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1.

Authors: S. R. Teleka, J.J. Green, S. Brink, J. Sheer, K. Hlophe

Paper Title: The Automation of the 'Making Safe' Process in South African Hard-Rock Underground Mines

Abstract: In South African hard-rock mines, best practice dictates that the hanging walls be inspected after blasting. This process is known as 'making safe' and, although intended to save lives, it is both laborious and subjective. Pressure is placed on the barrer (inspector) to conduct the test quickly and efficiently, as daily operations can only continue after the area has been declared safe. The process involves the barrer tapping the potentially loose rock mass with a sounding bar, listening to and assessing the generated acoustics, and deciding whether it is intact or loose. For a loose rock mass, the barrer would either bar it down or support it. For the purposes of this report, only the inspection task of the 'making safe' process is considered. It is highly dangerous and limits the critical decision making to the experienced barrer. Fatality rates due to falls of ground (FOG) can be reduced by using a simple tool that will produce consistent results in the 'making safe' exercise.

Keywords: Fall of ground (FOG), Hard-rock, Pre-entry examination, Sounding

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2.

Authors: J J Green, K Hlophe, J Dickens, R Teleka, M Price

Paper Title: Mining Robotics Sensors

Abstract: Underground mining robotics has not enjoyed the same technology advances as above-ground mining. This paper examines sensing technologies that could enable the development of underground autonomous vehicles. Specifically, we explore a combination of three-dimensional (3D) cameras (SR 4000 and XBOX Kinect) and a thermal imaging sensor (FLIR A300) in order to create 3D thermal models of narrow mining stopes. This information can be used in determining the risk of rock fall in an underground mine, which is a major cause of fatalities in underground narrow-reef mining. Data are gathered and processed from multiple underground mine sources, and techniques such as surfel modeling and synthetic view generation are explored towards creating visualizations of the data that could be used by miners to monitor areas of risk in the stope. Further work will determine this potential.

Keywords: underground mining robotics, perception sensors, sensor fusion, infrared camera, 3D laser scan.

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3.

Authors:	**Manoj K Kowar and Sourabh Yadav**
Paper Title:	**Brain Tumor Detction and Segmentation Using Histogram Thresholding**

Abstract: The knowledge of volume of a tumor plays an important in the treatment of malignant tumors. Manual segmentation of brain tumors from Magnetic Resonance images is a challenging and time consuming task. This paper presents a novel technique for the detection of tumor in brain using segmentation and histogram thresholding. The proposed method can be successfully applied to detect the contour of the tumor and its geometrical dimension. This technique can be proved to be handy tool for the practitioners especially the physicians engaged in this field.

Keywords: ***Histogram, MRI, Thresholding, Brain Tumor.***

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4.

Authors:	**Shalini Merine George**
Paper Title:	**Multicasting in Mobile ad Hoc Network Using Zone Based Structure**

Abstract: The challenge faced nowadays is to design a scalable and robust multicast routing protocol in a mobile ad hoc network (MANET). The use of mobile ad hoc networks (MANETs) is to be achieved with fast progress of computing techniques and wireless networking techniques. MANET is used because wireless devices could self-configure and form a network with an arbitrary topology. The difficulty is in achieving the group membership management, multicast packet forwarding, and the maintenance of multicast structure over the dynamic network topology for a large group size or network size. These areas in MANET are of large interest. Robust and Scalable

Geographic multicast protocol is used for handling multicasting in mobile ad hoc networks. Virtual architectures are used in this protocol. MANETs have unstable wireless channels and node movements. Scalability and efficiency of group membership management is performed through a virtual-zone-based structure. The location service for group members is integrated with the membership management. The control messages as well as the data packets are forwarded along efficient tree-like paths. Here it avoids the need of explicitly creating and actively maintaining a tree structure. Geographic forwarding is used to achieve further scalability and robustness. Source tracking mechanism is designed for handling flooding of information. Other than that, empty-zone problem faced by most zone-based routing protocols is efficiently being handled. Overall advantages are higher delivery ratio in all circumstances, with different moving speeds, node densities, group sizes, number of groups, and network sizes. This has minimum control overhead and joining delay.

Keywords: MANET is used because wireless devices could self-configure and form a network with an arbitrary topology.

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5.

Authors: **Vishwas Massey, K. J. Satao**

Paper Title: **Evolving a New Software Development Life Cycle Model (SDLC) incorporated with Release Management**

Abstract: Software Development Life Cycle or System development Life Cycle or simply SDLC (system and software is interchanged frequently in-accordance to application scenario) is a step by step highly structured technique employed for development of any software. SDLC allows project leaders to configure and supervise the whole development process of any software. Divide and conquer technique is widely used in SDLC models. Tasks that are complex in nature are broken down into smaller manageable components. Developers employ SDLC models for analyzing, coding, testing and deployment of software system. Efficient and effective software is developed because of SDLC model, thus making the software capable of addressing expectations of the customers, clients and the end-users. Software developed by employing the suitable SDLC models is better performers in the market when compared with their competitors. SDLC Models helps in regulating the software-system development time and helps in effective cost scheduling. In this paper we have tried to develop a model which guarantees that the development and delivery (release) teams engaged in some project have strong co-ordination and collaboration leading to enhanced productivity, efficiency, effectiveness and longer market life. This can be achieved by incorporating concept of release with basic SDLC phases (steps) with the concept of release management.

Keywords: Release Management, Spiral Model, Software Development Lifecycle Model (SDLC), Waterfall Model.

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6.

Authors: **Thummala Pavan Kumar, Malineni Madhuri, Vallabhaneni Surya, Jasti Nitheesha, Guru Jagadeesh**

Paper Title: **Reducing Starvation in Multi-Channel Protocols Through Enhanced AMCP**

Abstract: The multi-channel protocols are determined to have more throughput when compared to single-channel protocols. Asynchronous Multi-Channel Co-Ordination protocol (AMCP) is devised to address the starvation in multi-channel protocols by having an approximate lower-bound on the throughput of any flow in arbitrary topology.

We here determine that AMCP can be enhanced by modeling per-flow throughput. The determined methodology has been found to have higher per-flow throughput than IEEE802.11 and MMAC

Keywords: AMCP, MMAC, Multi-Channel.

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7.

