, 105-112, 2002. 5. J. M. Cree, J. J. Leandro, J.V. B.Soares, R. M. Jr. Cesar, H. F. Jelinek and D. Cornforth, "Comparison of various methods to delineate blood vessels in retinal images", Proceedings of the 16th Australian Institute of Physics Congress, Canberra, 2005. 6. H. Wang, W. Hsu, K. G. Goh and M. Lee, "An effective approach to detect lesions in color retinal images", Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, 181-187, 2000. 7. A. Hunter, J. Lowell, J. Owens and L. Kennedy, "Quantification of diabetic retinopathy using neural networks and sensitivity analysis", Proceedings of Artificial Neural Networks in Medicine and Biology, pp. 81-86, 2000. 8. A. Osareh, M. Mirmehdi, B. Thomas and R. Markham, "Comparative exudate classification using support vector machines and neural networks", The 5th international Conf. on Medical Image Computing and Computer Assisted Intervention, pp. 413-420, 2002. 9. B. M. Ege, O. K. Hejlesen, O. V. Larsen, K. Moller, B.Jennings, D. Kerr and D. A. Cavan, "Screening for diabetic retinopathy using computer based image analysis and statistical classification." Comput. Methods Programs Biomed. 62(3):165-175,2000. 10. C. Sinthanayothin, J. F. Boyce, T. F. Williamson and H. L. Cook, "Automated detection of diabetic retinopathy on digital fundus image." Diabet. Med. 19(2):105-112, 2002. 11. C. Sinthanayothin, V. Kongbunkiat, S. Phoojaruenchanachai and A. Singalavanija, " Automated screening system for diabetic retinopathy, 3rd International Symposium on Image and Signal Processing and Analysis", 44(2) : 767-771, 2003. 12. M. Larsen, J. Godt, N. Larsen, H. Lund- Andersen, A. K. Sjolie, E. Agardh, H. Kalm, M Grunkin and D. R. Owens, " Automated detection of fundus photographic red lesions in diabetic retinopathy." Ophthalmol. Vis. Sci. 44(@):761-766, 2003. 13. M. Niemeijer, B. van Ginnekan, J. Staal, M. Suttorp-Schulten and M. Abramoff, "Automatic detection of red lesions in digital color fundus photographs." IEEE Trans. Med. Imag. 24(5) : 584-592, 2005. 14. X. Zhang and O. Chutatape, "Top-down and bottom-up strategies in lesion detection of background diabetic retinopathy." IEEE Computer Society Conference on Computer Vision and Pattern Recognition 2:422-428, 2005. 15. J. M. Shivaram, R. Patil and H. S. Aravind, "Automated detection and quantification of hemorrhages in diabetic retinopathy images using image arithmetic and mathematical morphology methods", International Journal of Recent Trends in Engineering (IJRTE), pp.l74-176, Vol. 2, 2009. 16. DIARETDB: Diabetic Retinopathy Ratabase and Evaluation Protocol, [Online]. Available: http://www.it.lut.fi/project/imageret/diaretdb1 17. T. P. Karnowski , V. P. Govindasamy, K. W. Tobin, E. Chaum, M. D. Abramoff, "Retina lesion and microaneurysm segmentation using morphological reconstruction methods with ground-truth data". Conf. Proc. IEEE Eng. Med. BioI. Soc. 1:5433-5436, 2008. 18. X. Zhang and G. Fan, " Retinal spot lesion detection using adaptive multi-scale morphological processing," in Proc. ISVC (2), pp.490-501, 2006.	**155-160**
30.	**Authors:**	**Dhanya R, Smitha K S**	
	Paper Title:	**A Hybrid Approach for Speaker Tracking using Time of Arrival with Concave-Convex Procedure**	
	Abstract: Single source localization problem using Time f Arrival (ToA) technique is described here.Time of Arrival is the travel time of a radio signal from a single transmitter to a remote single receiver. Among various models for localization measurement of ToA is relatively direct since by identifying and locating known samples from transmitted source signal, the signal arrival time can be determined. The corresponding unknown source-measurement associations can be incorporated into optimization. An efficient three step algorithm is used to solve this optimization problem which includes the steps of course location estimation, determination of source-measurement association and source location refinement. This approach simplify the problem with convex relaxation and approximation techniques. Here a popular optimization package like CVX is used. The proposed algorithm has low computational complexity and is feasible for real time applications. **Keywords:** Time of Arrival measurement, Voice Activity Deduction(VAD), optimization, convex relaxation, course location estimation **References:** 1. N. Patwari, J. N. Ash, S. Kyperountas, A. O. Hero, III, R. L. Moses, and N. S. Correal, "Locating the nodes: Cooperative localization in wireless sensor networks," IEEE Signal Process. Mag., vol. 22, no. 4, pp. 54–69, Jul. 2005. 2. H. Sayed, A. Tarighat, and N. Khajehnouri, "Network-based wireless location: Challenges faced in developing techniques for accurate wireless location information," IEEE Signal Process. Mag., vol. 22, no.4, pp. 24–40, Jul. 2005. 3. N. Patwari, A. O.Hero, III, M. Perkins,N. S.Correal, andR. J.O'Dea, "Relative location estimation in wireless sensor networks," IEEE Trans. Signal Process., vol. 51, no. 8, pp. 2137–2148, Aug. 2003. 4. K. Yang, G. Wang, and Z.-Q. Luo, "Efficient convex relaxation methods for robust target localization by a sensor network using time differences of arrivals," IEEE Trans. Signal Process., vol. 57, no. 7, pp. 2775–2784, Jul. 2009. 5. X. Li, "Collaborative localizationwith received-signal strength inwireless sensor networks," IEEE Trans. Veh. Technol., vol. 56, no. 6, pp. 3807–3817, Nov. 2007. 6. D. Niculescu and B. Nath, "Ad hoc positioning system (APS) using AOA," in Proc. IEEE Int. Conf. Comput. Commun. (INFOCOM'03), San Francisco, CA, Mar./Apr. 2003, vol. 3, pp. 1734–1743. 7. L. Cong andW. Zhuang, "Hybrid TDOA/AOAmobile user location for wideband CDMA cellular systems," IEEE Trans. Wireless Commun., vol. 1, no. 3, pp. 439–447, Jul. 2002.	**161-164**

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31.

