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1.

Authors: Negarullah Naseebullah Khan, Nitesh P. Yelve

Paper Title: Analysis of Crack Propagation in Thin Metal Sheet, Three Point Bend Specimen, and Double Cantilever Beam

Abstract: Fracture Mechanics provides a theory background for failure of material and structures containing cracks. Stress intensity factor (SIF) is a key parameter in crack analysis. Because of the importance of SIF, its solutions for crack under different types of loading have been paid considerable attention. In the present study the SIF is calculated for thin metal sheet and three point bend specimen using finite element (FE) method. For the side crack in thin metal sheet, 2-D model is created in FE to calculate the SIF and this SIF is compared with that obtained by analytical method. For three point bend specimen, 3-D model is created in FE to calculate the SIF and this SIF is then compared with that obtained through experiments in the literature. The effect of thickness on the SIF is also estimated for three point bend specimen.

It is also attempted here to understand crack propagation in layered materials such as composite materials, coated materials, etc. where the individual layers of materials are bonded together. For this purpose, an experiment is conducted on aluminium double cantilever beam (DCB) and results are plotted for load versus displacement. Also the simulation is carried out in FE using cohesive zone modeling (CZM) for the similar aluminium DCB, and the results are compared with these obtained through experiment.

Keywords: Stress intensity factor, three point bend specimen, double cantilever beam, traction separation law, cohesive zone modeling.

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2.

Authors: Rekha S.M, Manoj P.B

Paper Title: Comparing the BER Performance of WiMAX System by Using Different Concatenated Channel Coding Techniques under AWGN, Rayleigh and Rician Fading Channels

Abstract: WiMAX (Worldwide Interoperability for Microwave Access) has the capability to transmit the data to a greater extent with very high speed. Application of forward error correction codes (Reed-Solomon (RS), convolution codes (CC) and Low Density Parity Check codes (LDPC)) with WiMAX system ensures the reliability and efficiency of the system. Concatenated RS-LDPC and RS-CC codes will help to improve the performance of the WiMAX system. In this paper the system performance evaluation is performed by transmitting an image under different fading channels (Additive White Gaussian Noise (AWGN), Rayleigh and Rician). Comparison of two concatenated coding techniques is done by calculating the probability of Bit Error Rate (BER) for various values of Signal to Noise Ratio (SNR). The simulation results show that use of RS-LDPC with WiMAX gives better performance than RS-CC.

Keywords: WiMAX, RS, CC, LDPC, AWGN, Rayleigh, Ricean.

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3.

Authors: **Er. Satwant Kaur, Er.Varinderjit Kaur, Er.Gurpreet Singh**

Paper Title: **Activity Based Data Management in Mobile Environment Using CART and ID3 Data Mining Techniques**

Abstract: Mobile clients feature increasingly sophisticated wirelessnetworking support that enables real-time information exchange with remote databases. Location-dependent queries, such as determining the proximity of stationary objects (e.g., restaurants and gas stations) are an important class of inquiries. We present a novel approach to support nearestneighbor queries from mobile hosts by leveraging the sharing capabilities of wireless ad-hoc networks. We illustrate how previous query results cached in the local storage of neighboring mobile peers can be leveraged to either fully or partially compute and verify spatial queries at a local host. The feasibility and appeal of our technique is illustrated through extensive simulation results that indicate a considerable reduction of the query load on the remote database. Furthermore, the scalability of our approach is excellent because a higher density of mobile hosts increases its effectiveness. Most users in a mobile environment are moving and accessing wireless services for the activities they are currently engaged in. We propose the idea of complex activity for characterizing the continuously [1] changing complex behavior patterns of mobile users. For the purpose of data management, a complex activity is modeled as a sequence of location movement, service requests, the co-occurrence of location and service, or the interleaving of all above. An activity may be composed of subactivities. Different activities may exhibit dependencies that affect user behaviors. We argue that the complex activity concept provides a more precise, rich, and detail description of user behavioral patterns which are invaluable for data management in mobile environments. Proper exploration of user activities has the potential of providing much higher quality and personalized services to individual user at the right place on the right time.

Keywords: mobile environments, CART, ID3, proactive data management, prefetching, pushing

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4.

Authors: **Vinay Kumar.S.B, Mahendra Kumar M.D**

Paper Title: **Testing of Diameter- Based Protocol in the IP Multimedia Subsystem**

Abstract: The Diameter protocol was initially developed by the Internet Engineering Task Force (IETF) as an Authentication, Authorization, and Accounting (AAA) framework intended for applications such as remote network access and IP mobility. Diameter was further embraced by the Third Generation Partnership Project (3GPP) as the key protocol for AAA and mobility management in 3G networks [7]. The paper discusses the use of Diameter in the scope of the IP Multimedia Subsystem (IMS) as specified by 3GPP.In this paper, we present a solution for the problem of how to provide authentication, horization and accounting (AAA) for multi-domain interacting service and also the unit testing is used to test the AAA protocol Diameter.

We have studied the case of 'FoneFreez', a service that provides interaction between different basic services, like telephony and television. Because the involvement of several parties like television provider, telephony provider etc., secure interaction between multiple domains must be assured. A part of this security issue can be resolved using AAA [7].

Keywords: Diameter protocol, IP Multimedia Subsystem, AAA,Testing.

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5.	**Authors:**	**S. K. Mangal, Mukul Kataria, Ashwani Kumar**	
	Paper Title:	**Synthesis of Magneto Rheological Fluid**	
	Abstract: Simplicity and more intelligence in its functionality are key features of the Magneto Rheological Fluid (MRF) technology. This technology is an old "newcomers" coming up rapidly on the research and commercial front. In this paper, Magneto Rheological fluid samples are prepared. In this, silicone oil is used as a carrier fluid and is mixed with micron sized iron particles. In order to reduce the sedimentation, white lithium grease is also mixed as an additive in the fluid sample. An experimental setup consisting of an electrical stirrer with speed control unit is designed and developed and fabricated for preparation of the fluid samples. The observations of the surface morphology of iron particles were carried out using digital scanning electron microscope (SEM). The sedimentation properties are studied by visual inspection. The off-state rheological properties e.g. viscosity and shear stress variation with respect to shear rate of the fluid samples are investigated and are measured with a rotational rheometer. **Keywords:** Off-State Rheology, Magneto Rheological Fluid, Sedimentation, SEM **References:** 1. Rabinow J., "Magnetic Fluid Torque and Force Transmitting", Device, U.S. Patent 1951, USA. 2. M. R. Jolly, J. W. Bender and J. D. Carlson, "Properties and Applications of Commercial Magneto Rheological Fluids", Journal of Intelligent Material Systems and Structures, Vol. 10, No. 1, 1999, 5-13 3. http://www.lord.com/Portals/0/MR/Commercial_MR_Fluid_Devices.pdf. 4. Seval Genç, "Synthesis and Properties of Magneto Rheological (M R) Fluids", Doctor of Philosophy thesis, University of Pittsburgh, 2002. 5. M. A. Golden, J. C. Ulicny, K. S. Snavely and A. L. Smith, "Magneto Rheological Fluids", US Patent 6932917, 2005. 6. P. P. Phulé, "Magneto Rheological Fluid", US Patent 5985168, 1999. 7. J. D. Carlson and K. D. Weiss, "Magneto Rheological Materials Based on Alloy Particles", US Patent 5382373, 1995. 8. R. T. Foister, "Magneto Rheological Fluids", US Patent 5667715, 1997. 9. A. A. Zaman and C. S. Dutcher, "Viscosity of Electrostatically Stabilized Dispersions of Monodispersed, Bimodal, and Trimodal Silica Particles", Journal of the American Ceramic Society, Vol. 89, No. 2, 2006, 422-430. 10. N. M. Wereley, A. Chaudhuri, J. -H. Yoo, S. John, S. Kotha, A. Suggs, R. Radhakrisnan, B. J. Love and T. S. Sudarshan, "Bidisperse Magneto Rheological Fluids using Fe Particles at Nanometer and Micron Scale", Journal of Intelligent Material and Structures, Vol. 17, 2006, 393-401. 11. M.R. Jolly, J.W. Bender, and J.D. Carlson., "Properties and Applications of Commercial Magneto Rheological Fluids", In Proceedings of SPIE 5th International Symposium on Smart Structures and Materials, San Diego, California, 1998 12. S. Elizabeth Premalatha, R. Chokkalingam, M. Mahendran, "Magneto Mechanical Properties of Iron Based M R Fluids", American Journal of Polymer Science 2012. 13. Stuart W. Charles, "The Preparation of Magnetic Fluids", Department of Chemistry, University of Wales, Bangor, Gwynedd LL57 2UW, UK 14. Siaful Amri Bin Mazlan, "The Behavior of Magneto Rheological Fluids in Squeeze Mode", Doctor of Philosophy, School of Mechanical and Manufacturing Engineering, Dublin City University August 2008.	**20-25**
6.	**Authors:**	**A. PushpaLatha,P. KrishnaChaithanya**	
	Paper Title:	**Binary Morphology Operator To Extract Binary Edge Of An Image**	
	Abstract: Mathematical morphology (MM) is a theory and technique for the analysis and processing of geometrical structures, based on set theory, lattice theory, topology, and random functions. MM is most commonly applied to digital images, but it can be employed as well on graphs, surface meshes, solids, and many other spatial structures. If this mathematical morphology is applied to the binary image or itself a gray scale image then that is called the binary morphology. Digital image Processing is one of the basic and important tool in the image processing and computer vision. In this paper we discuss about the extraction of a digital image edge using different digital image processing techniques. Edge detection is the most common technique for detecting discontinuities in intensity values. The input image or actual image may have some noise that may cause the quality of the digital image. Firstly, wavelet transform is used to remove noises from the image collected. Secondly, some edge detection operators such as Differential edge detection, Log edge detection, canny edge detection and Binary morphology are analyzed. And then according to the simulation results, the advantages and disadvantages of these edge detection operators are compared. It is shown that the Binary morphology operator can obtain better edge feature. Finally, in order to gain clear and integral image profile, the method of ordering closed is given. After experimentation, edge detection method proposed in this paper is feasible. **Keywords:** DigitalImageEdge detection, wavelet de-noising, differential operators, and binary morphology. **References:** 1. Lei Lichen, Discussion of digital image edge detection method, mappingavis, 2006, 3:40-42. 2. Lai Hague, etc, "Image processing and analysis based on MATLAB", Beijing: Defense Industry Publication, 2007, 4. 3. Ma Yan, and Zhang Zhou, Several edge detection operators'compilation, Industry and mining automation, 2004, (1): 54-56. 4. Ago Cheng, and Lai Zhiguoetc, Image analysis and application based on MATLAB, Beijing: Publishing House of National defense industry, 2007, 4: 133-175. 5. Wang Zhengyao, Edge detection of digital image [Master paper], Xi'an: Xi'an Jiao tong University, 2003. 6. Heung-So Kim and Jung-Hwan Kim. A two-step detection algorithm from the intersecting chords. Pattern Recognition Letters. 2001, 22:787-798. 7. Canny J F. A computational approach to edge detection [J]. IEEE Trans on PAMI, 1985, 8(6): 679-698. 8. Nick Efford. Digital Image Processing: A Practical Introduction Using JavaTM. Pearson Education, 2000.	**26-30**
7.	**Authors:**	**R.Mahalakshmi, V.Lakshmi Praba**	
	Paper Title:	**A Relative Study on Search Results Clustering Algorithms - K-means, Suffix Tree and LINGO**	
	Abstract: The performance of the web search engines could be improved by properly clustering the search result		**31-35**

documents.. Most of the users are not able to give the appropriate query to get what exactly they wanted to retrieve. So the search engine will retrieve a massive list of data , which are ranked by the page rank algorithm(7) or relevancy algorithm or human judgment algorithm. The user will always find himself with the unrelated information related to the search due to the ambiguity in the query by the user. Evaluating the performance of a clustering algorithm is not as trivial as counting the number of errors or the precision and recall of a supervised classification algorithm In this paper a comparative analysis is done on three common search results of clustering algorithms to study the performance enhancement in the web search engine. If we effectively organize the web documents through the proper means of clustering techniques, we could definitely increase the performance of the search engines ..
A systematic evaluation of the three clustering algorithms viz., Suffix tree clustering Lingo, and K-Means using multiple test collections and evaluation measures . It turns out that STC works well, when one wants to get a quick overview of documents relevant to distinct subtopics, whereas clustering is more useful when one is interested in retrieving multiple documents relevant to each subtopic.

Keywords: Keywords: Information retrieval,Search engines, clustering, STC, Lingo, K-Means.

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19. ClusteringWeb-Search Results Using Transduction-Based Relevance ModelLurong Xiao and Edward Hung Department of Computing, The Hong Kong Polytechnic University, Hong Kong fcslxiao,csehungg@comp.polyu.edu.hk
20. Design Trade-Offs for Search Engine Caching RICARDO BAEZA-YATES, ARISTIDES GIONIS, FLAVIO P. JUNQUEIRA, VANESSA MURDOCK, and VASSILIS PLACHOURAS Yahoo! Research and FABRIZIO SILVESTRI ISTI – CNRACM Transactions on the Web, Vol. 2, No. 4, Article 20, Publication date: October 2008.
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8.