Authors: **Yogendra kumar Jain, Geetika S. Pandey, Deshraj Ahirwar**

Paper Title: **An Improved Routing Mechanism for Secure Ad-hoc Network**

Abstract: An ad-hoc network is a multi-hop wireless network where all nodes cooperatively maintain network connectivity without a centralized infrastructure. If these nodes change their positions dynamically, it is called a mobile ad-hoc network (MANET). The security of ad hoc networks is becoming an increasingly complex issue. Security requirements such as authentication, non-repudiation, data integrity and confidentiality, which would otherwise be provided by a central server, must be enabled and provided by all nodes. In this paper we proposed enhance based direction routing protocol. The zone direction is reduced until the node can select the strongest and most stable link and so increase availability in the network. Each node in the network has a counter for the stability of link (SL) to its neighboring nodes, which indicates which nodes are active in the network, improving the performance of the network and increasing the likelihood of selecting the optimal path. We also propose a novel secure routing protocol to improve the security level in ad hoc networks, based on key management and a secure node-to-node path, which protects data to satisfy our security requirements.

Keywords: Ad-hoc Network, Routing Protocol, Security Mechanism.

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8.

Authors: **Subhransu Padhee, Nitesh Gupta, Gagandeep Kaur**

Paper Title: **Data Driven Multivariate Technique for Fault Detection of Waste Water Treatment Plant**

Abstract: Collection of raw data from different sensors, processing the data and extracting information from it is a very challenging task. Because of the enhanced memory capacity of the present day computers, data logging has reached to a new level. The analyst has to classify the data according to their traits from the offline logged data. The whole task of collection of raw data, classification of data according to their traits involves different statistical as well

as soft computational techniques. This research paper takes a case study of waste water treatment plant and using different data driven multivariate statistical techniques and soft computational techniques determine the faults in the system. This paper uses principal component analysis and backpropagation algorithm to classify the data and detect the faults in a waste water treatment plant.

Keywords: backpropagation, multivariate statistical technique, principal component analysis.

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Authors:	**Sudeep Thepade, Rik Kamal Kumar Das**
Paper Title:	**A Study of Transport Protocols For Wireless Ad Hoc Networks**

Abstract: Ad hoc network is infrastructure less. Each individual node in an ad hoc network must be capable of acting as a host and as a router. The benefits of ad hoc architecture leads to self-reconfiguration and adaptability to highly variable mobile characteristics such as power and transmission conditions, traffic distributions, and load balancing. These benefits come at a cost. Randomness of network topology due to node mobility in ad hoc networks create new challenges, which, together with the local broadcast capability, causes a set of apprehensions relating to medium access control protocol issues, routing and forwarding issues, transport protocol issues and security issues

Keywords: Transport Protocol, MAC, Routing, TCP, Security

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Authors: **I. V. Koteswara Rao, K. Sujesh, S. Radha Krishna Reddy¬, Y. Naresh Kumar, CH. Kamal**

Paper Title: **A Novel Approach on Harmonic Elimination in Single Phase Systems by Means of a Hybrid Series Active Filter (HSAF)**

Abstract: In this paper, a fully-digital-controlled Hybrid Series Active Filter (HSAF) for harmonic elimination and reactive power compensation in single phase systems is presented. The HSAF is composed of two single tuned LC filters and a small-rated active filter. Discrete Fourier transformation is used as the control method. Simulation results using MATLAB program shows the effectiveness of the control method. A hybrid series active filter is implemented verifying the accuracy of the control method.

Keywords: Hybrid series active filter, single phase active filter, harmonic elimination, reactive power compensation, detection methods, power quality.

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Authors: **A. Jameer Basha, V. Palanisamy, T. Purusothaman**

Paper Title: **Multimodal Person Authentication using Qualitative SVM with Fingerprint, Face and Teeth Modalities**

Abstract: Multimodal biometrics systems are becoming increasingly efficient over the unimodal system, especially for the securing handheld devices. However, the challenge with this authentication system is the relative degradation of the biometric modalities involved in the development and test data respectively. To overcome this problem, in this paper we propose a novel Qualitative Support Vector Machine (SVM) classifier with Face, teeth, and fingerprint as biometric traits. The test scores of individual modalities are adjusted according to their relative quality and then passed to binary SVM classifier. The experiments were conducted over a database collected from 20 individuals with three instances of all the three traits. The performance analysis of the fusion techniques revealed that the Equal Error Rates (EER) of 1.22%, 1.46%, and 1.88% for the qualitative SVM, raw score SVM and weighted summation rule

classifiers respectively. On the other hand, the equal error rates for unimodal systems are 7.4%, 5.09% and 4.6% for teeth, face and fingerprint biometrics traits respectively. Hence, we confirmed that the proposed qualitative SVM method outperformed other raw score fusion techniques and unimodal classifiers.

Keywords: Multimodal biometrics, fingerprint verification, teeth recognition, face recognition, SVM classifier

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12.

Authors:	**N.Kirthika, Nisha Lali .R, Rejeesh.R S**
Paper Title:	**An Efficiednt Programmable Frequency Divider with Improved Division Ratio**

Abstract: The frequency divider is an important building block in today's high speed integrated circuits. Frequency divider is the most power hungry block in the communication system. Considering the scope of the frequency divider An Efficient Programmable Frequency Divider (PD) is presented. In this paper a shared counter with a small control circuit is exploited using Reduced Module Control Signal generator (RMCS).This will reduce the output load capacitance and the redundant counter operations in the divider. A Dual Modules Prescaler (DMP), which gives initial division ratio for the input signal by N or N+1.Dividing factor of the Efficient PD can increased by modifying DMP circuit for 16 or 17. A novel glitch less D flip-flop is also designed by considering the switching activities of the internal nodes of the flip-flop.

Keywords: Dual modulus prescaler (DMP), programmable divider (PD), Reduced module control signal generator (RMCS).

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13.

Authors: **Manish Ranjan Pandey, Manoj Kapil, Sohan Garg**

Paper Title: **Conversion of Citizens into E-Citizens: An Approach to Make E-Governance more Effective**

Abstract: Though E-Government initiatives in India have gained momentum in the past decade, the citizen participation is missing. Geographical, social, & economical disparities among citizens are the biggest barriers for e-governance. Illiteracy, lack of infrastructure, security and privacy of personal and financial data are other constraints that hamper e-governance efforts. Citizens' participation should be increased against these constraints if we want good returns on investment from our e-governance efforts. The most benefits will be achieved if the e-governance is citizen-centric which itself will transform citizens to become active participators in establishing e-democracy.

Keywords: Illiteracy, e-democracy, security, privacy.

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14.