Authors: **Ansi R R, Anusree L**

Paper Title: **Advanced Bio-Crypto System with Smart Card**

Abstract: Biometric cryptosystems has widespread applications in this era. Generally associated to a personal device for privacy protection, biometric references are stored in secured electronic devices such as smart cards, and systems are using cryptographic tools to communicate with the smart card and securely exchange biometric data. The biometrics used in this paper is fingerprint. In many areas, fingerprint recognition is used to improve the security and privacy. In this paper, we propose a novel system for protecting fingerprint privacy by combining two different fingerprints into a new identity called combined minutiae template, stored in both database and smart card. Smart cards are widely acknowledged as one of the most secure and reliable forms of electronic identification. Combining smart card technology with biometrics provides the means to create a positive binding of the smart card to the cardholder thereby enabling strong verification and authentication of the cardholder's identity. Biometric cryptosystems combine cryptography and biometrics to benefit from the strengths of both fields. In such systems, while cryptography provides high and adjustable security levels, biometrics brings in non-repudiation and eliminates the need to remember a memorable password or passphrase etc. Fingerprint has been integrated in the RSA algorithm for biometric public/private key generation. Using RSA algorithm, we can generate a biometric based asymmetric keys from the biometric template of a user stored in the database. We grant authentication and using these keys we can encrypt/decrypt message. New approaches have endeavored towards merging biometrics with cryptography, so as to increase overall security of the system.

Keywords: Combination, fingerprint, minutiae, privacy, RSA, Key generation, MATLAB

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165-170

32.

Authors: **Abdulhussein M. Abdullah, Miaad Raisan**

Paper Title: **Building a Core Arabic Ontology About Iraqi News**

Abstract: Nowadays, Iraqi newspapers spread on the WWW in a great and remarkable form. All of these Websites are belonging to traditional Web. Therefore, the search results are not perfect. In order to move with these Websites to Semantic Web generation, ontology must be created. Unfortunately, there is a lack in ontologies written in Arabic language because it is a difficult language. If some attempts in different domains exist, it is not available on the World Wide Web as Linked Data. This paper aimed to build a core ontology in Arabic language interested in Iraqi News domain to be used as a source data for Iraqi's newspapers. Through the study the proposed ontology includes classes in hierarchical form depend essentially on class called Event class which play with other classes also, these classes may play with each other. Predicates on classes are relationships between these classes, thus among their individuals. An inference feature is enabled by adding restrictions on predicates. ORM (Object Role Modeling) approach is used to design the verbalization conceptual model for our ontology. Ontology mapping is used for populating the proposed ontology by converting XML documents to OWL using XSLT.

171-177

Keywords: Arabic Ontology, OWL, ORM, semantic web, XSLT, ontology population.

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33.

Authors: **Geethu A M, Smitha K S**

Paper Title: **A Fuzzy Logic Based Acoustic Echo Cancellation System**

Abstract: Although a handful of inter channel decorrelation procedures have been proposed in the past to mitigate the non-uniqueness and lower the misalignment of adaptive filter, introduced audible distortion limits the performance of adaptive filtering algorithm. In this paper fuzzy based adaptive resampling algorithm has been proposed. The power of fuzzy adaptive resampling is that the amount of de-correlation can be finely controlled by applying fuzzy logic in adaptive filtering algorithm. The proposed procedure expands on the idea of fuzzy based adaptive resampling in the frequency domain that efficiently mitigates the non-uniqueness problem for a multichannel acoustic echo cancellation (AEC) system while introducing minimal distortion to the signal quality. The performance of the system can be evaluated by the true echo return loss enhancement and signal to noise ratio (SNR) per sub-band, to better demonstrate the superiority of proposed procedure over other methods.

Keywords: fuzzy adaptive resampling, multi-channel acoustic echo cancellation (AEC), non-uniqueness problem, resampling

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Authors: **Nikhil Ranjan, Braj Bihari Soni, Brahmi Shraman**

Paper Title: **Review on Efficient Image Mosaicing Using Corner Detection Techniques**

Abstract: In image processing, mosaic images are made by adding together small images. Creation of mosaic images from a sequence of partial views is a powerful means of obtaining a larger view of a scene than available within a single view, and it has been used in wide range of applications. A general framework for images is proposed in this paper. This paper also discusses a review on different applications of image mosaicing mainly in the area of image mosaicing using corner detection technique.

Keywords: Image Mosaicing, Image Processing, Panorama, Image Fusion.

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35.

Authors: **P. Nandhakumar, S. Dinesh Kumar**

Paper Title: **Methodical Technique for Denoise Salt & Pepper and Gaussian Noise in Gray Scale Image**

Abstract: In this paper, a adaptive technique for reduction of an salt & pepper noise and Gaussian noise using a filters. Noise can degrade the image at the time of capturing or transmission of the image. Before applying image processing tool to an image, noise removal from the image is done at highest priority. Median filters are preferred for removing salt & pepper noise because of their simplicity and less computational complexity and also Wiener filter was preferred for removing an Gaussian noise. Extensive Simulation have been carried out on gray scale images with median filter and Wiener filter. This paper presents the result of applying different noise type and various noise reduction techniques.

Keywords: Before applying image processing tool to an image, noise removal from the image is done at highest priority.

185-188

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36.

Authors: **Shamila. N, Manju. M. S**

Paper Title: **Implementation of Max Log BCJR Algorithm in Turbo Decoder Architecture for Wireless Sensor Networks**

Abstract: The transmission of signal in a compressed form can cause a high sensitivity of error in wireless sensor networks. Error control coding (ECC) is used to determine the error occurring in the communication networks during the transmission of information from one point to another. It provides gain and energy reduction during transmission at the cost of decoder power consumption. The BCJR algorithm named after its inventors: Bahl,Cocke, Jelnik and Raviv is critical to iteratively decoded error correcting codes including turbo codes and parity check codes. The turbocodes used in the algorithm helps in the modification of the original BCJR algorithm and helps in the simplification of calculations. In this paper Max-Log-BCJR (Bahl, Cocke, Jelnik and Raviv) Algorithm is used. This algorithm appears to lend itself to both low complexity energy-constrained scenarios, as well as to the high-throughput scenarios. The Algorithm is very sensitive to SNR mismatch and requires accurate estimation of noise variation. This algorithm simply finds the minimum of the LLRs (Logarithmic Likelihood Ratios),so it uses only one ACS Operation.