Authors: **M. A. Fouad, T. M. Zewail, N. K. Amine, Y.A. El-Taweel**

Paper Title: **Mass Transfer Study of a Single Phase Flow Accelerated Corrosion (FAC) in 90° Copper Elbow**

Abstract: ***Single phase FAC of 90° copper elbow in acidified dichromate has been investigated in relation to the following parameters: acid concentration, solution velocity, temperature and elbow radius to pipe diameter ratio. The rate of FAC was expressed in terms of mass transfer coefficient. The results showed that the mass transfer coefficient increases as solution velocity increases. Whereas the mass transfer coefficient decreases as the elbow radius to pipe diameter ratio increases. The effect of the acid concentration on the mass transfer coefficient varies according to the range of acid concentration considered. Activation energy calculation revealed partial controlled reaction kinetics at high acid concentration. The present mass transfer data for flow inside 90° copper elbows has been correlated by the equations:***

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$$Sh = 1.2\,\mathrm{Re}^{0.44}\,Sc^{0.33}\left(\frac{r}{d}\right)^{-2} \qquad 678 < Sc < 767$$

$$Sh = 5.2\,\mathrm{Re}^{0.44}\,Sc^{0.33}\left(\frac{r}{d}\right)^{-2} \qquad Sc = 845$$

The importance of these equations in the prediction of mass transfer coefficient in 90^0 copper elbows is highlighted.

Keywords: erosion corrosion, Flow accelerated corrosion, mass transfer coefficient, stainless steel, 90° copper elbow.

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9.

Authors:	**Ritu Aggarwal**
Paper Title:	**Security on Dynamic Source Routing Protocol Using Onion Routing Encryption**

Abstract: Security in mobile ad hoc networks (MANET) is difficult to achieve, notably because of the vulnerability of wireless links, the limited physical protection of nodes, the dynamically changing topology, the absence of a certification authority, and the lack of a centralized monitoring or management point. In this paper, we embed an efficient asymmetric encryption strategy to protect and ensure anonymity for source routes when employing a source routing protocol. The base protocol used for source routing is DSR and to prevent DoS attack which occurs by modifying source route an onion based asymmetric key approach is embedded.

Keywords: DSR, DOS Attack, MANET, Onion.

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Authors:	**Ajita Singh, Jayesh Gangrade**
Paper Title:	**An Iris Feature Extraction Using 2D-Dual Tree Complex Wavelet Transform**

Abstract: This paper presents an iris recognition system consists of an automatic segmentation system that is based on the 2D-Dual tree complex wavelet transform(2D-CWT), and is able to localize the circular iris and pupil region, occluding eyelids and eyelashes, and reflections. The extracted iris region was then normalized into a rectangular block with constant dimensions to account for imaging inconsistencies. Finally, the data was extracted and quantized to four levels to encode the unique pattern of the iris into a bit-wise biometric template. The K-nearest

neighbor technique was employed for classification of iris templates. The obtained experimental results showed that the proposed approach enhanced the classification accuracy. Iris verification is shown to be a reliable and accurate biometric technology.

Keywords: iris recognition; Dual-Tree Complex Wavelet Transform ; biometrics.

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Authors: **Jianguo Liang, Hiroyuki Narahara, Hiroshi Koresawa, Hiroshi Suzuki**

Paper Title: **Automatic Design of Cooling Channels for Block Laminated Molds: A Resolution Study**

Abstract: This study discusses a method for the automatic design of injection-mold cooling channels using genetic algorithms (GA), the finite element method (FEM), and an evaluation function based on unsteady state heat transfer and linear static deformation. The uniformity of cooling and the deformation effect of the automatically designed cooling channel in the injection mold were examined through case studies based on numerical analysis. The genetic algorithm was applied in the following steps: generation of finite elements of individuals expressing different cooling channel shapes, the definition of the fitness function to evaluate individuals, the genetic operation for individuals, and modification to the automatically generated cooling channel shape. Finally, the automatically generated shape of the cooling channel is discussed and compared with manually designed cooling channels.

Keywords: Cooling channel, Automatic design, Block laminated mold, Rapid prototyping, Laser sintering

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12.

Authors: **Dwarka Prasad, H.C.Sharma**

Paper Title: **Design of Grounding System for High Voltage Substations**

Abstract: The design of grounding system for high voltage substation is a challenging task. In any substation, a well designed grounding system plays an extremely vital role. Grounding system must be safe as it is directly concerned with safety of persons working within the substation. The ground resistance, grid resistance, ground potential rise, step and touch voltage criteria for safety, maximum grid current, minimum conductor size, electrode

size, maximum fault current level and soil resistivity are the basic design quantities of the grounding grid system. In this paper the design of grounding system for 220 KV high voltage substations and simulation for calculation of required parameters has been presented. A careful analysis was carried out in order to obtain the magnitude of total fault current that may occur in the substation. Soil resistivity is a major factor influencing substation grid design. Therefore, a resistivity investigation and analysis was carried out in order to obtain accurate design results. All necessary parameters were computed and assumptions were made using the relevant formulas. It has also been tried to reduce the grid resistance as well as ground potential rise by selecting the proper horizontal conductor size and addition of ground rods. A step by step procedure for the essential design considerations has been considered. Finally, simulations were carried out using software known as ETAP Software for verification of the design. The method proposed for substation grounding is in accordance with IEEE Std 80-2000.

Keywords: Etap Software, Grounding Grid, Substation Design, Step and Touch Voltage.

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Authors:	**Aparna.P**
Paper Title:	**Leakage Reduction in WDR Image Sensors with Halftone Pixels**

Abstract: Leakage reduction plays an important role in power consumption in many of the systems like image sensors. Adaptive bulk biasing control scheme is used to reduce the leakage during the standby mode of operation in the systems. Advanced WDR image sensors used to take images especially in situations where the light enters a premise from different angles, i.e. where both the dark and bright areas are there in the camera field of view that provides continuous tone images. Every pixel is to be converted in to halftone pixels in any of the conventional press, in order to print the image. Here a halftone pixel is generated using Floyd-Steinberg algorithm. The adaptive bulk biasing control scheme provides 21% power reduction as compared to any other standard systems.

Keywords: Continuous Tone Image, Halftoning, WDR image sensors, Adaptive Bulk Biasing Control, Leakage Reduction, Halftone Pixels

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Authors: **Anjali Sharma, Alpna Singh**

Paper Title: **Performance Based Survey of Routing Protocol in MANET**

Abstract: Ad hoc network communication is one of the popular areas of research area in these days. The Mobile Ad-hoc Networks (MANET) is an infrastructure less network consisting of mobile nodes. MANET is a self configuring network and the topology of the network keeps on changing as the nodes move randomly and organize themselves in an arbitrarily manner. Routing is the one of the important factor to recognize the network performance. Routing mechanism will adaptively select routes using minimum cost routing and reputation routing schemes based on network condition to keep the network lifetime and maintain the ratio of successfully delivered packets. Many of the routing protocols are be present in MANET but which one is best for routing are measurable by many authors that has work on to measure the performance of routing protocol. In this paper we presents the survey of routing protocol to identified which kind of work is done in this field to improve and the performance of routing protocol.

Keywords: Mobile ad hoc networks, survey, routing protocols.

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Authors:	**Achal Badgujar, Swati Nikam**
Paper Title:	**A Novel Channel Assignment Protocol for Uncoordinated WLANS**

Abstract: Nowadays due to easily available hardware and availability of unlicensed frequency spectrum the use of WLANS has increased tremendously. Such WLANS are set up by untrained system administrators with no topology planning. The Access Points are also placed haphazardly. The performance of such Uncoordinated WLANs is greatly affected due to availability of limited number of non-overlapping channels. The cognitive radio provides the clients to make use of free channels from licensed spectrum when they are not in use by primary users. Thus in cognitive environment more channels are available to the clients. This paper describes a novel channel assignment scheme for cognitive radios.

Keywords: Uncoordinated WLANS, Channel Assignment, Cognitive Radio, Throughput.

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Authors:	**K.S.Jeen Marseline, C.Meena**
Paper Title:	**Enhanced Image Fusion Algorithm with Neural Networks for Sonar Images**

Abstract: This paper proposes a simple neural network based image fusion algorithm. Image fusion is defined as a process where a new image is constructed by integrating complementary, multi-temporal or multi-view information from a set of source images. Particle swarm Optimization (PSO) is used to find out the optimal size of the blocks to be fused. A detailed experimentation is done with different performance metrics for different set of images. We have compared the results and the proposed method outperforms the existing methods visually as well as quantitatively.

Keywords: PSO, optimal, multi-temporal, multi-view.

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17.

Authors:	**Aatish Kumar, R.K. Pandey, C.S. Mishra**
Paper Title:	**Wind Effects on Overhead Tank under Different Soil Parameters**

Abstract: Large capacity elevated Intze tanks are used to store a variety of liquids, e.g. water for drinking and fire fighting, petroleum, chemicals, and liquefied natural gas. A water tank is used to store to tide over the daily requirements. Intze tank is a type of elevated water tank supported on staging. Intze tank is defined as bottom portion of circular tank is provided in flat shape, so in flat bottom, the thickness and reinforcement is found to be heavy. It is found in analysis that the bearing capacity increases for the same wind speed volume of concrete and quantity of steel both are decreased. Also, We have seen that in case of bearing capacity of soil 5 t/m2 and 10 t/m2 volume of concrete and quantity of steel are so high as compared to other.

Keywords: C++ programs, Intze tank, Over Head Tank, Soil Parameter, Wind Effect

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Authors:	**Tharinda Nishantha Vidanagama, Hidenori Nakazato**
Paper Title:	**Mobility in Name-Based Home Ad Hoc Networks**

Abstract: Wireless mobile ad hoc networks can be used as a means to ease and support life in an ordinary house. As future home appliances will have many useful built-in functions, a communication net¬work that allows a user to access these built-in functions and to control the appliances is highly desirable. This paper proposes algorithms for clustering and message routing to manage mobility in a name-based home ad hoc network. The nodes are given names such as "living room TV", "kitchen oven", etc. for identification. This paper discusses the performance of three routing schemes for communication of nodes with mobility. The proposed algorithms handle mobility efficiently while ensuring a high accuracy on message delivery with a low number of control messages.

Keywords: Ad hoc network, Name-Based addressing and routing, clus¬ter, routing cache, mobility.

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19.

Authors: **Rupan Preet Kaur, Ravinder Singh Sawhney, Harpinder Kaur**

Paper Title: **Anatomizing Quantum Transport in Molecular Junctions with Cyanide and its Isomer as Anchors**

Abstract: The electrical properties of SAMs on gold surface with different alligator clips at each ends were explored for an anthracene molecule. We probed charge transport characteristics of anthracene with two different anchor groups- Cyanide and its isomer Isocyanide attached to anthracene at each side and sandwiched between two gold electrodes. Through I-V Curves, conductance-voltage curves, differential conductance-voltage curves and transmission spectrum, we found that anthracene-cyanol-isocyanol (ACI) exhibited highest current, conductance and transmissions whereas anthracenedisocyanol (ADC) exhibited least current, conductance and transmissions. This highest conduction of ACI was on account of very strong bonding between gold electrodes and corresponding –CN anchor group whereas lowest conduction of ADC was because of weaker bonding between gold electrodes and –NC anchor group. The conduction exhibited by gold-CN bond and gold-S bond was found to be similar hence concluding that both these bonds (Au-CN and Au-S) have approximately similar strength.

Keywords: Nanoscale, Alligator Clips, HOMO, LUMO, Isomer.

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Authors: **Vaishali V.Ingle, Mahendra A. Gaikwad**

Paper Title: **Mesh Topology of NoC Architecture Using Source Routing Algorithm**

Abstract: NoC i.e. Network –on- Chip is one of today's emerging technology which has spread very fast to meet today's need of fast communication. Few years back the communication was based on the bus addressing but as the number of components increased to gain and achieve higher improving or modified techniques; System –on-Board (SoB) transformed to System –on-Chip (SoC) which was further transformed to NoC. In this paper, we have used West-First routing algorithm as strategy of Source routing in 2D Mesh Topology of NoC Architecture using NIRGAM Simulator with Bursty Traffic.

Keywords: Bursty traffic, Mesh Topology, Network-on-Chip, Source Routing Algorithm, West-First Routing Algorithm

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21.

Authors: **Ganapathi Bhat, Y.S.Sidde Gowda**

Paper Title: **Safety Management System of Construction Activities in AUE Infrastructure Project**

Abstract: Accidents are a major public health concern, resulting in an estimated 1.2 million deaths and 50 million injuries worldwide each year. UAE in particular experiences a high rate of such accidents. Research on road safety has been conducted for several years, yet many issues still remain undisclosed and unsolved. Specifically, the relationships between drivers' characteristics and road accidents are not fully understood. In this work, we started by collecting a dataset between 2011 and 2013 for construction sites. The accident occurs in the period of 2011 to 2013 cause more equipment damage in the construction site or in store/workshop. The comparison data from 2011 to 2013 shows that the incident rate decrease from 80% to 10 % due to the proper monitory from the higher authorities of the concern department in UAE.