Authors: **T. Subramani**

Paper Title: **Traffic Study On Road Links and Estimate the Fund required for Identified Road Improvement Projects in Major Urban Centre**

Abstract: Salem is the fifth largest city with a population of 7.54 lakhs (2011) in Tamil Nadu. Local Authorities faced with great difficulties to identify required various road improvement projects. Repair or improvement works may have to be under taken on a basis which has to be decided based on socio-economic, administrative, technical, political factors etc., The identified road network selected for the study comprises 162 road links in Salem Corporation. Existing traffic condition, surface condition of carriageway, street lighting, footpath condition and drainage condition in the Salem Corporation area has been studied in detail. Traffic volume count survey was conducted on the idendified 162 road links in Salem Corporation. Identify the type of transport facilities required for the road links. In Salem Corporation area 44 road links required removal of onstreet parking and encroachment, 52 road links required widening of carriageway , 23 road links required traffic management measures with extrawidening to carry the existing traffic flow efficiently. Total fund required for identified various road improvement projects have been calculated as Rs.100.16 Crores.

Keywords: Traffic, Road links, estimate, fund

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15.

Authors: **Avinash S. Kapse, Vishal S. Patil, Nikhil V. Patil**

Paper Title: **E- Recruitment**

Abstract: Now a day the traditional method of recruitment has been revolutionized by the influence of the Internet. Hence In the last decade, the use of Internet has dramatically changed the face of HR recruitment and the ways organizations think about the Recruiting methods. In the next coming years, online recruitment and hiring new candidate is continued their explosion and Growth. Presently, e- recruitment has been adopted in many organizations like large organizations as well as in small Size companies, Even Most organizations are already using e-recruitment to post jobs and accept Resumes on the Internet, and correspond with the applicants by e-mail.

It brings the benefits to the organizations. In this article, there will be an introduction on e-recruitment and its development process. There will also be a discussion on the various advantages and disadvantages of e-recruitment practice broadly taken from various literatures.

Keywords: Explosion, Growth, Internet.

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16.

Authors: **V. Priyanka, M. Nireesha, V. Venu Kumar, N. Venkat Ram, A. S. N. Chakravarthy**

Paper Title: **CRT and ART Based Watermarking Scheme in DCT Domain**

Abstract: In this paper, we propose Chinese Remainder Theorem (CRT) and Aryabhata Remainder Theorem (ART) based watermarking scheme that work in the Discrete Cosine Transform (DCT) domain.CRT based scheme is more resistant to different types of attacks, particularly to JPEG compression; in addition, it improves the security feature of the watermarking scheme. Experimental results have shown that the proposed scheme makes the watermark perceptually invisible and has better robustness to common image manipulation techniques. ART-based algorithm can be applied to any kind of moduli and its computation cost is less than that of the CRT-based algorithm. Both techniques can be applied for protection of images and information.

Keywords: CRT, ART, DCT, Residue, Remainder, Inverse.

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17.

Authors: **Nagendra Sah, Neelam Rup Prakash, Deepak Bagai**

Paper Title: **Application of CSP in Optimizing The Path Loss of Wireless Indoor Propagation Model**

Abstract: Constraint satisfaction programming(CSP) is an emergent software technology for declarative description and effective solving of large particularly combinational problem especially in term of planning and scheduling. Constraint programming is the study of computational system based on constraints. The idea of constraint programming is to solve problem by stating constraints about the problem and consequently finding the solution satisfying all the constraints. In this paper the application of constraint satisfaction programming is used in predicting the path loss of various empirical propagation models using chronological backtrack algorithm, which is basic algorithm of CSP. After predicting the path loss at different set of parameter such as frequencies), floor attenuation factor (faf), path loss coefficient(n), penetration attenuation factor (paf), we find the optimum set of parameter (frequency (f), floor attenuation factor (faf), path loss coefficient(n), penetration attenuation factor (paf) at which path loss is minimum with the help of Branch and bound algorithm, which is used to optimized the constraint satisfaction problem.

Keywords: CSP; Path Loss; Propagation Model; Wireless Communication.

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18.

Authors: **Shweta Dhawan**

Paper Title: **Feature Extraction & Image Registration of the Palma Dorsa by Using Bifurcation Structures**

Abstract: In this paper, we perform feature extraction of venal pattern of hand dorsal images. Various minutiae points are discussed. Bifurcation points and endpoints are calculated and plotted for the hand images. The three branching angles are used for the characteristic vector of a bifurcation point. Further, Bifurcation structures are proposed for Palma Dorsa. The bifurcation structure is composed of a master bifurcation point and its three connected neighboring bifurcation points for Image Registration. Bifurcation structures make the method robust to image translation and scaling. Affine model has been used for the transformation. Mosaic hand and vein images are generated. In this work, we have used MATLAB R2009a, version 7.8.0 for coding.

Keywords: Bifurcation Structures, Characteristic Vector, Feature extraction, Image registration.

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19.

Authors: **Density Based Clustering Scheme Using Dynamic Dissimilarity Measures**

Paper Title: **Density Based Clustering Scheme Using Dynamic Dissimilarity Measures**

Abstract: Clustering methods are used support estimates of a data distribution have newly attracted much attention because of their ability to generate cluster boundaries of arbitrary shape and to contract with outliers efficiently. This

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paper proposes, Density based clustering using dynamic dissimilarity measure based on a dynamical system associated with Density estimating functions. Hypothetical basics of the proposed measure are developed and applied to construct a clustering method that can efficiently partition the whole data space. Clustering based on the proposed dissimilarity measure is robust to handle large amount of data and able to estimate the number of clusters automatically by avoid overlap. The dissimilarity values are evaluated and clustering process is carried out with the density values.

Keywords: Clustering, kernel methods, dynamical systems, equilibrium vector, support, density.

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20.

Authors:	**Neha Gosai, S. H. Patil**
Paper Title:	**Security Preservation Methods to Confidential Databases**

Abstract: Anonymization means to remove personal identifier or converted into non readable form by human to protect private or personal information. Data anonymization can be performed in different ways but in this paper k-anonymization approach is used. Suppose one person A having his own k-anonymous database and needs to determine whether database is still k-anonymous if tuple inserted by another person B. For some applications (for example, Student's record), database needs to be confidential, So access to the database is strictly controlled. The confidentiality of the database managed by the owner is violated once others have access to the contents of the database. Thus, Problem is to check whether the database inserted with the tuple is still k-anonymous without letting the owner A and others (B) to know the content of the tuple and database respectively. In this paper, we propose a protocol solving this problem on suppression based k-anonymous and confidential database.

Keywords: Anonymization, Privacy, Confidentiality, Anonymous

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21.