Keywords: Error Control Coding, Logrithamic Likelihood Ratios, Max-Log BCJR Algorithm, Turbocodes.

189-192

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37.	**Authors:**	**Md. Tusar Ali, Kazi Md. Shorowordi**
	Paper Title:	**Synthesis and Structural Characterization of Magnesium Matrix In-Situ Composites**

Abstract: Magnesium matrix in-situ composites were synthesized using commercially pure Mg ingot, coarse Ti and B4C powder as starting materials. Ti and B4C powders are mixed with zirconia balls in a plastic bottle in Ar atmosphere and the resulting mixture of these powders were compacted into a cylindrical perform. The infiltration of Mg as a matrix metal into the Ti-B4C preform by capillary forces was done under Ar atmosphere in an electric furnace for different temperatures and holding time. Samples were prepared for phase identification and microstructural investigation. The phases formed during infiltration were analyzed using X-ray diffraction technique with Cu K□ radiation and morphology of the structure was carried out using FESEM equipped with EDX. Different types of compounds TiC, TiB2, TiB, MgB2, MgB4, B13C2 are formed in Mg matrix during synthesis process. The dissolution of Ti and B4C is found incomplete even at the highest synthesis temperature and holding time used in this study. The relative density is found to increase with temperature and decrease with time.

Keywords: In-situ composites, Ti and B4C powders, infiltration, X-ray diffraction

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38.	**Authors:**	**Ansila Henderson, Kavitha K V**
	Paper Title:	**Scalable Image Search System**

Abstract: Several applications such as fingerprint identification, biodiversity information systems, digital libraries, crime prevention, medicine, historical research, among others uses the image search system for searching similar images. The goal of the scalable image search system is to support image retrieval based on content properties such edge and texture, encoded into feature vectors. Hashing technique is used to embed high dimensional image features into hamming space. The image search can be performed in real-time based on Hamming distance of compact hash codes. An extensive experiment on flickr image dataset demonstrates the performance of the proposed methods.

Keywords: Gray-Level Co-Occurrence Matrix (GLCM), Homogeneous Texture Descriptor (HTD, The Edge Histogram Descriptor (EHD)).

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39.

Authors: **Adarsh S S, Kavitha K V**

Paper Title: **Online Human Detection using HOG and RSCBFD Algorithm**

Abstract: Human detection has many applications in many fields such as robotics, surveillance, user interface design, Human Activity Recognition etc. Many approaches are available for human detection. A new approach for human detection is introduced here, a combination of two algorithms like HOG and RSCBFD algorithm. The combined algorithm helps the system to be faster than previous systems and provides better accuracy also. Since it is fast, the method can use for real time systems. The performance of the system is compared and analyzed with some previous methods.

Keywords: gradient, HOG, RSCBFD, cosine similarity.

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Authors: **Saranya C.G., Lizy Abraham**

Paper Title: **An Automated System for Glaucoma Diagnosis**

Abstract: Glaucoma is one among the major eye diseases which, if not treated, can lead to permanent blindness. Diagnosis of glaucoma in early stages plays a key role in preventing vision loss. The optic cup-to-disc ratio (CDR) in retinal fundus images is one of the principle physiological characteristics in the diagnosis of glaucoma. Currently, CDR is computed manually by specially trained clinician which is a time consuming and resource intensive process. This drew the attention of researchers in developing an automated system to aid ophthalmologists in glaucoma diagnosis. A new method for glaucoma screening based on CDR measurement is presented and discussed here. Active contour is used to find optic disc boundary and there by optic disc diameter is computed. Blue channel intensity profile is plotted to calculate optic cup diameter. Higher value of CDR indicates glaucoma whereas normal eyes have small CDR value. The method was tested on publicly available database HRF and has attained better results than conventional approaches.

Keywords: Active contour, Cup-to-disc ratio (CDR) Glaucoma, Optic disc.

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41.

Authors: **Aswathy R P, Resmi R**

Paper Title: **Analysis of The Effects of Microstrip Configurations on RF MEMS Tunable Transformation Filters**

Abstract: In this paper an RF microelectromechanical (MEMS) tunable bandpass to bandstop transformation filter designed for 3-4.2 GHz with low insertion and return loss and the effect of substrate thickness was analyzed. The bandpass to bandstop transformation is achieved by adjusting the coupling parameters of microstrip resonator. The microstrip resonator is designed by coupling more than one microstrip lines resulting in the independent tuning of centre frequency and the bandwidth. The simulative analysis of the effect of different microstrip configurations in microstrip bandpass to bandstop tunable filter is performed using COMSOL Multiphysics software.

Keywords: Micro Electro Mechanical Systems (MEMS), Bandpass to Bandstop Tunable Filter, Microstrip Resonator,S parameter.

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42.

Authors: **Arathy U S, Resmi R**

Paper Title: **Analysis of Pull-in Voltage of a Cantilever MEMS Switch with Variable Beam Parameters**

Abstract: Micro Electro Mechanical Systems (MEMS) Switches have become very popular in the Electronics industry and we need to carefully select beam material for reliability and better performance. A variety of materials are available to be used as bridge material in RF MEMS switches. A cantilever beam is used to change the state and actuation of RF MEMS switch. It is made mostly using aluminum, copper or gold. This paper investigates which is the best material to be used as beam material for achieving lower pull-in voltage . The effect of different beam parameters on the RF and DC performance of MEMS series switches are also analyzed. Characterization of cantilever MEMS switches have been carried out by means of 3D simulation using COMSOL Multiphysics based on Finite Element Method [FEM]. Pull-in voltage can be reduced by carefully selecting beam material and it can further be reduced by modifying beam parameters. These parameters are also having a main role in improving RF performance of switches.

Keywords: Micro Electro Mechanical Systems (MEMS), MEMS Switch, Pull-in voltage, COMSOL.

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43.