Keywords: Accident, Health, Safety, Construction sites, workshop.

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22.

Authors:	**Naoufel Kraiem, Imen Boudich, Zuhoor Al Khanjari, Yassine Jamoussi**
Paper Title:	**Managing Variability in Model Transformations for Model-Driven Product Lines**

Abstract: The model-driven engineering is a theme in full expansion in both the academic and industrial world. It is a generative form of engineering in which all or part of an application is generated from templates. In this article, we studied the contribution of Model Driven Engineering (MDE) in the field of management of variability in Software Product Lines (SLPs). Indeed, the goal of software product lines is to minimize the cost of developing software in a particular application domain. This minimization is due to the design of reusable elements and not to the development of each program separately. We consider an approach to model-driven engineering and engineering fields (Product Lines) as two generative approaches that aim to automate the software development. Our goal is to create an approach for handling product lines using MDE.

Keywords: Model Driven Engineering, Software Product Line, Variability.

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Authors: **Anupam Kumar Yadav, V.K Pandey, Shubhi Agarwal**

Paper Title: **Slotted Dumbbell Shaped Microstrip Patch Antenna for Wi-Max Frequency Band of 3.4-3.69 GHZ**

Abstract: This article presents a design for Rectangular microstrip patch antenna by cutting dumbbell shaped slot in the rectanglar patch.Using probe feeding technique we have found the optimum feed point giving desired results.The electromagnetic simulation of the proposed antenna has been carried out using IE3D software which work on principle of Method of Moment. Return loss, VSWR, antenna efficiency and radiation pattern etc can be evaluated for given design.

Keywords: Dumbell slotted microstrip patch antenna for wimax, return loss, VSWR, antenna efficiency.

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Authors: **Annasaro Vijendran, N.R.Suganya**

Paper Title: **Automated Test Case Generation Based on Event-Oriented and Aspect-Oriented Programming Sequence with Error Detection Technique**

Abstract: Error Detection holds a very important role in software testing process. By the test case runs it provides developers by means to quantify of how well their source code is being exercised. By detecting errors/bugs in the code it estimates the effectiveness of the test. We must implement a methodical way and support the theoretical bases for testing the programs with the purpose of performing effective software testing and error detection. In our study we use the crossword application where we automatically make test cases and systematically discover the impact of context, as captured by criterion functions which we described in our source code. Our studying demonstrates that by increasing the event combinations tested and by organizing the comparative positions of events defined by the new criteria, we can become aware of a large number of faults that were undetectable by earlier techniques. In this paper we are implementing the event based test case generation and aspect oriented test case generation. The experimental result shows that our proposed work test case generation process providing better error detection when compared with the existing work. In this paper we are implementing the event based and aspect based test case generation.

Keywords: Aspect Oriented Testing, Automated Testing, Error Detection, Event Oriented Testing, Test Case Generation, Testing Process.

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Authors: **Nishit Bedi**

	Paper Title:	**Heat Transfer at Microscales – Accomplishments and Oppurtunities**	
	Abstract: The need for high removal of heat transfer rates yet lowering the dimensions demands for development of micro cooling techniques. In this regard many papers have been published in the recent past covering understanding the boiling mechanism, the effects of dimensions on flow boiling and attempt to enhance heat transfer. This paper presents the roadmap to cooling, difference between the conventional and the microchannels and the considerations which can affect the results significantly. Suggestions for efforts in specific areas in this field are also provided **Keywords:** Heat transfer, Scaling effects, Boiling, Microchannel. **References:** 1. S.G.Kandlikar, "Scale effects on flow boiling heat transfer in microchannels: A fundamental perspective" International Journal of Thermal Science, vol. 49, pp. 1073 – 1085, 2010. 2. 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26.	**Authors:**	**Lakshmi.B, P.Srinivasulu**	
	Paper Title:	**Mems 3-Axis Accelerometer Based Black Box for Fragile Package Damage Identification**	
	Abstract: The main aim of this project is to develop a MEMS 3-AXIS ACCELEROMETER BASED BLACK BOX for fragile package damage identification monitoring. The system consists of cooperative components of an accelerometer, micro controller unit and Gps module .in the time of crash, at user end when the package is found damaged due to transport the details of its damage can be determined using this black box. The system is compact and easy to install in the package and consume low power. The system has been tested in real world cargo applications. The test results show that it can display the UTC Time, latitude and longitude with high accuracy.	**132-134**

Keywords: 3-Axis Accelerometer, Black box, fragile package, GPS tracking system, Micro Electro Mechanical Systems,

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Authors:	**Asma Abd Elhameed Hussein, Nasir Shafiq, Muhd Fadhil Nuruddin**	
Paper Title:	**A Comprehensive Experimental Study on the Performance of Fly Ash concrete**	

Abstract: In this study, the effect of fly ash on concrete workability, compressive strength, splitting tensile strength and bond strength was investigated. The ordinary Portland cement was replaced with 5 to 50% fly ash, it was observed that 10 % fly ash showed the highest compressive strength at all ages, use of 15%-30% fly ash significantly increased the compressive strength at 90 and 180 days. The fly ash improved the bond strength of concrete at all replacement levels. It was concluded that 10%FA and 15%FA were the optimum replacement levels for all the investigated properties.

Keywords: Fly Ash, workability, Compressive Strength, Splitting Tensile Strength, Bond strength, Pull out test.

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Authors: **Anurag Sharma**

Paper Title: **Retreading of Tyres**

Abstract: Tyre is made up of natural rubber or synthetic rubber.natural rubber is present as milky liquid or latex in the bark of rubber tree, HEVEA BRASILIENSIS. Natural rubber combines with carbon, oil, sulfur and the chemicals under goes a number of stages of processes. synthetic rubber polymers found in crude oil by retreading tyre we are doing a good job which is in favor of Natural resources. We are also reducing our dependency on Natural rubber trees. It also gives good utility an opportunity for the growing of small scale and large scale retreading units or workshops. In India mostly commercial vehicles tyres are retreaded. State Govt. , Delhi Govt., Central Govt. Bus services departments etc. also retreaded their vehicles tyres. Pvt. tour operators and commercial vehicles also retreaded tyres. if one wants to set his own retreading unit then it is also profitable business activity. This paper presents all these aspects.

Keywords: Retreading, buffing, vulcanization, curing

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29.

Authors: **Rakhi A. Kalantri, D.K. Chitre**

Paper Title: **Automatic Wheelchair using Gesture Recognition**

Abstract: The needs of many individuals with disabilities can be satisfied with traditional manual or powered wheelchairs, a segment of the disabled community finds it difficult or impossible to use wheelchairs. There is extensive research on computer-controlled chairs where sensors and intelligent control algorithms have been used to minimize the level of human intervention. This project describes a wheelchair for physically disabled people. Our goal is to design and develop a system that allows the user to robustly interact with the wheelchair at different levels of the control and sensing. A dependent-user recognition using Head movements and infrared sensor integrated with wheelchair. A wheelchair can be driven using acceleration sensor and Head Movements with the possibility of avoiding obstacles.

Our project Automatic wheelchair basically works on the principle of acceleration, one acceleration sensor, provides two axis, acceleration sensors whose output varies according to acceleration applied to it, by applying simple formula we calculate the amount of tilt & output of tilt will decide to move in which direction. Sensor gives x-axis & y-axis o/p independently which is fed to ADC & then µC & depending on the pulse width it decides to move or not. On chair Obstacle sensors will be installed. Total 4 sensors will be installed for detection of wall/obstacle in the forward, backward, left & right direction. We are trying to build a controlled wheelchair; the system will understand and obeys natural language motion commands such as "Take a right." Various technologies are used for developing such a system.

Keywords: AT89C51 microcontroller MAX232 for protocol conversion, acceleration sensor L293D driver IC, 12v DC power supply, Serial cable, Kiel uv3 for Embedded 'C' programming

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Authors: **G.Yedukondalu, J.Suresh Kumar, A.Srinath, V. Naga Venkatesh**

Paper Title: **Dynamic Analysis and Optimization of Delta Parallel Robot for Chest Compression Task**

Abstract: Chest compression task in the process of Cardiopulmonary resuscitation (CPR) has been a very important requirement for the purpose of rescue of patients in emergency. Resuscitation (CPR) is presented in this paper. According to the requirements of CPR action from medical viewpoints, a new parallel manipulator employing the architecture of Delta parallel robot is designed, which utilizes an optimization methodology for such applications.

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In this paper, the dynamic analysis and optimization of Delta parallel manipulator is carried out in details. The results clearly illustrate the optimization of the delta parallel robot to assist in CPR operation.

Keywords: Chest Compression, Medical Robot, Parallel Manipulator, Dynamic Analysis, Optimization.

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31.

Authors: **Ankur Chourasia, Akhilesh Singh Thakur, Vibha Tiwari**

Paper Title: **A Watershed Segmentation Process based on Progressive Median Filtering & Gradient Map**

Abstract: In this paper, we present a digital image segmentation algorithm that is effective and offers robustness while minimizing the over segmentation issues. The proposed algorithm is designed to use the combination of Median-filtering, soft thresholding and watershed segmentation method, and sobel gradient map was used to perform image segmentation and edge detection tasks. In brief, median filter is performed on the image to limit the problem of undesirable over-segmentation results produced by the watershed algorithm. Soft thresholding is carried based on the region's maximum value to obtain binary segments of various classes to boast the watershed algorithm performance. The gradient map is created based on the edge strength of the image using sobel operators. In addition, the simulations results reveal that the proposed system offers improved segmentation results in comparison with the regular watershed algorithms.

Keywords: Watershed algorithm, segmentation, media filter, sobel operator, morphological operation.

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Authors: **Vikas Kumar**

Paper Title: **Survey Paper on Cloud Computing**

Abstract: Cloud computing has recently emerged as a new paradigm for hosting and delivering services over the Inter- net. Cloud computing is attractive to business owners as it eliminates the requirement for users to plan ahead for provisioning, and allows enterprises to start from the small and increase resources only when there is a rise in service demand. However, despite the fact that cloud computing offers huge opportunities to the IT industry, the

development of cloud computing technology is currently at its infancy, with many issues still to be addressed. In this paper, we present a survey of cloud computing, highlighting its key concepts, architectural principles, and state of the art implementation as well as research challenges. The aim of this paper is to provide a better understanding of the design challenges of cloud computing and identify important research directions in this increasingly important area.

Keywords: despite the fact that cloud computing offers huge opportunities to the IT industry

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Authors: **Onur Yemenici, Ali Sakin**

Paper Title: **Numerical Investigation of Heat Transfer for Laminar and Turbulent Flow over Ribbed Walls**

Abstract: A numerical investigation is conducted flows over heated ribbed walls under the effect of the Reynolds number and rib height. Laminar and turbulent flow with constant thermophysical properties is assumed for air at two values of the initial streamwise Reynolds number of 2.7x105 and 3.4x106. The finite- volume-method is employed to solve the governing equations, coupled with the k─□ turbulence model with near-wall treatment. The results indicate that the presence of the ribs can effectively enhance the heat transfer. The heat transfer enhancement increased rib height and become more pronounced in laminar than that of turbulent flows.

Keywords: Heat transfer enhancement, flow separation, ribbed wall, laminar flow, turbulent flow

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34.

Authors: **K N Pushpalatha, A K Gautham, Satish S B, Sabyasachi Pattnaik**

Paper Title: **Efficient Fusion based Directional and Textural features for Signature Verification**

Abstract: Biometric signature verification, nowadays an important technique to recognize human identity. The accuracy of signature verification has lot of scope for improvement. In this paper, we propose an offline signature verification using fusion of Directional and Textural features. The Image is preprocessed and divided into sub-bands by applying DWT. The Directional features- Gradient, Coherence, Orientation and Textural features- correlation, energy and homogeneity are computed from the sub-bands and concatenated to form feature vector. The Feed Forward ANN tool in MATLAB is used for classification and verification. The results of False Rejection Rate (FAR), False Acceptance Rate (FAR) and Total Success Rate (TSR) are obtained for GPDS-960 database. A total of 204 images are used for training and testing. It is observed that the values of FRR, FAR and TSR are improved compared to the existing algorithms.

Keywords: ANN, Biometric, Coherence, DWT, Textural features.

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conference, 2013, pp 1065-1069.

35.

Authors: **Emad S. Ahmed, Hanan J. Abdulkareem**

Paper Title: **Design of Dual Mode SIR Band pass Filter for Wireless Communication Applications**

Abstract: In this paper, a new design of microstrip dual-mode bandpass filter using stepped impedance resonators (SIRs) is introduced. The filter consists of a two coupled SIR resonators with a 50 ohm impedance port. The presented dual-mode filter works at 2.4 GHz and 2.89 GHz for industrial, scientific and medical (ISM), closed circuit television (CCTV) and wireless local area networks (WLANs). The filter is designed and simulated using commercial electromagnetic simulator CST microwave studio 2009. The return losses of the filter at the operating frequencies are -32.469 dB and -26.18 dB respectively. The filter shows good insertion losses of 0.37 and 0.24 dB within the operating bands and a good out-of- band rejection more than 25 dB.