Authors:	**K. Anuradha, N. Tulasi Radha, T. Pavan Kumar**
Paper Title:	**A Decision Tree Algorithm for Uncertain Data**

Abstract: Classification is a classical problem in machine learning and data mining. Given a set of training data tuples, each having a class label and being represented by a feature vector, the task is to algorithmically build a model that predicts the class label of an unseen test tuple based on the tuple's feature vector. One of the most popular classification models is the decision tree model. Decision trees are popular because they are practical and easy to understand. Rules can also be extracted from decision trees easily. Tree learning algorithms can generate decision tree models from a training data set. When working on uncertain data or probabilistic data, the learning and prediction algorithms need handle the uncertainty cautiously, or else the decision tree could be unreliable and prediction results may be wrong. This paper presents a new decision tree algorithm for handling uncertain data.

Keywords: Classification, Decision tree, Prediction, Uncertain data.

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22.

Authors: **K.Naga Mallik, Ch. Radhika, D.Ujwala, H.M.Ramesh, A. Gowtham Kumar, P.Karthik**

Paper Title: **A Compact Microstrip Patch Antenna with Triangular Snipped Slot for Wireless Applications**

Abstract: A compact microstrip patch antenna with a slot fed by coaxial probe is presented in this paper. The slot which is circular in shape with triangular truncations results three narrow bands. The patch is designed on FR4 substrate of thickness 1.6 mm and relative permittivity of 4.4. The size of the proposed antenna is 35mm x 45mm x 1.6mm. Return loss comparison is done for different feed locations. The proposed antenna is suitable for WiMax, Wi-Fi and WLAN applications. The simulations are carried out using Finite Element Method based Ansfot High Frequency Structure Simulator (HFSS).

Keywords: Microstrip patch, WLAN, Wi-Fi, WiMax.

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23.

Authors: **R. Rahul, D. S. Ram Kiran, D.Ujwala, B. Harish, N. Anand Ratnesh**

Paper Title: **Dimensional Variation Effects on the Performance of Slotted Millimeter Wave Antenna**

Abstract: A compact slotted micro strip patch antenna is proposed and designed in this paper for millimeter wave Radar applications. The antenna is designed on Quartz glass substrate of dielectric constant 3.78 with thickness of 0.8mm. The size of the proposed antenna is 4mm x 9mm x 0.8mm. The proposed antenna resonates at three frequencies 24.42 GHz (24.17-24.69), 27.02 GHz (26.74 – 27.32) and 34.67 GHz (33.89 – 35.47). A comparative analysis is done by varying the dimensions of the slots in antenna. The proposed model is simulated using Finite Element Method based High Frequency Structure Simulator (HFSS).

Keywords: Dimensional variation, slot, millimeter wave antenna.

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24.

Authors: **H. S. Behera, Sushree Sangita Panda, Jana Chakraborty**

Paper Title: **Clustering-Based Deadline Monotonic Scheduling with Dynamic and Intelligent Time Slice for Real-time Systems**

Abstract: In this paper, clustering based deadline monotonic scheduling with dynamic and Intelligent Time Slice is proposed for real-time systems. The proposed algorithm determines the schedulability of a process, and groups the schedulable and unschedulable process into separate clusters. Then an improved Round Robin algorithm is used for all schedulable processes to calculate average turn-around time, average waiting time and context switch. Then the experimental analysis shows that the performance of the proposed algorithm is better in terms of average turnaround time, average waiting time and context switch.

Keywords: Real-time systems, Deadline monotonic scheduling(DM), Response Time Analysis Schedulability test, Clustering, Round Robin(RR) scheduling algorithm Turnaround time and Waiting time, Upper Quartile.

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1. H.S. Behera, Jana Chakraborty, Sushree Sangita Panda "Improved Deadline Monotonic Scheduling with dynamic and Intelligent Time Slice for real-time systems" department of computer science and engineering, V.S.S.U.T, Burla.
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25.	**Authors:**	**S Arun Kumar, C Easwarlal, M Senthil Kumar**
	Paper Title:	**Power System Stability Enhancement using Adaptive Neuro-Fuzzy Tuned Static Synchronous Series Compensator (SSSC)**

Abstract: This paper investigates the enhancement of voltage stability using Static Synchronous Series Compensator (SSSC). The continuous demand in electric power system network has caused the system to be heavily loaded leading to voltage instability. Under heavy loaded conditions there may be insufficient reactive power causing the voltages to drop. This drop may lead to drops in voltage at various buses. The result would be the occurrence of voltage collapse which leads to total blackout of the whole system. Flexible AC transmission systems (FACTS) controllers have been mainly used for solving various power system stability control problems. In this study, a static synchronous series compensator (SSSC) is used to investigate the effect of this device in controlling active and reactive powers as well as damping power system oscillations in transient mode. The Adaptive neuro fuzzy logic controller is used to tune the circuit and to provide the zero signal error. Results are compared with conventional PI controller. The dynamic performance of SSSC is presented by real time voltage and current waveforms using MATLAB software for IEEE 4 bus system.

Keywords: Static Synchronous Series Compensator (SSSC), Proportional-Integral Controller, Adaptive Neuro Fuzzy logic Controller, Real and Reactive Power Flow, Voltage Stability.

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26.	**Authors:**	**T R Shyama, R Satheesh Kumar, V Shanmugasundaram**
	Paper Title:	**Design of FGSPI Controller Based Combined LFC and AVR of Two Area Interconnected Power Generating System**

Abstract: This work presents the Fuzzy Gain Scheduled proportional-integral controller (FGSPIC) parameters of Load Frequency Control (LFC) and Automatic Voltage Regulator (AVR) for two area interconnected power system. The proposed controller is used to tune the LFC and AVR .The LFC loop controls real power &frequency and AVR loop controls reactive power & voltage. To maintain the system parameters of the given system at nominal value, FGSPIC is proposed. This paper is proposed to show the interaction between the LFC and the AVR loops. The system with its control method is going to implement in MATLAB software. Also, a conventional proportional and integral (PI) controller was used to control the same for the performance comparison. Two performance criteria were utilized for the comparison. The proposed method had superior features like, stable convergence characteristics, easy implementation and good computational efficiency.

Keywords: Automatic Voltage Regulator (AVR), Load Frequency Control (LFC), Fuzzy Gain Scheduled Proportional-Integral Controller (FGSPIC).