Authors: **Lekshmi Balakrishnan, Soja Salim**

Paper Title: **Achieving Efficient Ranked Multikeyword Search over Outsourced Cloud Data**

Abstract: With the arrival of cloud computing, sensitive data are being centralized into the cloud. Data owners are allowed to store their complex data from their local systems to the public cloud. For the protection of data privacy, sensitive information is encrypted using any of the cryptographic algorithms before outsourcing it to cloud. Data owners outsource their data in encrypted form onto the cloud which makes effective data utilization based on plain text keyword search a challenging task. There are many traditional searchable encryption schemes which allow users to search over the encrypted data but most of them only support single keyword search. In this paper, multikeyword ranked searching technique is used which supports multikeyword searching. This method uses the concept of coordinate matching which captures the similarity between query and documents. This paper proposes a ranking method which uses the principle of coordinate matching and adds additional security functions to protect the data stored in the cloud. The proposed scheme introduces low overhead on computation and communication.

Keywords: Cloud computing, Coordinate matching, Searchable encryption, Ranked Search.

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44.

Authors: **Linsa M L, Resmi R**

Paper Title: **The Effect of Variable DC Gap and Various Piezo Electric Materials on Resonant Frequency in MEMS EVATunable Filters**

Abstract: Micro Electro Mechanical Systems (MEMS) are systems based on a variety of technologies whereby tiny mechanical elements with excellent system properties can be implemented. Evanescent Mode (EVA) tunable cavity filters for RF/microwave frequencies shows potential components in communication system because of its extensive tuning range, elevated unloaded quality factor, reduced size and weight. The application of bring in voltage create electric field within the cavity. The electric field is produced in the gap connecting post and diaphragm. The effect of DC applied gap on electric field distribution for different values of input DC voltage in an EVA tunable MEMS structure is analyzed. The validation of scattering parameter (S21 parameter) is also done which indicates a shift in the resonant frequency with both negative and positive applied voltage. The resonant frequency shifts more in case of negative bias supply voltage. The various materials used for piezoelectric diaphragm varies the resonant frequency. The materials having similar chemical compositions results in identical frequency while having different engineered domain configuration have variable resonant frequency.

Keywords: Micro Electro Mechanical Systems(MEMS), Evanescent Mode Cavity Filter, DC Gap, S21 Parameter, Piezoelectric Diaphragm

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45.

Authors: **Shima V M, Lekshmy D Kumar**

Paper Title: **Public Auditing of Data Stored in Cloud By Preserving Privacy**

Abstract: In cloud computing users can store their data into a cloud server which is located remotely so that users can use high quality applications and services by using available computing resources. The overhead of storing and maintaining local data can be avoided. The problem is that the users no control over their outsourced data makes the integrity of data in cloud server a difficult task. The task is very difficult for users with constrained computing resources. The benefit of cloud computing are those users can use the cloud storage as if it is local. For providing integrity to the data that stored in cloud, users can enable public auditability for cloud storage. Users can resort to a third party auditor (TPA) to check the correctness of their outsourced data and no need to worry about their data integrity. For effective auditing TPA should not introduce any vulnerability. That is user require privacy from the TPA. The auditing method uses homomorphic encryption with random masking technique which provides greater privacy. This paper is based on a secure cloud storage system supporting privacy preserving public auditing.

Keywords: Cloud computing, Auditing, Batch signature, Multicast authentication etc.

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46.

Authors: **Anish S, Preeja V**

Paper Title: **A Novel Method on Malayalam Handwritten Character Recognition**

Abstract: Handwritten Character Recognition (HCR) is one of the most challenging and active areas of research in the field of pattern recognition. It has a wide range of applications like preservation of documents into digital form, managing rare books etc. HCR is a difficult process due to the variants of handwriting styles of different individuals. Thus the success rate of any HCR system greatly depends upon the language that these systems are working on, and the amount of character sets in each language. Malayalam, a south Indian language and official language in the state of Kerala has a rich amount of character sets. Recognizing all those characters is a difficult task. In any types of character recognition systems, recognition rates play a vital role in the overall efficiency of the system. Several researches are going on this field to improve recognition rates. This paper deals with texture extraction model for character recognition process. In this model co-occurrence matrix and Euclidean distance are used to recognize the characters in an image.

Keywords: Binarization, Co-occurrence Matrix, Euclidean Distance, Segmentation

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Authors:	**Beena J Stuvert, Soniya B**
Paper Title:	**Bots C&C Traffic Detection Using Decision Tree Based Classifier**

Abstract: In recent years, the root cause of many security problems on the Internet are botnets. A botnet is a network of compromised computers under the control of bot code. When accessing a bot infected sites, these bot code are installed into the victim machine. Once the bot code affects a victim machine, it became part of the botnet. These botnets are the major cause of cyber-crimes such as spamming, phishing, click fraud etc. Bot is a type of malware and it differ from other class of malware is its command and control (C&C) channels. Thus the effective way to detect botnet is based on the command and control channels. This work presents a system that detects botnet based on the statistical features of the communication between bot and its botmasters without performing packet payload inspection. The proposed system uses machine learning technique to identify the features of the command and control channel. Based on the extracted feature a model is created to detect unknown bot traffic. Both classification and clustering methods are used to create the models and the detection accuracy and false positive rate of these methods are compared. The detection accuracy of the model is evaluated on standard real dataset, CTU-13 dataset. The experimental result shows that, both algorithms provide very good detection rate in CTU-13 dataset. Also, the false positive rate of the model is evaluated using another standard dataset, LBNL dataset. The evaluation results shows that the classification algorithm has less false positive rate compared to clustering.

Keywords: Bot, Botnet, Command and control, Machine learning, Malware.

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238-242

48.

Authors:	**Adnan Hussein Ali, Begared Salih Hassen, Aassia Mohammed Ali Jassim**
Paper Title:	**FPGA Based 12-Tuple Fast Packet Classification IP Core for SoC Design**

Abstract: Due to increased demand for the speed of communication over Internet. Packet header analysis and classification needs to be performed at same speed in network devices to provide Quality of Service (QoS). As network speed is increasing quickly, high speed packet classification is required at wire speed. In this paper, we propose a novel FPGA based pipelined architecture intended for 12-tuple packet classification on gigabit networks such as 1G/10G/40G/100G. Our solution also enables wire speed packet classification which can be used in Ethernet based SoC designs. It takes one clock cycle to classify the packet after arrival of required information. The proposed method has been designed and synthesized on FPGA using VHDL and can be reused in powerful high speed Ethernet based communication devices. The architecture is optimized for high speed processing and consumes only small

243-246

amount of FPGA resources. More than 85% throughput can be achieved.