Keywords: Dual-mode filter, stepped-impedance resonators, wireless local area network

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36.

Authors: **Emad S. Ahmed, Maalim Qasim Mohammed**

Paper Title: **A Novel Compact Size Dual Notched Bands UWB Elliptical Monopole Antenna**

Abstract: In this paper, a new compact ultra-wideband printed elliptical monopole antenna is presented. The proposed antenna operates over a wideband from 2.85 to 15.4 GHz for voltage standing wave ratio (VSWR) less than two. Two modifications are introduced to enhance the frequency-impedance characteristic of the presented elliptical monopole antenna. The first one is to chamfer the edges of the ground plane with 45°angle. The second modification is to use asymmetrical in length finite ground planes. By utilizing a symmetrical L-shaped slot and an inverted U-shaped slot embedded in the radiating patch and feed line respectively, a dual band notched characteristic were achieved. These bands are 3-4 GHz and 5-6 GHz used for WiMAX and WLAN operations. The center frequency and the width of the notch bands are adjusted by varying the length and the width of the slots. The antenna shows omnidirectional radiation pattern characteristics with acceptable gain. Compared with other recently proposed dual band notch antennas, the proposed antenna exhibits advantages of a compact size, simple structure, wide bandwidth and good band-notch characteristic. The simulation results are obtained and optimized using a commercial electromagnetic simulator CST Microwave Studio.

Keywords: Ultra wideband, CPW-fed UWB antenna, band-notched characteristics.

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37.

Authors: **Kunal Patel**

Paper Title: **Effect of Lightning on Building and Its Protection Measures**

Abstract: A lightning strike can cause significant structural damage to a building. It can lead damage to machinery and equipment, both inside and outside the building and may result in harm to people. This paper presents a review of lightning protection principles and set out a methodology to be followed to provide a total solution to both the direct and indirect effects of a lightning strike.

Keywords: lightning, effect, protection.

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38.

Authors: **Yogita Gupta, Ramandeep Kamboj, Jang Bahadur Singh**

Paper Title: **To Investigate the Effect in Loss Reduction by Optimum Size of DG Using BFO**

Abstract: Distribution system has to meet the demands and to secure sufficient power for all the consumers. This can be achieved by increasing the more number of power units. Distribution generation (DG) causes reduction in power losses, enhances power profile, decreases the cost of generation and also delays the deferring of existing substations. Therefore the future of power generation will be DG. DG at one point can provide solution to the growing problems of the power system and at the other hand they can lead to many problems of the power system. Therefore DG comes with both opportunities and challenges. The advantage and disadvantage of implementing DG in the distribution network depend upon the size and allocation of DG in the distribution system. DGs are of different capacities and are divided into micro, small, medium, and large. Location and size of DG are the two main concerns in installation of DG in the system. In this paper, investigation is done on optimal size of DG in order to obtain minimum losses.

Keywords: BFOA, DG, Newton-Raphson method, DG installation cost.

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	Authors:	**Hamed Sepahvand, Soghra Raisi**
	Paper Title:	**Improving the Response of a DC/DC Converter by Providing a New Structure for Embedded Schottky Diode**

Abstract: Paper In this paper, a new schottky diode with high speed switching is presented. Reverse recovery current and reverse recovery time are two parameters to determine the switching speed of power diodes. If a method could control the depletion of majority carriers in cut off time, it can enhance the switching speed. In this work, some islands, with non-similar type to bulk, are implemented in the bulk of the diode. These islands can gather and recombine the abandon majority carriers. So, the reverse recovery current can be limit by this way. To test this structure a simple fast schottky diode is applied in a DC/DC converter. The simulations are done in Silvaco software.

Keywords: Schottky diode, Reverse recovery, DC/DC converter, Recombination.

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	Authors:	**B.Sreenivasa Raju, M.Lokesh**
	Paper Title:	**A Simplified Svpwm for Five Level Inverter with DC-Link Balancing**

Abstract: The objective this paper presents a five level & three-level inverter topology for induction motor loads with dc link voltage stabilization. Presently diode-clamped inverter was used and it is also known as neutral point clamped (NPC) inverter is most favorable among various multilevel configurations. DC-link unbalance may overstress the capacitors and devices during a sudden regenerative load increase, and it can also cause nuisance over voltage or under voltage trips. A space vector based PWM scheme is proposed for power circuit configuration to have the dc link voltage balancing. This PWM scheme requires only instantaneous phase reference voltages for its implementation in the full modulation range. A SVPWM technique is also used to reduce the switching losses. In complete modulation range & power factor the capacitor voltage stabilization at the input side of the inverter is obtained. An open loop control scheme is presented, which uses only availability redundant switching states to obtain three-level inverter DC-link balancing & the current flow model of the five-level inverter to obtain the DC-link balancing. This proposed three-level inverter & five- level inverter SVPWM scheme is studied through MATLAB simulations

Keywords: DC- link balance, Multilevel Inverter, SVPWM.

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41.

Authors: **Bindu Kumar Karthikeyan**

Paper Title: **Numerical Modelling and Experimental Validation of a Vertical Spindle Model**

Abstract: Numerical modelling of a vertical spindle is presented. Numerical model is assumed to have five degrees of freedom. The results obtained from the numerical modelling are used to verify with the spectra obtained from experiments. The experiments are done in a high speed high precision router spindle running at 25,000 rpm, employing high quality ceramic bearings. Fine measurement of spindle vibration characteristics is carried out using laser vibrometry. The comparison of the results shows close match. The validated model then provides contact loads which are used for elastohydrodynamic analysis of grease lubricated contacts

Keywords: Precision high speed spindles, Numerical modelling of spindle, laser vibrometry

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42.

Authors: **Anupama A Chavan, Vijay Kumar Verma**

Paper Title: **Functional Dependency Mining form Relational Database: A Survey**

Abstract: Data Mining represents the process of extracting interesting and previously unknown knowledge from data. Functional dependency plays a key role in database normalization. Normalization is process of rectifying database design to make sure that undesirable characteristics do not exist. To discover functional dependencies (FDs) from an existing relation instance is an important technique in data mining and database design. Functional dependencies are relationships between attribute of a database relation, a functional dependency state that the value of an attribute is uniquely determined by the values of some other attributes [5]. Functional dependency plays a key role in database normalization. Discovering FDs can also help a database designer to decompose a relational schema into several relations through the normalization process to get rid or eliminate some of the problems of unsatisfactory database design. In this paper we propose some of the existing methods and the techniques used by them.

Keywords: Decompose, Functional Dependencies, Instance, Normalization, Relations.

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43.

Authors: **Yogesh Kumar Gupta, Ojasvi Bhatia, Fanindra Bhushan**

Paper Title: **Nested Sliding Mode Controller for MIMO System Using High Gain Feedback**

Abstract: The paper presents a new algorithm for sliding mode control for MIMO system represented in block companion form. If the system does not posses singularly perturbed structure, it can be made to possess singularly perturbed structure using high gain feedback. Here the block companion form of MIMO is used to design nested sliding mode control using high gain feedback concept. The individual high gain in each stage of decomposition is so applied that η-reachability condition is satisfied, so phenomenon of sliding under sliding occurs till last stage of decomposition and design of controller for higher order system becomes simpler. For maintaining sliding under sliding, we take sliding surface as incremental basis where sliding variable becomes generalized state vector for next sliding surface. Finally, we get a composite controller with robustness through variable structure control design using Lyapunov function. This proposed design method is illustrated with a 6th order two input system.

Keywords: Multi timescale decomposition, High Gain Feedback, Incremental sliding mode control , sliding under sliding

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44.

Authors: **Hossein Afshar, Seyed Hooman Hoseini**

Paper Title: **Experimental and 3-D Numerical Simulation of Flow over a Rectangular Broad- Crested Weir**

Abstract: A broad-crested weir is a flat-crested structure with alarge crest length compared to the flow thickness which is widely used in open channels, rivers, irrigation and drainage systems. New experiments were conducted on a rectangular broad-crested weir with a rounded corner. In this study, Computational Fluid Dynamics (CFD) model together with laboratory model were used in order to determining the free-surface profile of rectangular broad-crested weir. Simulations were performed using the volume of fluid (VOF) free surface model and three turbulence models of the RNG k–ε, standard k–ε and the large eddy simulation (LES) to find the water level profile and streamlines.The structured mesh with high concentration near the solid regions was used in te numerical procedure. The computational results showed a close agreement with experimental data obtained in the laboratory. Also, results indicate that RNG model has the minimum level

Keywords: Broad-crested weir, CFD, Laboratory model, Free surface profile

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Authors:	**Aarathi**
Paper Title:	**Optical Sensor in Vehicles**

Abstract: When the vehicels turns in curve at night, it can always appear "the blind spot" in the turn, for the lights are unable to adjust the illumination angle. In order to enhance safety driving at night, an adaptive front-lighting system (AFS) of automobile controlled by STC12C5A60AD which is the core of electric control unit is designed in this work. The AFS is based on the steering wheel angle and speed changes to adjust light axis angle to light up the road in the front, so the drivers' security vision are improved. The work principles of the AFS[6] and control model and hardware circuits are particularly described..

Keywords: optical sensor, Relay, LDR, LCD.

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Authors:	**Lalita Sharma, Shweta Shukla**
Paper Title:	**Classification of Web Blog Mining for Movie Review**

Abstract: Now a day's social media plays very important role in varies domains. There are number of recourses available on the Internet to express the opinions, ideas emotion and interests. Blogs are most popular way for the peoples to express opinion. Web Blog Mining which is the efficient and effective way of analyzing the sentiments of consumer reviews pertaining to specific products becomes desirable and essential. Blogs provides information but it hard to reach information automatically because blogs are full of un-indexed and unprocessed text that reflects the opinions of people. To grab people's idea sentimental opinion mining is the best efficient way to mine their blogs. This study covers the sentimental web mining approach to understand people's opinions about reviews web blogs. This is the efficient and effective way of analyzing the sentiments of peoples review.

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Keywords: mining, blog mining, sentiWords, crawling.

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Authors:	**D.Sophin Seeli, M.K.Jeyakumar**
Paper Title:	**Performance Assessment of Fractal Coding on Remote Sensing Images with Different Imaging Modalities**

Abstract: Image compression coders can be lossy or lossless. Fractal image compression is a lossy image compression technique to achieve high level of compression while preserving the quality of the decompressed image close to that of the original image. The method relies on the fact that in certain images, parts of the image resemble other parts of the same image. The compression procedure consists of dividing the image into range blocks and domain blocks and then it takes a range block and matches it with the domain block. It is a new technique in image compression field based on Affine contractive transforms. In the present work the fractal coding techniques are applied for the compression of remotely sensed imageries. Also the results are compared with various imaging modalities and the parameters that affect fractal image compression are studied. The comparison results that fractal image compression techniques are found more effective for compressing remote sensing images.

Keywords: Fractal, encoding, self-similarity, affine transformation, quad tree partitioning

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Authors:	**Ganapathi Bhat Manchi, Sidde Gowda, Jaideep Singh Hanspal**	
Paper Title:	**Study on Cognitive Approach to Human Error and its Application to Reduce the Accidents at Workplace**	

Abstract: The err is in built in human nature. There are no specific counter measures for error. Human cognition uses processes that allow us to be amazingly fast, to respond flexibly to new situation [1] and to juggle several tasks at once (Flower and Hayes 1980). Unfortunately, these processes inevitably produce occasional errors. It is now well understood that these errors are the product of limitations in human information processing coupled with design features that are ill matched to human abilities. This is especially true for highly automated environments in which robust perceptual-motor tasks have been largely replaced by more error-prone cognitive tasks. The emerging model of cognition provides at least partial model of cognitive mechanism to understand the way human thinking works. The most effective way to deal with error due to human behavior and unpredictable environment is by safety culture and favorable system design.

Keywords: Cognition, Human error, Safety culture, System design

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Authors: **Chaithra.N.M., K.V. Ramana Reddy**

Paper Title: **Implementation of Canny Edge Detection Algorithm on FPGA and displaying Image through VGA Interface**

Abstract: Edge detection is one of the most important stages in image processing. The Canny edge detection algorithm is most widely used edge detection algorithm because of it advantages. In this paper we present canny edge detection algorithm implemented on Spartan 3E FPGA and developed VGA interfacing for displaying images on the screen. In this paper we have taken 128×128 Image and displayed same on the monitor through FPGA.

Keywords: Block Memory, Canny, FPGA, VGA Interface.

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Authors: **Seshagiri Boppana, B.N.CH.V. Chakravarthi, T. Suresh Kumar**

Paper Title: **Reverse Harmonic Injected High Power Square Wave Inverter Fed Induction Motor**

Abstract: In past decades, a simple L-C filter can reduce harmonics for low power inverters, for medium and high power applications the size of L-C filter is bigger, Latter Pulse Width Modulation (PWM) techniques are implemented for medium power, but these are limited by the switching losses with high operating frequency. The limitation of PWM can be overcome by Multi Level Inverter (MLI). Again these MLI are fed by separate DC sources, which are operated at fundamental frequency, the design and control are complex with the increase in number of levels. In this paper, a power frequency square wave VSI with series compensators is fed for high power Induction Motor Drive. The series compensators produce voltages at harmonic frequencies and are injected in reverse direction; the net effect causes pure sinusoidal waveform. The DC bus voltages required for series compensators are less in magnitude and operated at harmonic frequency. This strategy improves the conversion efficiency of square wave VSI. The compensators used are of single phase H-Bridge inverters with high frequency switches (IGBT).