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Authors: **M.Rupasri, P.Rajyalakshmi, V.Sangeeta**

Paper Title: **A Study of Buffer Overflow Attacks**

Abstract: A computer buffer is an area of memory used for temporary storage of data when a program or hardware device needs an uninterrupted flow of information. A buffer overflow occurs when a program or process tries to store more data in a buffer than it was intended to hold. Since buffers are created to contain a finite amount of data, the extra information - which has to go somewhere - can overflow into adjacent buffers, corrupting or overwriting the valid data held in them. In buffer overflow attacks, the extra data may contain codes designed to trigger specific actions, in effect sending new instructions to the attacked computer that could, for example, damage the user's files, change data, or disclose confidential information. This paper presents an overview of the buffer overflow attack and the countermeasures to defend that attack.

Keywords: Buffer overflow, Function pointers, Heap overflow, Stack overflow.

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Authors: **Ketaki Chopde, Pratik Gosar, Paras Kapadia, Niharika Maheshwari, Pramila M. Chawan**

Paper Title: **A Study of Classification Based Credit Risk Analysis Algorithm**

Abstract: Almost all business organizations these days generate large amounts of data regarding their work. Simply stated, data mining refers to extracting or “mining” knowledge from large amounts of data. The information thus extracted can be used by organizations in decision making process. In this paper, we study the data mining techniques used for credit risk analysis, in particular the decision tree technique.

Keywords: Data Mining, Credit risk analysis, Decision tree.

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	Evaluation", 2010 International Conference on Management of e-Commerce and e-Government.		
29.	**Authors:**	**S.S. Sugania, K. John Peter**	
	Paper Title:	**Feature Extraction for Face Recognition by Using A Novel and Effective Color Boosting**	
	Abstract: This paper introduces the new color face recognition (FR) method that makes effective use of boosting learning as color-component feature selection framework. The proposed boosting color-component feature selection framework is designed for finding the best set of color-component features from various color spaces (or models), aiming to achieve the best FR performance for a given FR task. In addition, to facilitate the complementary effect of the selected color-component features for the purpose of color FR, they are combined using the proposed weighted feature fusion scheme. The effectiveness of my color FR method has been successfully evaluated on the following five public face databases (DBs): CMU-PIE, Color FERET, XM2VTSDB,SCface, and FRGC 2.0. Experimental results show that the results of the proposed method are impressively better than the results of other state-of-the-art color FR methods over different FR challenges including highly uncontrolled illumination, moderate pose variation, and small resolution face images. **Keywords:** Boosting learning, color face recognition, color space, color component, feature selection. **References:** 1. "Discrete Wavelet Transforms: Theory and Implementation" Tim Edwards (tim@sinh.stanford.edu)Stanford University, September 1991. 2. "Phase Congruency Detects Corners and Edges " Peter Kovesi School of Computer Science & Software Engineering The University of Western Australia Crawley, W.A. 6009. 3. " Color Face Recognition for Degraded Face Images" Jae Young Choi, Yong Man Ro, Senior Member, IEEE, and Konstantinos N. (Kostas) Plataniotis, Senior Member, IEEE. 4. " Boosting Color Feature Selection for Color Face Recognition" Jae Young Choi, Student Member, IEEE, Yong Man Ro, Senior Member, IEEE, and Konstantinos N. Plataniotis, Senior Member, IEEE. 5. "A Decision-Theoretic Generalization of On-Line Learning and an Application to Boosting" Yoav Freund and Robert E. Schapire-AT6T Labs, 180 Park Avenue, Florham Park, New Jersey.		**145-148**
30.	**Authors:**	**G.R. Rameshkumar, B.V.A. Rao, K.P. Ramachandran**	
	Paper Title:	**Coast Down Time Analysis to Analyze the Effect of Misalignment in Rotating Machinery**	
	Abstract: Shaft misalignment in rotating machinery is one of the major industrial concerns. When the power supply to any rotating system is cut-off, the system begins to lose the momentum gained during sustained operation and finally comes to rest. The exact time period between the power cut-off time and the time at which the rotor stops is called Coast Down Time. In this paper an experimental study was conducted to investigate the effect of angular misalignment in forward curved centrifugal blower test setup. Tests were conducted for various level of angular misalignment at different shaft cut-off speeds. The results show that the coast down time decreases with increase in level of angular misalignment. At higher speed and at higher level of angular misalignment, the impact on percentage reduction in CDT is very high and there is a specific correlation between the percentage reduction, cut-off speeds and the level of introduced angular misalignment. The vibration signatures acquired at different cut-off speeds and at the various level of angular misalignment conditions. The 2X and 3X vibration amplitude components are predominant frequencies and increase as the angular misalignment and shaft rotational speed increases, thereby establishing the fact that the CDT analysis can be used as one of the diagnostic condition monitoring parameter for rotating machinery. **Keywords:** Angular Misalignment, Coast Down Time, Condition Monitoring, Forward Curved Centrifugal Blower. **References:** 1. J. Piotrowski, Shaft Alignment Handbook. 3rd ed. New York: CRC Press, Taylor & Francis Group LLC, 2007. 2. K.P. Ramachandran, "Vibration signature analysis for machine health monitoring and fault diagnosis," Caledonian Journal of Engineering hen, vol.1, 2004, pp. 26–39. 3. T. L. Daugherty and R. J. Craig, "Coast down time as a mechanical condition indicator for vertical axis motors with grease-lubricated ball bearings," American Society of Lubrication Engineers Transactions, 1977, pp. 349–357. 4. K.P. Ramachandran, M. Mahadevappa, M.K. Ravishankar and A. Ramakrishna, "An approach to machine misalignment studies using vibration, orbit and coast down phenomena," Proceedings of the International Conference on Advances in Mechanical and Industrial Engineering, University of Roorkee, 1997, Roorkee. 5. G. Santhanakrishnan, B. S. Prabhu and B.V.A. Rao, "An experimental investigation of tribological effects on coast down phenomenon in horizontal machinery," Journal of wear, 1983, pp. 25–31. 6. Joseph S Shighley and Charies R Mischke. Hand book of Machine design, McGraw Hill, 1976. 7. A.S. Sekhar and B.S. Prabhu, "Effects of Coupling Misalignment on vibrations of rotating machinery," Journal of Sound and Vibration, vol. 185, no. 4, 1995, pp. 655–671. 8. P. Arumugam, S. Swarnamani and B.S. Prabhu, "Effects of journal misalignment on the performance characteristics of three-lobe bearings," Wear, vol. 206, no. 1-2, 1997, pp. 122–129. 9. K.M. Al-Hussain and I. Redmond, "Dynamic response of two rotors connected by rigid mechanical coupling with parallel misalignment," Journal of Sound and Vibration, vol. 249, No. 3, 2002, pp. 483–498. 10. P.N. Saavedra and D.E. Ramirez, "Vibration analysis of rotors for the identification of shaft misalignment, Part 1: theoretical analysis," Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, vol. 218, no. 9, 2004, pp. 971–985. 11. P.N. Saavedra and D.E. Ramirez, "Vibration analysis of rotors for the identification of shaft misalignment. Part 2: experimental validation," Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, vol. 218, no. 9, 2004, pp. 987–999. 12. M. Attia Hilli, T. Fakhfakh, L. Hammami and M. Haddar, "Shaft misalignment effect on bearings dynamical behavior," The International Journal of Advanced Manufacturing Technology, vol. 26, No. 5-6, 2005, pp. 615–622. 13. E. Estupiflan D. Espinoza and A. Fuentes, "Energy losses caused by misalignment in rotating machinery: A theoretical, experimental and industrial approach," International Journal of COMADEM, vol. 11, no. 2, 2008, pp. 12–18. 14. M Xu and R.D. Marangoni, "Vibration analysis of a motor flexible coupling rotor system subject to misalignment and unbalance Part I: theoretical model and analysis," Journal of Sound and Vibration, vol. 176, no.5, 1994, pp. 663–679.		**149-156**