Keywords: IP, FPGA, Packet Classification. Router, SoC.

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49.

Authors: **Anu K P, BinuRajan**

Paper Title: **A Novel Approach for Improving Software Quality Prediction**

Abstract: Software quality prediction is a process of utilizing software metrics such as code-level measurements and defect data to build classification models that are able to estimate the quality of program modules. These kinds of estimations can help software managers to effectively allocate potentially limited project resources, focusing on program modules that are of poor quality or likely to have a high number of faults. However, the effectiveness of such models depends on the quality of training data and also the underlying classification technique used for model calibration. The major problem that affects the quality of training datasets is high dimensionality and class imbalance. These problems can be alleviated by choosing necessary data preprocessing techniques before performing the classification. This paper presents an approach for using feature selection and data sampling together to deal with the problems. In this paper a wrapper based feature selection approach is used as the feature selection method and the ensemble learning method used is RUSBoost, in which random undersampling (RUS) is integrated into a boosting algorithm. The main purpose of this paper is to investigate the impact of feature selection along with RUSBoost approach, on the classification performance in the context of software quality prediction.

Keywords: Software Quality Prediction, Feature Selection, RUSBoost.

247-252

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50.

Authors: **Florina-Cristina Filip, Vladimir Mărăscu-Klein**

Paper Title: **Management of Production Processes and Products Release Procedure**

Abstract: This paper describes the production process and product release procedure used by supplier as a management method of proving that all product requirements agreed with the customer are being met. This method applies to the processes involved in the manufacture of products (raw material, semi-finished products, components and chemical operating materials). The release comprises an assessment of the production process or service based on the relevant documents, records and initial production samples, to ensure that the requirements associated with the production process of products which conform to specification are met. The supplier must to ensure that he agreed with the customer on changes of production process or deviations from specifications, at an early stage.

Keywords: initial production, inspection reports, release, supplier.

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253-257

51.

Authors: **Jeeshna P.V, Kuttymalu V.K.**

	Paper Title:	**A Technique for Object Movement Based Video Synopsis**	
	Abstract: Video synopsis is the process of preserving key activities and eliminates the less important parts to create a short video summary from the long original videos. These techniques are used for fast browsing, extracting big data, effective storing and indexing. The main application of video synopsis is video surveillance. Video synopsis techniques are broadly classified into two types: object based approaches and frame based approaches. Important frames and objects are extracted and viewed as the basic building block of the synopsis, while other less important frames and objects are removed. But these approaches cannot handle the complexity of the dynamic videos. The object movement based video synopsis method focus on the movement of a single video object, and removes the redundancies present in the object movement. It helps to generate the video synopsis. The proposed method is the combination of frame based and object movement based video synopsis will generate more accurate and compact video synopsis. First frame based method will remove the nonmoving frames and object movement based video synopsis handles the moving objects. In object movement based video synopsis method the moving parts are considered as important and nonmoving parts are less important parts. The moving parts are preserved and nonmoving parts are to be eliminated. The basic aim is to work at the level of object part, and to remove the nonmoving parts. This method consists of three stages: Object Movement Partition, Assembling and Stitching. In object partition first segment and track the moving objects with the help of Kalman Filter algorithm and extracts the parts. Partition each object into several semantic parts, which produces several part movement sequences. Remove the object and repair the hole by structure completion method. In assembling select the same number of part movements from each part sequence and moving parts are then assembled frame by frame and nonmoving parts are removed. Finally stitch the assembled parts to eliminate the gaps between the frames, thus the synopsized video is produced. Many researches are going on this computer graphics and computer vision area related to video synopsis.

Keywords: Video Synopsis, Frame and Object based method, Object movement based method (OMBVS), Kalman filter, MRF, Object movement based method.

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258-264

52.	**Authors:**	**Sruthi S, Suma Sekhar, Sakuntala S Pillai**	
	Paper Title:	**Robust Optimal PSO based Wavelet Feature Selection in MIMO OFDM Systems**	
	Abstract: Orthogonal Frequency Division Multiplexing (OFDM) when combined with multiple-input multiple output (MIMO) technology offers attractive bandwidth efficiency and higher link reliability in future 4 G wireless technologies. However the major disadvantage of OFDM is, the signals transmitted through multiple antennas suffer from high peak to average power ratio (PAPR) which affects the transmission efficiency. A scheme for PAPR reduction in wavelet packet OFDM based on discrete cosine harmonic wavelet packet transform (DCHWPT) using particle swarm optimization (PSO) is proposed. The optimization technique selects a best wavelet tree from fully decomposed wavelet packet tree structure with minimum PAPR is selected for transmission. Results show that PAPR is considerably reduced as the level of decomposition is increased for the wavelet packet structure.

Keywords: PAPR, MIMO, OFDM, DCHWP, BER, CCDF, PSO

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265-268

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53.

Authors: **Parvathi R, Syama R**

Paper Title: **Search As You Type in Database**

Abstract: A search-as-you-type system computes answers on-the-fly as a user types in a keyword query character by character. Search-as-you-type support study on data residing in a relational DBMS. And also focus on how to support this type of search using the native database language, SQL. A main challenge is how to leverage existing database functionalities to meet the high-performance requirement to achieve an interactive speed. Study on how to use auxiliary indexes is stored as tables to increase the search performance. Solutions for both single-keyword queries and multi-keyword queries are presented, and develop novel techniques for fuzzy search using SQL by allowing mismatches between query keywords and answers. Experiments on large, real data sets show that techniques enable DBMS systems on a commodity computer to support search-as-you-type on tables with millions of records. The main consideration was to increase the speed by using auxiliary indexes stored as tables. The search is done based on both single and multi-keyword. Exact search for single keyword queries are done using UDF, LIKE predicate and inverted-index table and the prefix table. Exact search for multi keyword queries are done using UDF, LIKE predicate, full-text indexes and UDF (called "FI+UDF"), full-text indexes and the LIKE predicate (called "FI+LIKE"), the inverted-index table with prefix table and word-level incremental method. Fuzzy search for single keyword queries are implemented using UDF, gram-based method, neighborhood-generation-based method, character-level incremental algorithms. Fuzzy search for multi keyword queries are implemented using word-level incremental algorithms, called NGB+ and Incre+. The approach using inverted index tables and prefix tables supports prefix, fuzzy search and achieve the best performance. The experimental results on large, real data sets showed that the proposed techniques can enable DBMS systems to support search-as-you-type on large tables.