Keywords: Induction Motor, Series Compensators, Harmonic Voltages, High Power Square Wave.

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Authors: **Ch.Bhnau Prakash, A.V.Ramana Rao, M.Praveen, M.N.V.S.A Sivaram. K**

Paper Title: **Optimization of Energy Saving Techniques in Air Conditioning Systems**

Abstract: In a conventional air conditioning system, chilled water flow and air quantity supplied to air conditioned area is constant irrespective of the building load. The building load will generally vary from 60% to 100% for 10 hours operation per day during the year. Maintaining the continuous chilled water flow of air quantity in an air conditioning system will consume more power during part load conditions. Thus by supplying variable chilled water flow by using constant primary pumps, variable flow secondary pumps, VAVs(variable air volumes) and variable frequency drives in air handling units in the air circuit, we can decrease the energy consumption during part load conditions.

In the present project attempt has been made to calculate the energy savings and payback period of existing system. This is done by introducing primary and secondary pumping with VFDs .The VFDs are in turn provided AHUs and VAVs in the duct. In many conventional air conditioned buildings, the air conditioning system generally consumes the maximum power. This can be minimized by taking proper care during the selection, design and erection of air conditioning equipment ultimately leading to substantial savings in long run.

By introducing secondary pumping with VFDs, VAVs in the duct and VFDs in AHUs, the power consumption has been reduced to 12.25% over existing constant flow pumping, constant airflow systems. Payback period is 2.69 years for introducing VAVs in the duct and VFDs in the AHUs and payback period is 3.73 years for primary and secondary pumping system.

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Keywords: Air conditioning systems, Energy saving techniques, VFDs, VAVs.

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Authors: **Neha Kalwar, Sanjay Sharma**

Paper Title: **Max-Energy Node Selection and Average Energy Path Selection based Routing in MANET**

Abstract: Energy aware routing in mobile ad hoc networks (MANET) is the major problem to finding energy efficient routes that maximize the network lifetime without the knowledge energy status of nodes in network. To improve network performance, the paths for message flows are chosen in such a way that the total energy consumed along the path be minimized while avoiding energy-depleted nodes. Finding paths that consume minimum energy and finding paths that do not use energy-depleted nodes lead to conflicting objectives. In this paper, we propose an energy aware routing technique that selects the MAX energy holding nodes and calculate the average of nodes energy and if the path has maximum energy then in that case, the maximum average energy path is selected for sending data in network. This proposed method always utilizes the maximum energy nodes and for reliable connection it is essential in network. A simulation-based performance comparison between a normal energy based routing ad hoc protocol and its modified proposed energy based protocol are done by ns-2 simulator and the simulation results are showing the better results of network performance and energy utilization.

257-261

Keywords: MANET, Energy aware routing, MAX Energy, Average energy, Reliable routing,

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Authors: **M. Durairaj, R. Nandha Kumar**

Paper Title: **Data Mining Application on IVF Data For The Selection of Influential Parameters on Fertility**

Abstract: This paper illustrates the process applying data mining techniques for identifying influential tests for infertility couples to determine the success rate of IVF (In-vitro Fertilization) treatment. The data set used in the experiments contains information recorded during IVF treatment and relevant laboratory tests [1]. It has supportive information for the medical practitioner to identify which are tests have high impact factors in determining the success of infertility treatment. Data mining has so much of techniques that used to finding the data reduction, pre-processing and normalization [3].The reduced data set contain the set of parameters which have an influence on the results that can be used to predict and forecast [2]. The experiment is in a way of study related to the representativeness of the sample and irrelevant features. Out of around 250 million individuals estimated to be attempting parenthood at any given time, 13 to 19 million couples are likely to be infertile. So the couples prefer the IVF treatment compared with other methods of treatment. In India the board of medical council announced the duration of infertility. If a woman was not conceived after his marriage within 6 months they caused infertility. So they must start the initial fertility treatment. Most of them prefer the In-Vitro fertilization compare with other fertility treatments [9]. A survey of the fertility treatment 1 in 20 of all pregnancies conceived by the ivf treatment. But the patients suffer from the negative imagination and they don't know the success level of the treatment.

The prediction of the success rate of IVF treatment has a great economic importance for the couples who undergo treatment for baby [2]. The data set are preprocessed by the supervised filter and the attribute selection algorithm before subject to the prediction. It is very essential to properly analyze the data set and reduce or clean the unwanted data that increases the prediction accuracy [6]. The parameters with high impact factor can be selected by applying the proper reduct algorithm, which removes the parameters that has a lesser role in determining the success rate of particular patients and help the Gynecologists to recommend them for specific treatment of IVF, IUI or ICSI.

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Keywords: Attribute selection algorithm, Data mining, IVF, spermatological data, supervised filter.

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Authors: **M.Kumaran**

Paper Title: **Design of Coaxial Continuous Transverse Stub Antenna Array for Mobile and Space Application**

Abstract: Continuous Transverse Stub (CTS) technology with coaxial transmission line can be used for simple, light weight, low-loss microwave structures with omnidirectional radiation pattern in the horizon plane. The Coaxial CTS antenna provides low reflection with good input impedance and high radiation efficiency. This paper proposes the design of coaxial CTS antenna array operating at 2.238 GHz in S-band. The return loss (S11) at this frequency is -47.481 dB. The corresponding gain and efficiency is 5.025 dB and 92.2%. This type of antenna can be used for fixed (line of sight), mobile (line of sight) and space operation. This paper also discusses the design of the CTS antenna array in X-band. Operating at 10.548 GHz this antenna can be used for radiolocation. Return loss (S11) is got to be -34.642 dB. Radiation efficiency and gain at this frequency is 94.6% and 2.47 dB. The basic theory is analyzed. Design and optimization is done using CST Microwave Studio software. The simulation result shows the better performance in both S-band and X-band. The achieved impedance of 35 Ω doesn't worse the result obviously.

Keywords: CTS array, mobile, radiolocation, space operation, S-band, X-band.

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55.

Authors: **Mohammad Anwar Rahman**

Paper Title: **Dynamic Stochastic Model to Forecast Non- Stationary Electricity Demand**

Abstract: This paper presents a dynamic stochastic model to forecast the pattern of residential electricity consumption of a rapidly developing industrial nation. Electricity usage is essential for continuous economic development and urbanization. Long term projection of residential electricity demand is vital for decision makers to developstrategic resource planning and energy policy. In this forecasting model, electricity demand is a function of the price of electricity, household electric appliances, real personal income, number of households, and urban conditions. We propose the Bayesian statistical technique on a dynamic linear model to predict the parameters of the demand model. We apply the model to a time series of a nonlinear, non-stationary household electricity demand. The forecast is generated from the inference of marginal posterior distribution of the model parameters obtained with a Markov Chain Monte Carlo simulation method. The forecast result is tested and compared with actual data and two alternate models. The Bayesian model is proven to be an effective forecasting method with the flexibility to solve multi-dimensional time series models and update estimated parameters as the demand changes over time. Test results indicate that Bayesian model is preferred over the classical artificial neural networks and the regression models due to its capacity to predict parameters of large-scale multivariate models.

Keywords: Bayesian statistical model, classical artificial neural network, dynamic linear model, electricity load data, forecast validation.

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	Authors:	**M.S.M Aras, M.F. Basar, N. Hasim, M.N. Kamaruddin, H.I. Jaafar**
	Paper Title:	**Development and Modeling of Water Tank System Using System Identification Method**

Abstract: This paper presents the development and modeling of Water Tank System (WTS) for temperature control using system identification technique. The WTS consists of the tank with 30 liter water, a stirrer, heater and thermocouple was powered by 240VDC and the system run by LabView software. The stirrer used to stabilize the water temperature that installed on the top cover of the WTS. In this project, a prototype of the WTS will be developed first. The WTS will be tested on an open loop system to obtain measured input-output signals. Input and output signals from the system are recorded and analyzed to infer a model. Then, system identification toolbox in MATLAB will be applied to generate a model of the WTS. The experimental testing of WTS only considered in temperature control. The modeling obtained will be used to design the a suitable controller for temperature control. The most crucial issue is the control system. It is needed for the WTS to perform the desired temperature setting. The objective of this project is to reduce or eliminate the overshoot of system response from temperature setting. The conventional controller PID and Fuzzy Logic Controller (FLC) will be used to control the temperature so that the temperature will maintain its desired temperature. The result shows that FLC is the better performance of system response in term of overshoot and oscillation.

Keywords: Water Tank System (WTS), Temperature Control, Fuzzy Logic Controller (FLC), PID Controller

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Authors:	**Komal Sheth, Nitish Gadgil, P. R. Futane**
Paper Title:	**A Survey of Gesture Recognition Systems for Indian Sign Language Recognition**

Abstract: The problem of Sign Language Recognition (SLR) consists of four main stages, Video Acquisition, Video Processing, Feature Extraction and Recognition. SLR is a multi-disciplinary research area; hence literature survey of each stage mentioned above is done independently in order to find the suitable best method for each stage. Another reason for doing independent literature survey of each stage is, selection of efficient method at each stage will improve the overall performance of the SLR system. The set of techniques reviewed in this paper can be selected for developing a system for recognition of the native Indian Sign Language (ISL).

Keywords: SLR, ISL, Skin Detection, Feature Extraction.

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Authors: **Muralidhara R, Siva Yellampalli**

Paper Title: **VIP Architecture and Design Using OVM for IrDA Protocol**

Abstract: This paper presents practical and efficient way of architecting and developing verification component (VIP) for IrDA protocol using OVM methodology, which supports transaction level modeling , coverage driven and self-checking and reusability across subsystem , system, Architectural exploration along with HW-SW co-simulation, Which can address Time to market and Bug free silicon.

Keywords: Transcation level modeling, Verification IP, coverage driven, OVM, Time to market, Bug free silicon, resusbality.

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Authors: **T.Shanmuga Vadivel, C.G.Saravanan, P.Balashanmugam**

Paper Title: **Study of Diesel Particulate Emission from Bio-diesel (Waste Cooking Oil) in DI Engine Adding Fuel Additive**

Abstract: The need for improvement of fuel quality in respect of stabling, ignition and combustion quality and **295-300**

injector celandines has been recognized. New standard to define the optimum fuel quality have evolved and are involving with development of relevant test methods. In transport fuels, multi functional additives are being used a proven cost effective means to improve fuel quality, especially to meet the requirements of new engine designs and stringent emission standards well designed "ash less" additives offer the option to address the quality of heavy fuel for use in engine especially with the constraints in improvement process changes.

Over the last few years biodiesel has gained importance as an alternative fuel for diesel engines. Manufacturing biodiesel from plant oil is relatively easy and possesses many environment benefits. Besides, what makes biodiesel all the more attractive is that it can be derived from waste cooking oil produced in large quantities in public eateries. The purpose of this project is to analyze the potential of waste cooking oil (WCO) for their suitability as feed stock for biodiesel preparation and to compare the fuel properties of the derived esters of WCO (WCO-biodiesel) with those esters of fresh oil and baseline diesel fuel. The palm oil based WCO – biodiesel and ester of fresh palm oil are transformed into respective biodiesel, by transesterification process. The investigation will be carried out in the single cylinder water cooled DI diesel with the sole fuel and the performance, emission and combustion characteristics analyzed. In case of palm oil the maximum brake thermal efficiency is 28% at maximum load.

Keywords: Particulate emission, WCO, biodiesel, transesterification

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Authors: **Jyoti Narwal, Ajay Goel, Devender Sharma, D.R. Kapoor, Bhupinder Singh**

Paper Title: **An Experimental Investigation on Structural Performance of Steel Fibre Reinforced Concrete Beam**

Abstract: Conventional concrete loses its tensile resistance after the formation of multiple cracks. However, fibreous concrete can sustain a portion of its resistance following cracking to resist more loading. The Steel Fibre Reinforced Concrete (SFRC) has enhanced resistance against cracking and a better micro-crack arrest mechanism. Further, fibre reinforced concrete is found to have improved strengths against shear, flexure, tension and increased resistances against impact, fatigue, wear and enhanced toughness and ductility over that of RCC. In the present study an attempt has been made to investigate the effect of percentage of steel fibres on structural behavior of beams measured in terms of Load Deflection behavior, Ultimate load carrying capacity, Cracking Pattern and Mode of Failure and to investigate the effect of aspect ratio of steel fibres on structural performance of RC beams measured in terms of above parameter sand also to investigate the effect of mixed fibres (two types of fibres with different aspect ratios) on structural performance of RC beams.

Initially thirteen specimens of series (SV1, SVF1, SVF2 and SVF3) with different aspect ratio of fibres were tested. Finally, thirteen specimens of series (SV1, SVF1, SVF2 and SVF3) with volume fractions of 0.5%, 1.0%, 1.5% and 2% steel fibres were cast and tested.