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Authors: **Sandeep Yadav, Kamal Kumar Verma, Swetamadhab Mahanta**

Paper Title: **The Maze Problem Solved by Micro mouse**

Abstract: A Micromouse is a miniature Electro-mechanical robot, typical consisting of 3 main subsystems: The drive system, an array of sensors, and the control system. The purpose of Micromouse is to find its way through any type of Maze in shortest time. Aside from its being a fun, competitive challenge, the micromouse has proved to be an excellent teaching medium. It can be viewed as a small system involving interdisciplinary engineering aspects. Its successful designers often work in teams, and must consider electrical, electronic, mechanical and computer issues. Design decisions and tradeoffs involve weight, speed, and power, sensing techniques, turning methods, centre of gravity and programming. Autonomous robots have wide reaching applications. From Bomb sniffing to finding humans in wreckage to home automation. This paper covers one of the most important areas of robot, "Decision making Algorithm" or in lay-man's language, "Intelligence". The environment around the robot is not known, so it must have decision-making capabilities. For starting in the field of micro-mouse it is very difficult to begin with highly sophisticated algorithms. This paper covers very basic wall follower logic to solve the maze. And gradually improves the algorithm to accurately solve the maze in shortest time with some more intelligence. The Algorithm is developed up to some sophisticated level as Flood fill algorithm.

Keywords: Lorentz force, Differential Chassis, flood fill algorithm

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Authors: **Aman Kumar Sharma, Arvind Kalia, Hardeep Singh**

Paper Title: **Empirical Analysis of Object Oriented Quality Suites**

Abstract: As object oriented paradigm is becoming more pervasive, it becomes necessary that the software engineering methodologies have quantitative measurements for accessing the quality of software at both the architectural and component level. These measures allow the designer to access the software in early stages of the development process and making changes, that will reduce complexity and improving the quality of the product at the development phase. Object Oriented Design metrics is an essential part of software engineering. An empirical study of applying the design measures to asses the software quality is presented. The two metrics suites namely Chidamber and Kemerer (CK) Metrics and Metrics for Object-Oriented Design (MOOD) Metric Suite are used in this study. Using these metrics suite, various design metrics namely Depth of Inheritance Tree (DIT), Coupling Between Object Classes (CBO), Response for a Class (RFC), Number of Children (NOC), Method Inheritance Factor (MIF), Attribute Inheritance Factor (AIF), Method Hiding Factor (MHF), Attribute Hiding Factor (AHF), Polymorphism Factor (POF) for three latest versions of JfreeChart software have been analyzed to predict the software quality. The results of this empirical analysis will help the software developers and academicians in improving the software quality while developing software products using the Object-oriented (OO) approach.

Keywords: CK Suite, MOOD Suite, Object-Oriented Software Metrics, Software Quality.

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Authors:	**Rathindra Nath Giri, M.K.Pandit**	
Paper Title:	**Pipelined Floating-Point Arithmetic Unit (FPU) for Advanced Computing Systems using FPGA**	

Abstract: Field Programmable Gate Arrays (FPGA) are increasingly being used to design high-end computationally intense microprocessors capable of handling both fixed and floating-point mathematical operations. Addition is the most complex operation in a floating-point unit and offers major delay while taking significant area. Over the years, the VLSI community has developed many floating-point adder algorithms mainly aimed to reduce the overall latency. An efficient design of floating-point adder onto an FPGA offers major area and performance overheads. With the recent advancement in FPGA architecture and area density, latency has been the main focus of attention in order to improve performance. Our research was oriented towards studying and implementing standard .Our work is an important design resource for development of floating-point adder hardware on FPGAs. This article reports the work done on the design of control path and data path of an optimized 64bit floating-point addition operation using field programmable gate array. At first we selected carry skip adder logic due to its best performance in terms of area, speed and power then we employ common a graph to determine the best mix of cutsets, registors, MUXs for pipelining.

Keywords: Data path, control path, VLSI, FPGA, adder logic, floating point addition, optimization, pipelining.

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	Authors:	**Ishan B Shah, Kishore. R. Gawande**
	Paper Title:	**Optimization of Cutting Tool Life on CNC Milling Machine Through Design Of Experimnets-A Suitable Approach – An overview**

Abstract: This paper discuss of the literature review of Optimization of tool life in milling using Design of experiment implemented to model the end milling process that are using solid carbide flat end mill as the cutting tool and stainless steels s.s-304 as material due to predict the resulting of Tool life. Data is collected from CNC milling machines were run by 8 samples of experiments using DOE approach that generate table design in MINITAB packages. The inputs of the model consist of feed, cutting speed and depth of cut while the output from the model is Tool life calculated by taylor's life equation. The model is validated through a comparison of the experimental values with their predicted counterparts. The optimization of the tool life is studied to compare the relationship of the parameters involve.

Keywords: Design of experiment(DOE), Two level Full and Fractional designs, ANOVA, Optimization of tool life, Minitab.