Keywords: Fuzzy Search, Type Ahead, Prefix search, edit distance

269-272

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54.

Authors: **Sanket P. Jadhav, V. G. Sayagavi, N. G. Gore, P. J. Salunke**

Paper Title: **Comparative Study of Machine Foundation and Position of Vibration Isolator**

Abstract: The present investigation is aimed at comparative study of machine foundation and position of vibration isolator. Heavy machinery with reciprocating, impacting, or rotating masses requires a support system that can resist dynamic forces and the resulting vibrations. When excessive, such vibrations may be detrimental to the machinery, its support system, and any operating personnel subjected to them. For satisfactory performance of machine foundation system, the requirement such as permissible amplitude, allowable soil pressure, permissible stresses of concrete & steel given by IS 2974 should be fulfilled. For this one has to obtain the natural frequency of the system and amplitude of foundation during machine operation. The most important parameters for design of a machine

273-277

foundation are: 1) natural frequency of machine-foundation-soil system; and 2) amplitude of motion of machine at its operating frequency.

Keywords: Machine foundation, Vibratory Isolator, Comparative Study.

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Authors: **Vinza V. Suthan, Chitharanjan K.**

Paper Title: **Dynamic Multi-Service Load Balancing System in Cloud-Based Multimedia**

Abstract: Load balancing is a process to distributing the workload across many computers or instruction data centres to maximize throughput and minimize work load on resources. In the case of cloud computing environments there were various challenges are there in the load balancing techniques like data security, and proper distribution etc. This is an efficient dynamic load balancing algorithm for cloud workload management by which the load can be distributed not only in a balancing approach, but also it allocate the load systematically and uniformly by checking certain parameters like number of requests the server is handling currently. It balances the load on the overloaded node to under loaded node so that response time from the server will decrease and performance of the system is increased. Here to considering a centralized hierarchical cloud-based multimedia system(CMS) consisting of a resource manager, cluster heads, and server clusters, in which the resource manager assigns clients' requests for multimedia service tasks to server clusters according to the job features, and then each cluster head gives the assigning job to the servers within its server cluster. For this complicated CMS, however, it is a challenging to design an effective load balancing algorithm which spreads the multimedia service job load on servers with the minimal cost for transmitting multimedia data between server clusters and clients, while not violating the maximal load limit of each server cluster. New genetic algorithm can be minimizing the response time and minimizing the communication cost. Simulation results explained that the proposed new genetic algorithm can efficiently cope with dynamic multiservice load balancing.

Keywords: Cloud computing, Genetic algorithm, Dynamic load balancing.

278-281

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Authors: **Singh Th. S.**

Paper Title: **Application of Multi-objective Optimization Techniques on Optimal Groundwater Remediation Design**

Abstract: Aquifer parameters such as hydraulic conductivity, effective porosity and hydraulic head etc. play significant roles in groundwater remediation and management systems. They generally comprise multiple often conflicting objectives. This paper proposes a multi-objective groundwater remediation and management methodology based on pump-and-treat technology to determine optimal strategies for cleaning up the affected portion of a contaminated aquifer. Two objectives are considered namely (i) minimization of remediation cost and (ii) maximization of clean water extraction rate. Multi-objective optimization code NSGA II is employed along with MODFLOW and MT3DMS to obtain a remediation cost-extraction tradeoff. The Pareto front thus obtained consists of several optimal solutions to the problem. Sensitivity analyses on some important input parameters have been carried out to account for the effects of variability of these parameters on the model result.

Keywords: groundwater remediation, pump-and-treat, multi-objective optimization, Pareto front.

282-285

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Authors: **K. Dhanaraju, I. Srinu, K. Satyanarayana**

Paper Title: **Performance Improvement of Fuzzy PID Controller Based Process Control System**

Abstract: In this paper proposes an intelligent approach (Fuzzy logic) for the design of PID controller for better disturbance rejection. The proposed PID controller is designed using pessen's tuning algorithm for rejection of different disturbances. The proposed intelligent controller has got so many advantages/features over the conventional methods. Sudden ability to reject non linear disturbances arch occur in the system during operation ,speed of operation and PID gains are altered online in accordance with the disturbances to reject. To show the efficacy of the proposed method a liquid control of process tank is considered and intelligent PID controller is designed .The designed intelligent controller is simulated under different disturbance using MATLAB/Simulink. The results are successfully verified.

Keywords: Fuzzy–PID Controller, Liquid level system, PID Tuning methods MATLAB/ Simulink

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286-291

58.

Authors: **Shreelekshmi R, Sruthi S**

Paper Title: **An Adaptive Video Compression Technique for Resource Constraint Systems**

Abstract: As display devices become more and more vivid, and people demand more perfection in video quality, it is necessary to maintain the natural colors, which is in RGB domain. Because of its huge size, managing videos in RGB color space is not practical. Recent years witnessed a rapid evolution in the area of Video Compression Technology. Most of them use complex algorithms to handle Temporal Redundancy and as a result they are very time consuming. Accordingly, there is a high demand for less complex video compression techniques for handling RGB videos. This paper presents a new RGB video compression technique developed with less time complexity while ensuring an acceptable level of perceptual quality and bandwidth requirements. The proposed system performs Intra-Frame compression for removing Spatial Redundancy followed by Run-Length Encoding and an additional level of bit reduction on the resultant data. This system needs very less processing time, due to the simplicity of techniques used. As compared to the latest and most efficient compression standard HEVC, the proposed system takes much less time for its execution.