The results obtained from the investigation indicated that addition of steel fibres in the concrete mix improved

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structural performance of beam measured in terms of ultimate load carrying capacity, stiffness, crack width, deflection. The presence of steel fibres in concrete mix also improved the post cracking behavior of the specimens of all the series due to crack arresting phenomenon. With the increase in the percentage of fibres from 0.05% to2% in the beam the deflection at peak load increased. The optimum fibre volume percentage for all the series was obtained as 1.5%. The structural performance of the specimens of the series SVF2 was best among all the series. It was also observed in the study that addition of fibres results in improvement in ultimate load carrying capacity of beams along with its area under the curve thus indicating improved toughness of the beams.

Keywords: RCC, SFRC, SVF2, SVF3

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Authors: **Tadgiri Aruna, R.Bhadraiah**

Paper Title: **An Implementation on 32-Bit High Speed Truncation- Error -Tolerant Adder with Low power Consumption**

Abstract: In this study, we had proposed architecture for high speed Truncation Adder Algorithm. In modern VLSI technology, the occurrence of all kinds of errors has become inevitable. By adopting an emerging concept in VLSI design and test, error tolerance (ET), a novel error-tolerant adder (ETA) is proposed. The ETA is able to ease the strict restriction on accuracy, and at the same time achieve tremendous improvements in both the power consumption and speed performance. When compared to its conventional counterparts, the proposed ETA is able to attain more than 74% improvement. One important potential application of the proposed ETA is in digital signal processing systems that can tolerate certain amount of errors. The modifications to the conventional shift and add multiplier includes introduction of modified error tolerant technique for addition and enabling of adder cell by current multiplication bit of the multiplier constant.

Keywords: High speed arithmetic, error tolerant technique, image processing, power dissipation, Digital Signal

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Processing (DSP), Least Significant Bit (LSB), adder cells, high-speed integrated circuits, low-power design, VLSI.

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Authors: **S.B.Chikalthankar, I.I.Sayyad, V.M.Nandedkar**

Paper Title: **Analysis of Orthotropic Plate By Refined Plate Theory**

Abstract: In this paper a Trigonometric Shear Deformation Theory (TSDT) for the analysis of orthotropic plate, taking into account transverse shear deformation effect is presented. Present theory exactly satisfies stress boundary conditions on the top and bottom of the plate. In this displacement-based, trigonometric shear deformation theory, the in-plane displacement field uses sinusoidal function in terms of thickness coordinate to include the shear deformation effect. The theory obviates the need of shear correction factor like other higher order or equivalent shear deformation theories. Governing equations and boundary conditions of the theory are obtained using the principle of virtual work. Results obtained for static flexural analysis of simply supported thick orthotropic plates for uniformly distributed loading case is compared with those of other refined theories and exact solution from theory of elasticity.

Keywords: Orthotropic thick plates, Shear deformation, trigonometric shear deformation theory.

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Authors: **G.Phani Sindhuri, P.Kiran Kumar, T.Bhavani**

Paper Title: **NOHT: Situational Awareness by Hadoop Framework VAST 2012 Mini Challenge 1**

Abstract: Big Data is the collection of large and complex data sets which becomes difficult to manage and process using traditional tools. Big data Analytics is the process of examining large amounts of data to make better business decisions. One of the Major challenge pose by VAST 2012 is to symbolize the "Bank of Money" network issues identified by the sprouting technologies to provide situation awareness by observing the visualization of the network. This Paper introduces usage and importance of NOSQL database and distribution of data and its processing in parallel using Apache Hadoop Framework and for fast ad-hoc visualization Tableau software is used to address this challenge.

Keywords: Visual Analytics Science & Technology (VAST)[1] , Not only SQL (NOSQL)[5][6], cloudera distribution for Hadoop (CDH)[9].

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Authors: **Narasamma S, Suma Latha. K, Suma Latha. M**

Paper Title: **Anticipatory Measure for Auction Fraud Detection in Online**

Abstract: This paper introduces and presents the Online Modeling of Proactive Moderation System for Auction Fraud Detection by Using online feature selection, stochastic search variable selection (SSVS),coefficient bounds from human knowledge and multiple instance learning. An important usability goal of proactive moderation systems is by applying expert knowledge, such as bounding the rule based feature weights to be positive and multiple instance learning, can significantly improve the performance in terms of detecting more frauds and reducing customer complaints given the same workload from human experts.

Keywords: Online Auction, Fraud Detection, Online Modeling, Online Feature Selection, Multiple Instance Learning.

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65.	**Authors:**	**Usha. M.,Bhavani.K. Sumalatha. M**	
	Paper Title:	**Public Clouds – Communal Data Sharing**	
	Abstract: The cloud computing is used for lease of resources for the user .The user can lease the resources depending upon the requirement of the user. At this situation it is difficult to maintain the data in secured manner .To achieve this we have developed a solution by keeping track of the users who are accessing the data in cloud. **Keywords:** Cloud computing, accountability, data sharing. **References:** 1. ALIPR. ALIPR: Automatic Photo Tagging and Visual ImageSearch. http://alipr.com/, 2009. 2. Amazon.com. Query string authentication. http://docs.amazonwebservices.com/AmazonS3/ latest/index.html?RESTAuthentication.html, 2006. 3. Amazon.com. Requester pays buckets. http://docsamazonwebservices.com/AmazonS3/latest/index.html?RequesterPaysBuckets.html, 2009. 4. L. F. Cabrera, M. B. Jones, and M. Theimer. Herald: Achievinga global event notification service. In Proc. of HotOS, 2001. 5. F. Chang, J. Dean, S. Ghemawat, W. C. Hsieh, D. A. Wallach,M. Burrows, T. Chandra, A. Fikes, and R. E. Gruber. Bigtable: adistributed storage system for structured data. In Proc. of OSDI,2006. 6. T. Claburn. Amazon Web Services Intros BusinessModel For Content Owners. http://www.intelligententerprise.com/showArtie. jhtml?articleID=212701060, 2009. 7. B. F. Cooper, R. Ramakrishnan, U. Srivastava, A. Silberstein,P. Bohannon, H.-A. Jacobsen, N. Puz, D. Weaver, and R. Yerneni. PNUTS: Yahoo!'s hosted data serving platform. In Proc. OfVLDB, 2008. 8. N. Cubrilovic. Twitter at scale: Will it work? http://www.techcrunch.com/2008/05/22/twitter-at-scale-will-it-work/, 2008. 9. G. DeCandia, D. Hastorun, M. Jampani, G. Kakulapati, A. Lakshman,A. Pilchin, S. Sivasubramanian, P. Vosshall, and W. Vogels.Dynamo: Amazon's highly available key-value store. InProc.of SOSP, 2007. 10. J. Foley. 10 cloud computing predictions for2009.http://www.informationweek.com/news/ services/saas/showArticle.jhtml?articleID= 212901104&pgno=1&queryText=&isPrev=, 2009. 11. A. Greenberg, P. Lahiri, D. A. Maltz, P. Patel, and S. Sengupta.Towards a next generation data center architecture: scalability and commoditization. In Proc. of PRESTO, 2008. 12. Jungle Tools. JungleDisk – reliable storage on Amazon S3.http://www.jungledisk.com/, 2007. 13. H. Levy. Capability-Based Computer, Systems. Digital Press,1984. 14. Michael Arrington. Three Billion Photos AtFlickr.http://www.techcrunch.com/2008/11/03 three-billion-photos-at-flickr/, 2008. 15. Microsoft. Photosynth. http://livelabs.com/ photosynth/, 2009. 16. V. Pai, M. Aron, G. Banga, M. Svendsen, P. Druschel, W. Zwaenepoel, and E. Nahum. Locality-aware request distribution in cluster-based network servers. In Proc. of ASPLOS, 1999. 17. SmugMug. Smugmug – the ultimate in photo sharing. http://www.smugmug.com/, 2005. 18. Techout. Techout index page. http://www.techout.com,2005. 19. C. A. Waldspurger and W. E. Weihl. Lottery scheduling: Flexibleproportional-share resource management. In Proc. of OSDI, 1994. 20. R. Westervelt. Cloud computing group to tacklesecurityconcerns.http://searchsecurity.techtarget.com/news/article/0,289142,sid14 gci1352540,00.html, 2009. 21. W. Wulf, E. Cohen, W. Corwin, A. Jones, R. Levin, C. Pierson,and F. Pollack. HYDRA: The kernel of a multiprocessor operating system. Comm. of the ACM, 17(6), June 1974. 22. Hsio Ying Lin,Tzeng.W.G, "A Secure Erasure Code-Based Cloud Storage System with Secure Data Forwarding ",IEEE transactions on parallel and distributed systems,2012. 23. Flickr, http://www.flickr.com/, 2012.	**325-329**
66.	**Authors:**	**Rakhee Sasi**	
	Paper Title:	**CCSDS Lossless Data Compression Algorithm in FPGA for Space Applications**	
	Abstract: Lossless data compression has been suggested for many space science exploration mission applications either to increase the science return or to reduce the requirement for on-board memory, station contact time, and data archival volume. This paper presents a study and implementation of a lossless data compression system, based on the extended_Rice or e_Rice algorithm, as recommended by the Consultative Committee for Space Data Systems (CCSDS), which is implemented on FPGAs (Field Programmable Gate Arrays). A major feature of the e_rice algorithm is that it requires no look- up tables. A simple modification is suggested for e_Rice data compression system which improves its compression performance and thus mainly focus on the reduction of memory and data archival volume. Also the performance parameters of modified e_Rice is compared with Huffman algorithm. The FPGA implementation consists of (a)the received flight mission data decompressed and retrieve the original samples, (b)then original samples are encoded and compared with the received data. **Keywords:** CCSDS, e_Rice algorithm, FPGA, Huffman algorithm, Loseless Data Compression. **References:** 1. Data Compression and Huffman Encoding, CS106X Handout 25 Autumn 2009 November 2nd, 2009. 2. Huffman, D.A, "A Method for the Construction of Minimum Redundancy Codes," Proc. IRE, Vol. 40, pp. 1098 1101, 1952. 3. Lossless Data Compression, Consultative Committee for Space Data Systems CCSDS 121.0-B- 1 Blue Book, May 1997. 4. Lossless Data Compression, Consultative Committee for Space Data Systems CCSDS 120.0-G-1 Green Book, May 1997. 5. Pen-Shu Yeh, "The CCSDS Lossless Data Compression Recommendation for Space Applications," NASA/Goddard Space Flight Center Greenbelt, MD 20771. 6. Rice, R. F., "Practical Universal Noiseless Coding," Proc. of the SPIE Symposium, Vol 207, San Diego, CA, Aug. 1979. 7. Yeh, P.-S., Rice, F. R. and Miller, W. H., "On the Optimality of A Universal Noiseless Coder," Proc. of the AIAA Computing in Aerospace 9 Conference, San Diego, CA, Oct. 1993.	**330-334**
67.	**Authors:**	**Ragam.Gouthami, K.Ragini, Ch. Ganapathy Reddy**	
	Paper Title:	**Iterative Channel Estimation and ICI Cancellation Techniques in MIMO-OFDM Wireless Communication Systems**	
	Abstract: A multiple-input multiple-output (MIMO) communication system combined with the orthogonal frequency division multiplexing (OFDM) modulation technique can achieve reliable high data rate transmission over a broadband wireless channel. A main challenge in wireless communication is retrieval of the channel state	**335-340**

information and ICI cancellation. The channel estimation and ICI cancellation is estimated with the help of Iterative turbo channel estimation, Iterative pilot assisted channel estimation and ICI Cancellation techniques.

Keywords: (MIMO), (OFDM), ICI

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68.

Authors: **Harish D.S, Mahesh T.S, B.M Nandeeshaia**

Paper Title: **Charactrisation and Analysis of Abs Submerged Pump Casing**

Abstract: Pump is a mechanical device which uses suction or pressure to raise liquids. Pump casing assembly consists of single or multiple stages to meet exact system head requirements. A wide range of casing sizes are available to meet the system capacity requirements. Standard construction includes iron casing with bronze impellers on a stainless steel pump shaft. The Main problem associated with ductile iron casing is corrosion, because it will be immersed in water during operations.
In this research work an attempt has been made to replace the metallic casing of multistage submersible pump with ABS material. First the geometric modeling of six stage pump is carried out using modeling package CATIA V5.Then the model is imported to preprocessor solver hyper mesh, here finite element model of ductile iron and ABS is generated. After that FE model is imported in to ABAQUS V6.12 solver to carry out the static analysis for different pressures. The von mises stress developed for both the casings are compared. Water flow simulation inside the pump casing for ductile steel and ABS material for different pressures is simulated using Solid WorksV11 solver. The maximum velocity distribution obtained for both materials are same. The prototype model of ABS pump casing is manufactured using FDM technique, this model is tested for physical properties using shore durometer. The obtained hardness values compared with ductile steel casing. Analysis results show that ductile iron can be replaced by ABS as it possesses good corrosion resistance and light weight.

Keywords: Submersible pump, composite, corrosion free

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69.