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37.	**Authors:**	**Ch. Vijaya Sekhar Babu, K. Nalini, D.Ujwala, R.Rahul, K. Naga Mallik, A. Gowtham**
	Paper Title:	**A Compact Triangular and Circular Serrated Rectangular Slot Patch Antenna for X-band Applications**

Abstract: A Rectangular slot patch antenna with triangular and circular serrations is presented in this paper. The proposed design is prototyped on Rogers RT/duroid of dieletric constant 2.2 which has a compact size of 24mm x 24mm x1.5mm. Two identical rectangular slots are on made on patch with double sided triangular and circular serrations. The proposed strucuture operates at dual band which can be used X-band applications. The dependence of impedance matching on feed location is analyzed by varying the feed location horizontally. The simulations are carried out using Finite Element method based Ansoft HFSS version 13.

Keywords: X-band, Ansoft HFSS version 13.

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38.	**Authors:**	**P.K. Biswas, S. Banerjee**
	Paper Title:	**Effect for Changing Different Parameters of Rail and Actuator Used in Electromagnetic Levitation System**

Abstract: In this paper the effect of different parameters like size of actuator and rail, current density, no of turns

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	of coil, permeability of magnetic material, winding dimension etc. has been studied.An FEM analysis of U-I structure of rail (guide-way) and actuator for electromagnetic levitation system has been performed by the utilizing of the ANSYS software. The design of electromagnets is primarily controlled by the input power to lift power ratio and lift power magnet weight ratio. These factors are dependent on the magnet dimensions, required gap flux and hence the required current density in the winding. The magnet configurations chosen on the basis of required pole-face area and necessary window area to house the excitation coils. In this work a FEM based analysis has done to find out the flux pattern, working flux density, field intensity, force etc. for single actuator based levitation system. The changing of different parameters of rail and actuator the flux pattern, working flux density, field intensity and force will change. **Keywords:** Electromagnetic Levitation, FEM analysis, eddy current effect, ANSYS software. **References:** 1. B.V. Jayawant, 'Review lecture on electromagnetic suspension and levitation techniques', Proc. R. Soc. Lond. A416, 1988, pp.245-320. 2. P.K. Sinha, Electromagnetic Suspension, Dynamics and Control, Peter Peregrinus Ltd., London, 1987. 3. N. A. Shirazee and A. Basak, 'Electro permanent suspension system for acquiring large air-gaps to suspend loads', IEEE Trans. on Magnetics, Vol.31, No.6, Nov.1995, pp.4193-4195. 4. A. Bittar and R. M. Sales, 'H2 and H. control for maglev vehicles', IEEE Control Systems Magazine,Vol.18, No. 4, Aug.1998, pp.18-25. 5. Reference Guide ANSYS CFX-Solver, Release 12.0 6. S.Banerjee, P.Biswas, R.Bhaduri, "A Comparative study between different structures of Rail and Actuator used in Electromagnetic levitation systems', proc in 5th IET Intentional Conference on Power Electronics, Machines and drives, PEMD 2010,UK,19-21 April 2010. 7. Matthew N.O.Sadiku, 'Elements of Electromagnetic', OXFORD University press. 8. Rothwell E.J., Cloud M.J., "Electromagnetics", CRC Press 2001. 9. Hammond P., Sykulski J.K., "Engineering Electromagnetism – Physical Processes and Computation", Oxford University Press, New York 1994. 10. Kwang-Ok An, Chang-Hwan Im, Chang-Hwan Lee, Hyun-Kyo Jung, "Optimal design of magnetic scale for linearizing magnetic flux density and force", Proc. in International Journal of Applied Electromagnetics and Mechanics", Volume 18, Number 4/2003, pp.251-258. 11. Guirong Wang, Hong Xu, Jian Sun, Wei Wei , "Electromagnetic field analysis and dynamic modeling of force for motor in Maglev train", Proc. of 7th World Congress on Intelligent Control and Automation, WCICA 2008., pp. 8198 – 8202. 12. J. E. Paddison, R. M. Goodall. "EMS Maglev Suspension Control System Comparison and Trends", MAGLEV'98, Mt. Fuji, Japan, 1998. 13. R. D. Fruechte, R. H. Nelson, T. A. Radomski. "Power conditioning system for a magnetically levitated test vehicle", IEEE transaction on vehicular technology, Vol VT-29, No 1, Feb 1980, pp 50-60. 14. Y. Hikasa, Y. Takeuchi. "Detail and experimental results of ferromagnetic levitation system of Japan Air Lines HSST-01/-02 vehicles", IEEE transaction on vehicular technology, Vol VT-29, No 1, Feb 1980, pp 35-41.	
39.	**Authors:**	**S. Sabna, D. Prasad, R. Shivakumar**
	Paper Title:	**Power System Stability Enhancement by Neuro Fuzzy Logic Based SVC for Multi Machine System**
	Abstract: This paper presents a hybrid technique to small signal stability enhancement using ANFIS thruster susceptance control of static vary compensator (SVC). Their main objective is to determine the synchronous generator's ability to maintain stability after the occurrence of a fault or following a major change in the network such as the loss of an important generator or a large load. Static vary compensator is proven the fact that it improves the dynamic stability of power system apart from reactive power compensation; it has multiple role in the operation of power system. The main variable to be controlled in the power system for efficient operation is to mitigating the rotor electro-mechanical low frequency oscillations. Simulations are carried out for multi machine power system for without SVC and with ANFIS SVC. The proposed Neuro fuzzy logic based SVC for multi machine power system provides better damping to power system oscillation. **Keywords:** Damping of oscillation, Neuro fuzzy controller (ANFIS), static vary compensator (SVC), thruster susceptance control. **References:** 1. M.CibaTherase M.MarsalineBeno, N.AlbertSingh, ,M.Mohamed Syed Ibrahim, "Design of pss for damping of low frequency oscillations using bacteria foraging tuned non linear neuro fuzzy controller", IEEE GCC Conference 2011. 2. D. Harikrishna and N.V. Srikanth, "Unified Philips-Heffron Model of Multi-Machine Power System equipped with PID damping controlled SVC for Power Oscillation Damping", INDICON 2009, IEEE India Council Conference, pp 481 – 484, Dec – 2009. 3. IEEE special stability controls working group, "Static VAR compensator models for power flow and Dynamic performance simulation", IEEE Transaction on power systems, Vol. 19, No. 1,pp. 229 – 239, February – 1994. 4. E.Z. Zhou, 'Application of static VAR compensators to increase power system damping', IEEE Trans. on Power Systems, Vol.8, No.2, PP May 1993. 5. Yousin. Tang & A.P Sakis Meliopoylos, 'Power Systems small signal stability analysis with FACTS elements', IEEE, on Power delivery, vol.12, no. 3, July-1997. 6. Kitty Phorang & Prof.Dr.Yoshibumi Mizutani, 'Damping improvement of oscillation in power system by fuzzy logic based SVC stabilizer', IEEE–2002. 7. Farsangi, M.M. Song, Y.H. Lee, K.Y. Kerman Univ., Iran,"Choice of FACTS device control inputs for damping inter-area oscillations", IEEE Transactions on Power Systems, pp. 1135-1143, Vol. 19, May – 2004. 8. Prabha kundur 'power system stability and control" Tata McGraw hill education private limited. 9. Robert fuller, "Neuro fuzzy methods for modeling and fault diagnosis", Eotvos lorand university 2001.	**207-211**
40.	**Authors:**	**Santanu Maity, Bishnu Prasad De, Aditya Kr. Singh**
	Paper Title:	**Design and Implementation of Low-Power High-Performance Carry Skip Adder**
	Abstract: The most timing critical part of logic design usually contains one or more arithmetic operations, in which addition is commonly involved. In VLSI applications, area, delay and power are the important factors which must be taken into account in the design of a fast adder. The carry-skip adder reduces the time needed to propagate the carry by skipping over groups of consecutive adder stages, is known to be comparable in speed to the carry look-ahead technique while it uses less logic area and less power. In this paper, a design of 8-bit Carry Skip Adder by various existing logic styles are to be compared quantitatively and qualitatively by performing detailed transistor-level	**212-218**