292-298

Keywords: Bit-Plane Slicing, Bit-Plane Reduction, Run-Length Encoding

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59.	**Authors:**	**Sreejith S., Sujitha S.**
	Paper Title:	**An Enhanced Approach for Privacy Preservation in Anti-Discrimination Techniques of Data Mining**

Abstract: Data mining is an important area for extracting useful information from large collections of data. There are mainly two threats for individuals whose information is published: privacy and discrimination. Privacy invasion occurs when the values of published sensitive attributes is linked to specific individuals. Discrimination is the unfair or unequal treatment of people based on their membership to a specific category, group or minority. In data mining, decision models are mainly derived on the basis of records stored by means of various data mining methods. But there may be a risk that the extracted knowledge may impose discrimination. Many organizations collect a lot of data also for decision making. The sensitive information of the individual whom the published data relate to, may be revealed, if the data owner publishes the data directly. Hence, discrimination prevention and privacy preservation need to be ensured simultaneously in the decision making process. In this paper, discrimination prevention along with different privacy protection techniques have been proposed and the utility measures have been evaluated.

Keywords: Discriminatory attribute, direct discrimination prevention, indirect discrimination prevention, rule generalization, rule protection, k-anonymity, l- diversity, t-closeness

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Authors: **Safeera N, Chitharanjan K**

Paper Title: **Intelligence Based Electric Vehicle Route Planning System**

Abstract: Now a day's Electric Vehicles (EVs) are popular all over the world. The drift towards electric vehicles is a result of severe environmental problems caused by the Internal Combustion Engine Vehicles (ICVs). EV posses performance weaknesses in case of transportation efficiency, such as low energy density of batteries, scarcity of public charging stops, long waiting and charging time, wastage of energy due to traffic, accident and blocking conditions. EV Routing Problem (EVRP) is relevant in the recent scenario to get the efficient route, assisted by coordinating distance travelled and availability of charging stops. Besides, it incorporates the traffic parameters, blocking conditions and accidents to bring this application in real world logistics. To make EVs as the future of personal transportation and to increase the user's acceptance, these problems should be considered. In congested areas, the concurrent and frequent recharging demands lead to high waiting time at the charging area, thus affecting both charging network and vehicle travel time. In this work, optimal route for the electric vehicles is computed that minimizes the associated cost, which is a combination of travel time, charging time and the energy consumption along the route. Inputs to the route planning system are the distance to be travelled, vehicle speed, states of charge and even sometimes the information about traffic conditions, blocks and accidents. The output of the energy management controller is to provide an optimal route that achieves best performance and overall system efficiency. As the stated problem is non-polynomial, the proposed work uses metaheuristic algorithms for finding an optimal route in a reasonable time. Genetic algorithm(GA) and Particle Swarm Optimization (PSO) are then used to solve the energy efficient routing problem for electric vehicles. These two metaheuristic methods are analyzed and studied and the results and performance of each are then compared and contrasted.

Keywords: EVRP, charging stations, GA, PSO

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60. **308-312**

Authors: **Amol Bansod**

Paper Title: **Efficient Big Data Analysis with Apache Spark in HDFS**

Abstract: With the size of data increasing each day, the traditional methods of data processing have become inefficient and time consuming. Today, Facebook, Google, Twitter are generating Petabytes of data each day. This large amount of data is given the term 'Big Data'. To overcome this inefficiency, the processing of Data can be performed using Apache spark. Apache Spark is a fast, in-memory processing of large amount of data. In this research paper, the author discusses an efficient way of analyzing Big Data stored in Hadoop Distributed File System

61. **313-316**

HDFS using Apache Spark framework, and its advantages over Hadoop MapReduce framework.

Keywords: Big Data, Hadoop MapReduce, Spark

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Authors: **Seena Thomas, Anjali Vijayan**

Paper Title: **Automated Colon Cancer Detection Using Kernel Sparse Representation Based Classifier**

Abstract: Colon cancer causes deaths of about half a million people every year. Common method of its detection is histopathological tissue analysis, which correlated to the tiredness, experience, and workload of the pathologist. Researchers have been working since decades to get rid of manual inspection, and to develop trustworthy systems for detecting colon cancer. Lesion detection can be difficult due to low contrast between lesions and normal anatomical structures. Lesion characterization is also challenging due to similar spatial characteristics between the tumor and abnormal nodes. To tackle this problem, Gabor wavelet filter algorithm is proposed. The detection of cancerous tissue in tissue image is divided into three main stages. The feature extraction and selection using the Gabor algorithm plays a critical role in the performance of the classifier. Higher accuracy of the classifier can be also achieved by the selection of optimum feature set. Features like the time (spatial) and frequency information can be extracted by using t-test algorithm and the tunable kernel size allows it to perform multi-resolution analysis.

Keywords: Feature Extraction and Selection, Graph Cut Segmentation, Gabor Filter.

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317-321

63.

Authors: **Khaja Mahabubullah, Syed Abdul Sattar**

Paper Title: **Optimizing Operational Lifetime in Manet by Network Topology Control Mechanism**

Abstract: Recent developments in mobile networks have gained much importance because of their improved edibility and reduced costs. In addition to device portability MANET does not require a pre-established network arrangement and hence can be easily install in conditions like emergency rescue and disaster management but there are someproblemswhich are inherent to MANET such as hidden and exposed terminal problems. Routing in this kind of network is much more challenging than in conventional network because of their limited bandwidth, limited processing power and restricted hardware resources. More important the Nodes in MANET are mostly operated by battery and the batteries are limited in capacity and sometime it is midcult to replacer re-charge the battery and this reduces the network lifetime. To enhance the operational lifetime of Adhoc network the nodes in the network should use the minimal power during communication and some beneficial energy saving skills must be applied at the hardware level as well as protocol level. In this paper, we have focused our concern on energy conservation technique and proposed a topology control mechanism to enhance the operational life time in MANET our method will consume considerably least possible power while transmitting the packet from source to destination.

Keywords: MANET, NODE, PACKET, PLR, LFTC, COMPOW, LEAR, DEAR, PARO, SPAN.