Authors: **K. Nagendra, A. Suresh Babu**

Paper Title: **Improvising Distributed Accountability by Using Fog Methodology**

Abstract: In cloud computing environment resources are shared among various clients and it's important for system provider to allocate the necessary resources for the clients. And IT infrastructure proceeds as the amount increases to grow, cloud computing is a new way of virtualization technologies that enable management of virtual machines over a plethora of physically connected systems [13]Cloud computing provides on demand services. Multiple users need to try and do business of their information exploitation cloud however they get worry to losing their information. Whereas data owner can store his/her information on cloud, he should get confirmation that his/her information is safe on cloud. To unravel higher than downside during this paper this offers effective mechanism to trace usage of information exploitation accountability. Accountability is verification of security policies and it's necessary for clear information access. In this paper shows automatic work mechanisms exploitation JAR programming that improves security and privacy of information in cloud. We provide an effective mechanism known as fog computing to protect user's data from theft by confusing attacker with unuseful information. Exploitation this mechanism data owner might apprehend his/her information is handled as per his demand or service level agreement.

Keywords: Cloud computing, accountability, security, data sharing, privacy

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Authors: **Kiran Kumar Kommineni, Adimulam Yesu Babu**

Paper Title: **An EISRM Frame Work - A New Approach for Embedding Information Security into the Enterprises**

Abstract: This paper aims at contributing to the knowledge by developing comprehensive Enterprise Information Security Risk Management (EISRM) framework that integrates typical approaches for information security risk management, and incorporates main components of key risk management methodologies. The practical evaluation, using the proposed enterprise information security readiness assessment model has been performed depending on a developed investigation form that used to investigate. The results demonstrate the effectiveness of the model in assessing and comparing enterprises information security readiness at all levels of the model, using numerical indicators and graphical representations.

Keywords: Risk management; Assessment; Measures; Enterprise Security; Information Security;

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71.

Authors: **Chetan T.R , V.Venkateswarlu**

Paper Title: **GSM Based Hardware Implementation of RFID Authentication System Using Actel FPGA**

Abstract: Radio-frequency identification (RFID) is a wireless technology that utilizes radio communication to identify objects with a unique electrical identity (EPC). The widespread deployment of RFID technologies may generate new threats to security and user privacy. The main goal of this paper is to design and implement a security system based on RFID and GSM technology which can be organized in banks, secured offices and homes. Implemented security system based on RFID and GSM technology containing security system using RFID and GSM which can activate, authenticate, and validate the user. The main advantage of using passive RFID and GSM is more secure than other systems. This system consists of Actel FPGA, RFID reader, GSM modem, dsPIC and LCD. In this system the RFID reader reads the id or password number from passive tag and sends to the FPGA. FPGA checks the card is valid or not then sends data to the dsPIC, after that dsPIC microcontroller displays the success or failure message on LCD and sends the SMS to the authorized person mobile number,which was stored in dsPIC.

Keywords: RFID, FPGA, dsPIC, GSM MODEM,LCD MAX232.

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72.	**Authors:**	**Sagar Deshpande, Leelavathi G.**
	Paper Title:	**Design and Implementation of Extended Version of AES Algorithm with DSP Units**

Abstract: Advanced Encryption Standard (AES), also known as Rijndael, is a block cipher algorithm that has been analyzed extensively and is now used widely. The AES algorithm hardware implementation is faster and more secure than software implementation. AES algorithm is used to encrypt and decrypt data as this can make the whole process much faster and secured communication is also established in the system.This is also extended to 176 and 192 bits in this work.

Hardware implementation of Advanced Encryption Standard (AES) algorithm has been in intensive discussion since its first publication by National Institute of Standards and Technology (NIST) in 2000, for higher throughput over 1 Giga bits per second (Gbps). However, the studies of low power, low area and low cost implementations, which normally have throughput less than 1Gbps and use the data path less than 32-bit, have recently appeared in ASIC as well as in FPGA for wireless communication and embedded hardware application.

In the proposed work the encryption of 128,176 and 192 bits are aimed for accurate AES implementation. This proposed work has been divided into two main phases software development and hardware development. In the development of software, it is involved with writing the code, simulation process with Xilinx 13.2 ISE tool. The hardware development covers the Xilinx Spartan 6 FPGA target board development.

An AES cipher implementation that is based on the BlockRAM and DSP units embedded within Xilinx's Spartan-6 FPGAs. An iterative "basic" module outputs a 32 bit column of an AES round in each clock cycle, with the throughput of 1.76 Gbit/s when processing a 128 bit inputs, one 176 bits data and 192 bits data. Finally, the "round" module is replicated ten times for a fully unrolled design that yields over 55 Gbit/s of throughput. High throughput implementations are mainly used for high-end devices such as accelerator cards for e-commercial service and security trunk communications. In order to achieve higher performance in today's utilization of hardware accelerators for cryptography algorithms and heavily loaded communication networks is more efficient.

Keywords: DSP, BRAM, AES, FPGA, ASIC, RIJNDAEL

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73.	**Authors:**	**Rajni Rani, Kamaljit Kaur**
	Paper Title:	**Experiment Analysis of Different Texture Based Features of Image Using Simplified Gabor Gaussian Wavelet Transform**

Abstract: Textures feature are one of the important features in computer vision for many applications. Texture feature are mostly used for Gabor wavelet transform. It is used for edge detection. Edge detection plays a vital role in computer vision and image processing. Edge of the image is one of the most significant features which are mainly used for image analyzing process. An efficient algorithm for extracting the edge features of images using simplified version of Gabor Wavelet is real time application. Gabor Wavelet is widely used for edge detection. Edge detection finds the real and imaginary part of images of Gabor Wavelet. It is based on noisy and the filtered images using Gabor Wavelet. The performance of Gabor filter is also evaluated by segmentation of noisy, filtered and original images. These statistical metrics are also displayed graphically and they are compared for both the noisy and the filtered images. Simplified Gabor Gaussian Wavelet based approach is highly effective at detecting both the location and orientation of edges. This Proposed technique is used to increase the Peak signal of Noise Ratio (PSNR), and Mean Square Error (MSE) in the MATLAB Software.

Keywords: Gabor Wavelet, Simplified Gabor Gaussian Wavelet Transform, Wavelet Transform.

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74.	**Authors:**	**K.Sundara Kumar, G.Uday Nagendra, L.Veerendranath, S.Bhavya Bhanu, N.L.C.Sowjanya**
	Paper Title:	**Evaluation of Environmental Sustainability of Landfill Sites using Rapid Impact Assessment Matrix Method**

Abstract: The selection of a suitable disposal option that is ecologically viable, socially acceptable, and economically feasible is the crux of sustainable solid waste management. This paper explores the applicability of Rapid Impact Assessment Matrix for evaluation of options for disposal of municipal solid waste by taking a typical case study of Vijayawada city. Landfill at Nunna and Landfill at Konduru are the two disposal options available for consideration. Environmental sustainability is assessed through an environmental impact assessment of these two proposed projects. This work uses the RIAM tool, which considers all the physical/chemical, biological/ecological, social/cultural, and economical/operational aspects of the proposed project for evaluation. The results obtained show that both the options will have a negative impact on the environment. However, the landfill proposed at Konduru will have minimum negative impacts, nearly 10 times less when compared with the landfill at Nunna. The rapid impact assessment matrix tool found to be useful in quick, rational and cost effective evaluation of options for disposal of municipal solid waste which will be helpful for decision making.

Keywords: Environmental Impact Assessment, Land filling, Municipal Solid Waste, RIAM, Sustainability.

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75.	**Authors:**	**Abdul Qayum, Andrew Michael Lynn, Rakesh Arya, Sanjay K Jaiswal**

	Paper Title:	**GIS Integrated Epidemiological Indices for Risk Area Identification towards Malaria Control Measures**	
	Abstract: The exponential increase in the mosquito born diseases has been found in the recent past. It is primarily because of the development of drug resistance of malarial parasites. It has various other reasons including indiscriminate use of pesticides, excessive deforestation and demographic shifts which are responsible for this enhanced rate of spreading of this epidemic. The current paper demonstrates a case study and an example of application of GIS integrated epidemiological indices for risk area identification. The main aim of the work is to identify the risk areas priority in the selected region of Eastern Uttar Pradesh (UP), India especially for Gorakhpur, Kushinagar & Maharajganj district region and to assimilate the results obtained from both GIS based and epidemiology. Computerised spatial database and GIS mapping software provides powerful tool for management and analysis of malaria control program. It proves to be a breakthrough towards various control measures. Using ArcGIS; maps were produced and assimilated to malarial hotspots. Further, various epidemiological indices like ABER, API, SPR, SFR were studied to understand malaria epidemicity of eastern UP and aimed to look for any possible bridge between these epidemiological indices. **Keywords:** API, ABER, Epidemic, Epidemiology, GIS, Malaria, Mapping, PHC, WHO. **References:** 1. Annjaan Daasha, Aruna Srivastavab, B.N. Nagpalb, Rekha Saxenab & Sanjeev Kumar Gupta, Geographical information system (GIS) in decision support to control malaria – a case study of Koraput district in Orissa, India, J Vector Borne Dis 46, March 2009, pp. 72–74. 2. Booman M, Durrheim DN, La Grange K, Martin C, Mabuza AM, Zitha A, Mbokazi FM, Fraser C, Sharp BL. Using a geographical information system to plan a malaria control programme in South Africa. Bull World Health Organ 2000;78:1438e44. 3. Briet OJT, Gunawardena DM, Van Der Hoek W, Amerasinghe FP. Sri Lanka malaria maps. Malar J 2003;2:22. 4. Census of India 2011: From Uttar Pradesh Administrative atlas. Directorate of Census Operations Uttar Pradesh. 5. Daash A, Srivastava A, Nagpal BN, Saxena R, Gupta SK. Geographical information system (GIS) in decision support to control malaria e a case study of Koraput district in Orissa, India. J Vector Borne Dis 2009;46:72e4. 6. Joshi PL, Chandra R, Bhattacharya M, Vaish HC: Validity of using Slide Positivity Rate (SPR) in identification of high risk malarious segment in rural areas. The Journal of communicable diseases 1997, 29(1):41-45 7. Malaria situation in India. Delhi: National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare, Govt. of India. Available from: http://www.nvbdcp.gov.in/Doc/malaria1.pdf 8. Park, K Textbook of Preventive and Social Medicine, 22nd Ed, 234-35, 248. 9. Shyam Avtar Agarwal, Shailendra Singh Sikarwar1 and D.Sukumaran, Application of RS & GIS in Risk area assessment for mosquito borne diseases- A case study in a part of Gwalior City (M.P.), IJATER 2(1), Jan-2012. 10. Singh N, Mishra AK, Shukla MM, Chand SK. Forest malaria in Chhindwara, Madhya Pradesh (central India), A case study in ethnic tribal community. Am J Trop Med Hyg 2003; 68: 602–7. 11. Srivastava A, Nagpal BN, Joshi PL, Paliwal JC, Dash AP. Identification of malaria hot spots for focused intervention in tribal state of India: a GIS based approach. Int J Health Geog 2009;8:30. 12. Srivastava A, Nagpal BN, Saxena R, Sharma VP. Geographical information system as a tool to study malaria receptivity in Nadiad Taluka, Kheda district, Gujarat, India. Southeast Asian J Trop Med Pub Health 1999; 30: 4. 13. Srivastava A, Nagpal BN, Saxena R, Subbarao SK. Predicted habitat modeling for forest malaria vector species An. dirus in India e a GIS based approach. Curr Sci 2001;80:1129e34. 14. Srivastava A, Nagpal BN, Saxena R, Wadhwa TC, Mohan S, Siroha GP, Prasad J, Subbarao SK. Malaria epidemicity of Mewat region, district Gurgaon, Haryana, India: a GIS based study. Curr Sci 2004;86:1297e303. 15. Sweeny A.W. The Application of GIS in Malaria Control Programs, 10th Colloquium of the Spatial Information Research Centre, 1998, 315-20. 16. Tribal malaria. ICMR Bull 2004; 34(1): 1–10. Available from: http://icmr.nic.in/BUJAN04.pdf 17. World Health Organization, World malaria report 2009. Geneva, Available from: http://www. who.int/malaria/wmr2008.pdf 18. Yadav K, Nath MJ, Talukdar PK, Saikia PK, Baruah I, Singh L. Malaria risk areas of Udalguri district of Assam, India: a GIS based study. Int J Geogr Inf Sci 2012;26:123e31.	**377-381**
76.	**Authors:**	**Manu Singh, Vidushi Sharma**	
	Paper Title:	**High Level Clones Classification**	
	Abstract: In present time's High level clones (HLC) is an emerging concept that uses a hierarchical organization of fine gained clone fragments (Simple clones) to form coarser-grained clones (High Level Clone). Different research groups categorize clones with respect to different contexts. In this paper we review all such available categories of clones and present them in the form of a High Level Clone Classification. Classification can serve various purposes like studying the more frequently occurring high level clones, prioritizing different types of high level clones, devising re-engineering strategies for different types of high level clones etc.. For this classification of HLC we develop a fuzzy rule-based system and also visualize the results. **Keywords:** High Level Clones, Fuzzy rule-based system, Fuzzy Inference System, Classification of High Level Clone. **References:** 1. H. A. Basit and Stan Jarzabek, " A Case for Structural Clones", International Workshop on Software Clones (IWSC), 2009. 2. B. S Baker , "On finding duplication and near duplication in large software system" , proceedings of Second IEEE Working Conference on Reverse Engineering, 1995. 3. William S. Evans , Christopher W. Fraser and Fei Ma, "Clone detection via structural abstraction" Software quality journal Volume 17, Number 4, 2009. 4. Cory Kasper and Michael W. Godfrey, "Cloning considered harmful", Working Conference on Reverse Engineering '06, 2006 5. Fowler, M., Analysis Patterns, Addison-Wesley, 1996. 6. Gamma, E., Helm, R., Johnson, R., and Vlissides, J., Design patterns: Elements of reusable object-oriented software, Addison-wesley, 1997. 7. Jean Mayrand, Claude Leblanc, Ettore Merlo. Experiment on the Automatic Detection of Function Clones in a Software System Using Metrics. In Proceedings of the 12th International Conference on Software Maintenance (ICSM'96), pages. 244-253, Monterey, CA, USA,	**382-384**

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77.

Authors: **M. Antony Sundarsingh, S.P.Victor**

Paper Title: **Abstract Implementation of Graph Mining Technique using Structural Datum in Viral Marketing**

Abstract: Graph mining and marketing has become an important topic of research recently because of numerous applications to a wide variety of business problems in computational biology, chemical data analysis, drug discovery and communication networking. Nowadays Graphs play a vital role everywhere, occupying the social networks and mobile networks to biological net-works and the World Wide Web. Mining big graphs leads too many interesting applications including marketing, news groups, community mining, and many more. In this paper we describe a technique for the implementation of real-time marketing to a Graph Mining pattern. Our findings include designs to survey different aspects of graph mining and management, and provide a compendium for other researchers in the field. The results are revealed for selecting the optimized maximum priority based network selection to implement the marketing action. In the future we will extend our research to propose a Graph-Analysis Implementer for any real-time complex entities.

Keywords: Graph mining, Graph pattern, Graph template, Graph network.

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78.

Authors: **F.R.Sayyed, R.V.Argiddi, S.S.Apte**

Paper Title: **Collaborative Filtering Recommender System for Financial Market**

Abstract: Recommender systems suggest items to users by utilizing the techniques of Collaborative filtering based on historical records of items that users have purchased. Recommender systems make use of data mining techniques to determine the similarity among a huge collection of data items, by analyzing historical user data and then extracting hidden useful information or patterns.
Collaborative filtering aims at finding the relationships among the new individuals and the existing data items in order to further determine the similarity and provide recommendations. In this paper, a Collaborative Filtering Recommender System is proposed which can be used for financial markets such as stock exchanges for future predictions.

Keywords: Collaborative Filtering, Financial Markets, Recommender System, Stocks Predictions.

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Authors: **Hany. A. Elsalamony, Alaa. M. Elsayad**

Paper Title: **Bank Direct Marketing Based on Neural Network and C5.0 Models**

Abstract: All bank marketing campaigns are dependent on customers' huge electronic data. The size of these data source is impossible for a human analyst to come up with interesting information that will help in the decision-making process. Data mining models are completely helping in performance of these campaigns. This paper introduces applications of recent and important models of data mining; Multilayer perceptron neural network (MLPNN) and Ross Quinlan new decision tree model (C5.0). The objective is to examine the performance of MLPNN and C5.0 models on a real-world data of bank deposit subscription. The purpose is increasing the campaign effectiveness by identifying the main characteristics that affect a success (the deposit subscribed by the client) based on MLPNN and C5.0. The experimental results demonstrate, with higher accuracies, the success of these models in predicting the best campaign contact with the clients for subscribing deposit. The performances are measured by three statistical measures; classification accuracy, sensitivity, and specificity.

Keywords: Bank Marketing; Data Mining; Neural Network; C5.0.

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Authors: **Ajay Goel, Jyoti Narwal, Vivek Verma, Devender Sharma, Bhupinder Singh**

Paper Title: **A Comparative Study on the Effect of Curing on The Strength of Concrete**

Abstract: Curing is essential if concrete is to perform the intended function over the design life of the structure

while excessive curing time may lead to the escalation of the construction cost of the project and unnecessary delays. Where there is a scarcity of water and on sloping surfaces where curing with water is difficult and in cases where large areas like pavements have to be cured, the use of curing compound may be resorted to. The parameters of the study include the curing period [3, 7, 28 and 56 day], curing method [Air curing, plastic films, immersion under water] and the type of cement [Portland pozzolona Cement(PPC) 43 grade,]. In this study specimens i.e. cube, cylinders, Beams were cast and cured under different conditions before testing. Test curing by air, nearly the same results as that of Plastic film but by immersion under water curing strength increase by age. The study demonstrates that the method and duration of curing greatly affects the strength characteristics of concrete. Hence quality control for proper field curing is of the utmost importance.

From the test results, it was observed that there was an increase of 41.7 percent, 31.7 percent and 42.1 percent in compressive strength at 7 days when compared to its strength at 3 days for specimens air cured, cured with plastic film and immersion under water curing respectively. On further curing a decrease as compressive strength at 28 days compared to its strength at 7 days was observed for air curing and plastic film curing. The percentage decrease was higher for air cured specimens than plastic film cured specimens. For water curing an increase of 61 percent of compressive strength at 28 days over its strength at 7 days was observed. There was also increase of 40.2 percent, 52.61 percent and 30.72 percent in compressive strength at 56 days when compared to its strength at 3 days for all specimens.

Keywords: ASTM, IS, OPC, PPC

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Authors:	**Vikram Singh**
Paper Title:	**An Investigation for Gas Metal Arc Welding optimum Parameters of Mild Steel AISI 1016 using Taguchi's Method**

Abstract: Gas metal arc welding is a fusion welding process having wide applications in industry. In this process proper selection of input welding parameters is necessary in order to obtain a good quality weld with good tensile strength and subsequently increase the productivity of the process. In order to obtain a good quality weld of high tensile strength, it is therefore, necessary to control the input welding parameters. In this research work, experiments were carried out on AISI 1016 mild steel plates using gas metal arc welding (GMAW) process. Taguchi method is used to formulate the experimental design. The exhaustive survey suggests that some control factors viz. arc voltage, welding speed, Welding Position Gap, gas pressure and root gap, wire feed rate etc. predominantly influence the Tensile Strength weld. A plan of experiments based on Taguchi technique has been used to acquire the data. An Orthogonal array, signal to noise (S/N) ratio and analysis of variance (ANOVA) are employed to investigate the welding characteristics of Mild steel of AISI 1016 material & optimize the welding parameters. Finally the conformations tests have been carried out to compare the predicated values with the experimental values confirm its effectiveness in the analysis of penetration.

Keywords: MIG welding, optimization, orthogonal array, S/N ratio.

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Authors: **Archana M, Shirisha K, Bhavani V**

Paper Title: **To Assure Factual Information Storage Security in Cloud Computing**

Abstract: Abstract¬-Cloud computing has evolved from virtualization, utility computing and client-server architectures and is an extension of service oriented architectures. It has been referred to as a disruptive technology which has implications on a host of issues such as licensing, scalability, cost and performance measures, privacy and security. We propose in this paper a flexible distributed storage integrity auditing mechanism, utilizing the homomorphic token and distributed erasure-coded data. Our method achieves the integrity of storage correctness guaranty and identification of misbehaving servers i.e. whenever data modifications or deletions have been detected during the storage correctness verification and error localization across cloud servers. The performance analysis shows that our scheme is more secure than existing system against Byzantine failure, unauthorized data modification attacks, and even cloud server colluding attacks.

Keywords: Cloud Computing; Data Storage Security; Error Localization ; Pseudorandom Data,

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83.

Authors: **P.Annapurna Bai, M.Vijaya Laxmi**

Paper Title: **Design of 128- bit Kogge-Stone Low Power Parallel Prefix VLSI Adder for High Speed Arithmetic Circuits**

Abstract: Parallel Prefix adders have been one of the most notable among several designs proposed in the past. The advantage of utilizing the flexibility in implementing the three structures based upon throughput requirements. Due to continuing integrating intensity and the growing needs of portable devices, low-power and high-performance designs are of prime importance. The classical parallel prefix adder structures presented in the literature over the years optimize for logic depth, area, and fan-out and interconnect count of logic circuits. In this paper, a new architecture for performing 128-bit Parallel Prefix addition is proposed. In this proposed system kogge-stone adder which is one of types of parallel prefix adder is used. Kogge-stone is the fastest adder because of its minimum fan-out. The proposed 128-bit prefix adder is compared with classical adders of same bit width in terms of power, delay. The results reveal that the proposed 128-bit Parallel Prefix adder has the least power delay product when compared with its peer existing adder structures (ripple carry adder, carry save adders). Simulation results are verified using Xilinx 14.3 software

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Keywords: dot operator, power delay product, kogge-stone, carry save adder, fan-out.

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84.

Authors: **Bibhuprasad Sahu**

Paper Title: **Software Testing and Its Dependence on Software Architecture**

Abstract: The complexity of the soft ware's nowadays has become a central design problem. A system's architecture provides a model of the system that suppresses implementation detail, allowing the architect to concentrate on the analysis and decisions that are most crucial to structuring the system to satisfy its requirements. This paper defines a formal technique to test software systems at the architectural level using software Architecture Description Languages (ADL).ADLs uses testable components in the architecture. The use of independent and reusable components and their inter communication issues is very much useful in designing a flexible software. Formalized software architecture description languages provide a significant opportunity for testing because they precisely describe how the software should behave in high level view, and they can be used by automated tools. The basic theme in this paper is that the software designed using a formal approach (ADLs) can enable architecture based testing which in turn will lead to a robust software design. Software architectures, particularly when defined formally using some sort of architectural description language, can provide a description of the software system that could be used for test case generation at the system level. This enables developers to abstract away the unnecessary details and focus on the big picture of the system such as system structure, high-level communication protocols, the assignment of software components and connectors to hardware components.

Keywords: ADL,SoftwareTesting, Components, Connector, Composition.

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85.

Authors: **Oguejiofor O.S, Oleka C.V, Ejiofor H.C, Okumbor N.A**

Paper Title: **Mobile Radio Link Design Using Path Loss Model**

Abstract: This paper presents the design of mobile radio link using path loss models. Measurements were carried out over a distance to determine various received power levels from a fixed Code Division Multiple Access (CDMA) Base Transceiver Station (BTS) Transmitter; these values were applied to some path loss model equations to obtain the mobile radio design parameters such as the path loss exponent (n) and the standard deviation (σ). The results obtained show that path loss exponent was 3.16 while the standard deviation was 5.79dB. Hence the log-normal shadowing model for the design of a mobile radio link in the test bed area is PL(dB) = 85.79 + 31.6 log (d)

Keywords: Base Transceiver Station (BTS), CDMA, model, Path Loss.

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86.

Authors: **Jamal BERRICH, Toumi BOUCHENTOUF, Abdelhamid BENAZZI**

Paper Title: **oBDI2Jadex: An agent model based on O-MaSE methodology to design a BDI agents for Jadex**

Abstract: AOP agent oriented programming [3] is a new paradigm that is in a world of technological intelligence,

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the aim of this new aspect of development is to design robust and autonomous systems whose processing is distributed software entities called agent . The BDI agent is a particular type of agent based on the interaction with the environment to achieve specific tasks.
Currently, there are several containers that manage the life cycle of agents and especially the BDI agents [1] which is part Jadex.
Our goal is to normalize the creation of BDI agents adopting a design methodology called O-MaSE [2] by creating a new model to generate subsequently the agent system to be executed in the container Jadex

Keywords: AOP, MAS, BDI, Jadex, meta-model, O-MaSE, Agents, aT3, EMF, XML, Ecore.

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87.

Authors: **C. Jaya Subba Reddy, T. Mahesh Kumar, L. Sreenivasulu Reddy**

Paper Title: **Agreement Results of Non-Associative Rings with Cyclic Property**

Abstract: This paper describes results on a non-associative ring R with the cyclic property: x(yz)=y(zx)=z(xy) for all x,y,z in non-associative ring . Some of the results proved by many researchers like Klienfeld and Novikov etc., by using their own identities and/or conditions on non-associative rings.

Keywords: Non-associative ring, Cyclic Property.

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88.

Authors: **Wafa JAMEL, Atef KHEDHER, Kamel BEN OTHMAN**

Paper Title: **Design of Unknown Inputs Multiple Observer for Uncertain Takagi-Sugeno Multiple Model**

Abstract: This paper addresses the design of an unknown multiple observer for Takagi-Sugeno model subject to modelling and measures uncertainties. The proposed method in this paper is based on the development of an observer in presence of uncertainties. The specificity of this work is contained within the fact that a mathematical transformation which allows us to consider modelling and measures uncertainties in the form of unknown inputs is used. In so doing, a multiple observer based on the elimination of these unknown inputs is conceived. The synthesis conditions of that observer are expressed in Linear Matrix Inequalities (LMI) terms. An example of simulation is given to illustrate the validity of the proposed method.

Keywords: measure imprecision and modelling uncertainties, state estimation, Takagi-Sugeno model, unknown inputs and outputs.

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