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Authors: **Ramaprasad P, Shruthi K, Srishti Agarwal, Sanjana Jayaraj, Sowmya K**

Paper Title: **An Experimental Study and Design of A System and App To Measure Pulse Rate**

Abstract: The amalgamation of electronics with healthcare has been an inevitable and positive development that continues to aid people in leading longer and healthier lives. However, one of the major obstacles facing the penetration of these facilities into the third tier cities and villages in India is the cost that these systems entail. The research work aimed to provide a platform for economical and easy access to the usage of such devices. It entails the calculation of pulse rate of human beings using an oximeter probe and interpretation of the results obtained via a mobile application, thereby eliminating the need for expensive interpreters such as ECG machines. Further, information derived from these devices could be used as further health indicators like haemoglobin count and glucose levels. In this paper, the pulse rate is measured using a pulse oximeter probe. The photo detector current signals from the oximeter probe are converted to voltage. The signal is then processed by filtering out noise and by amplification. The microcontroller is responsible for peak detection and calculation of number of peaks in the processed signal. The result in beats per minute is displayed on a user friendly Graphical User Interface along with the interpretation of the reading. The results were then tested for accuracy.

Keywords: Pulse rate measurement, ECG, Oximeter, Microcontroller.

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326-329

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Authors: **Zhivko Kiss'ovski, Vasil Vachkov**

Paper Title: **Model of a Miniature Plasma Antenna**

Abstract: In this work we report results from theoretical modeling of miniature plasma antenna at low gas pressure working at a frequency of 2.45 GHz. The plasma antenna is investigated for the first time as a cylindrical dielectric resonator antenna (DRA) with known electric and magnetic fields on the wall surfaces. The plasma column in a finite length vessel is sustained by azimuthally symmetric surface wave (TM00-mode) and this plasma antenna works as an asymmetrical electrical dipole above the metal plane. The dispersion relation of the surface waves in the plasma column is solved numerically and their wavelength, damping rate and field distribution are obtained. Antenna radiated power depends on the value of the axial component of the electric field on the boundary plasma-air. Results show that the antenna radiation from cylindrical plasma column at low gas pressure is similar to a dielectric resonator antenna.

330-332

Keywords: antenna, dielectric resonator, plasma, surface waves

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Authors:	**Salwa A. Al-agha, Hilal H. Saleh, Rana F. Ghani**
Paper Title:	**Analyze Features Extraction for Audio Signal with Six Emotions Expressions**

Abstract: Audio feature extraction plays an important role in analyzing and characterizing audio content. Auditory scene analysis, content-based retrieval, indexing, and fingerprinting of audio are few of the applications that require efficient feature extraction. The key to extract strong features that characterize the complex nature of audio signals is to identify their discriminatory subspaces. The audio information analysis for emotion recognition generally comprises linguistic and paralinguistic measurements. The linguistic measurement conforms to the rules of the language whereas paralinguistic measurement is the meta-data; i.e. related to how the words are spoken based on variations of pitch, intensity and spectral properties of the audio signal. This paper presents a technique for analyzing the features which extracted from recording audio signals in time domain and frequency domain by using statistical methods.

Keywords: Audio Signals, Audio Feature Analysis, Feature Extraction, Emotion Expression, MFCC, Pitch Extraction

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333-341

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Authors:	**Youssef Saadi, Bouchaib Nassereddine, Soufiane Jounaidi, Abdelkrim Haqiq**
Paper Title:	**VLANs Investigation in IEEE 802.11s Based Wireless Mesh Networks**

Abstract: The virtual local area network (VLAN) technology is a convenient concept to improve the wireless mesh networks performance by eliminating the unnecessary rebroadcasts flooded from stations located outside the mesh BSS. Hundreds or even thousands of stations may be located at a IEEE 802 LAN segment which leads to think about broadcasting cost if such segment is bridged to the wireless mesh BSS. The latter is seen as a single broadcast domain from external networks. Consequently, flooding may hinder the transmission of data frames due the broadcasting storm problems. VLANs is a logical concept that aims to segment a network into different broadcast domains by compartmentalizing users and devices. A bridging solution that carry VLANs traffic along the mesh BSS may reduce the flooding impact on data frames transmission. In this paper, we investigate the VLAN support for IEEE 802.11s. We were motivated by the fact that no specification of VLAN integration has been defined in the draft of IEEE 802.11s.

Keywords: Flooding, IEEE 802.11s, Multicasting, VLAN, Wireless Mesh Network.

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342-347

68.

Authors:	**Abhaya D S, Remya Annie Eapen**
Paper Title:	**Energy Efficient Transmission in Random Clustered Wireless Sensor Networks Using Cooperative MISO**

Abstract: Wireless sensor networks are composed of many wireless sensing devices called sensor nodes. These nodes are small in size, limited in resources and randomly deployed in harsh environment. The replacement or recharging of battery is difficult; therefore energy consumption is necessary for WSN. Employing Multi Input Single Output (MISO) links can improve energy efficiency in Wireless Sensor Networks (WSN). Although a sensor node is likely to be equipped with only one antenna, it is possible to group several sensors to form a virtual MISO link. Such grouping can be formed by means of clustering. Cooperative MISO is considered here which aims at reducing energy consumption in multi hop WSNs. In order to improve the energy efficiency a sleep technique is also considered

Keywords: Random wireless sensor networks, cooperative multi-input-single-output, multi input single output

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348-352

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69.	**Authors:**	**Rustom Mamlook, Omer Fraz Khan**
	Paper Title:	**Advanced Security System using Web Remote**

Abstract: Our paper proposes a design of an Advanced Security System using Web Remote (ASSWR). Our system uses an embedded system module interfaced with an Alarm device. A web Computer Controller for registering and routing the alert signals issued by the monitored devices to multiple monitoring sites was used. Our Embedded system module design was tested using software simulator. The hardware was constructed to simulate a real security system. Web Service was implemented and devices were controlled over World Wide Web Network using windows Forms as well as a Web Application interface. The used Communication channel in our paper is Web Sockets and Http over TCP/IP along with integration of communication within microcontrollers over UART (Universal Asynchronous Receive/Transmitter).

Keywords: Web Remote Security System; Embedded System; Software based security system simulator; Web application for security; Security over Web Sockets and Http.

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