simulation using T-Spice v13.0.

Keywords: Low power, High performance, Carry Skip adder, Logic design style, CMOS, CPL, DPL, Reversible Logic.

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41.

Authors:	**S.H. Jagtap, M.M Patil, S.D. Ruikar**
Paper Title:	**Multiscale Geometric Representation for Single Image Super-Resolution**

Abstract: This paper presents comparative study of different single image SR algorithms and takes deep drive on a new approach to single-image super-resolution, based upon Multiscale Geometric Representations. Nowadays computational power of processors are increasing therefore, it has become feasible to use more robust and computationally complex algorithms that increase the resolution of images without distorting edges and contours. We present a novel image interpolation algorithm that uses the new contourlet transform to improve the regularity of object boundaries in the generated images. By using a simple wavelet-based linear interpolation scheme as our initial estimate, we use an iterative projection process based on two constraints to drive our solution towards an improved high-resolution image. This algorithm generates high-resolution images that are competitive or even superior in quality to images produced by other similar SR methods.

Keywords: Image super-resolution (SR), contourlet transform, geometric regularity, directional multi-resolution image.

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42.

Authors:	**Jeff Huang, Ken Nagasaka**
Paper Title:	**The Trends of Greenhouse Gas Emission for Japanese Electric Utility Post Kyoto Protocol**

Abstract: Japan was on track achieve the Greenhouse gas (GHG) emission reduction target defined under the Kyoto Protocol. But what will be happen after Post Kyoto Protocol, especially by including the impact of devastating March 11, 2011 Earthquake (311 Earthquake) in northeast coast of Japan remained unclear. This paper will firstly describe the current situation of GHG emission and reduction target for Japanese electric utility industry. Followed by introduced the technique of Artificial Neural Network (ANN) to forecast trend of the electricity consumption and GHG emission in Japan, with and without the impact of 311 Earthquake. In the conclusion, we analyze the challenges faced by Japanese electric utility industry regarding the issue of GHG emission reduction Post Kyoto Protocol. According to the simulation result, decrease in electricity consumption coupled with the large increase in nuclear energy to be introduce into Japanese electricity generation, the GHG emission level is expected to significantly decline from 2012-2020. The electricity consumption level in 2020 will be 1% higher than 2010 level but the GHG emission is 3% lower accordingly. If we included the impact of 311 Earthquake into the simulation, the GHG emission generated by Japanese electric utility industry will reach to 656 million metric tons CO2 in 2020. This is 311.4 million metric tons in excess of the forecast without the impact of the 311 Earthquake. This large increase amount will create a big pressure and challenge for Japanese electric utility in regard of emission reduction Post Kyoto Protocol.

Keywords: Greenhouse Gas (GHG) Emission, Post Kyoto Protocol, Emission Reduction, Forecasting, Artificial Neural Network (ANN).

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Authors:	**D.Devi Aruna, P.Subashini**
Paper Title:	**CCMP-AES Model with SNAuth-SPMAODV Routing Potocol to Secure Link and Network Layer for Mobile Adhoc Networks in Military Scenario**

Abstract: Mobile Adhoc network is a special kind of wireless networks. It is a collection of mobile nodes without having aid of established infrastructure. Mobile Adhoc network are vulnerable to attacks compared to wired networks due to limited physical security, volatile network topologies, power-constrained operations, intrinsic requirement of mutual trust among all nodes. During deployment, security emerges as a central requirement due to many attacks that affects the performance of the ad hoc networks. Particularly Denial of Service attack is one such severe attack against ad hoc routing protocols which is a challenging one to defend against in military communication environments. The proposed model combines SNAuth-SPMAODV with CCMP-AES mode to defend against Denial of Service attack and it also provides confidentiality and authentication of packets in both routing and link layers of MANET. The primary focus of this work is to provide security mechanisms while transmitting data frames in a node to node manner. The security protocol CCMP-AES working in data link layer keeps data frame from eavesdropping, interception, alteration, or dropping from unauthorized party along the route from the source to the destination. The simulation is done for different number of mobile nodes using network simulator Qualnet 5.0. The proposed model has shown better results in terms of total bytes received, packet delivery ratio, throughput, End to End delay and

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Average jitter.

Keywords: MANET, Mobile adhoc network, Denial of Service attack, Strict priority algorithn, Secure neighbor authentication, Advanced encryption standard.

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Authors:	**Sangeeta Jana, Malay K. Pandit, Asim K. Jana**
Paper Title:	**Statistical Optimal Controller for AGV's to achieve High Index of Performance (IP)**

Abstract: This paper exhibits a new optimal control two simultaneous processes: velocity and speed control in an embedded controller for an AGV (autonomous guided vehicle) in uncertain situations. This technique has been used to fuse information from internal and external sensors to navigate the AGV in an unmapped environment or in case of uncertainty. Uncertainty, the lack of certainty, A state of having limited knowledge where it is impossible to exactly describe existing state or future outcome, more than one possible outcomes. We have optimized speed and position error that contribute to the motion control problems of an AGV. During the movement of an AGV, whether straight or arc create position and orientation errors. The main concern is to achieve the real time and robustness performance to precisely control the AGV movements. We report here for the first time a novel optimization method based on Markov chain.

Keywords: Uncertainty, Robust, system index performance, probability of system error.

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45.

Authors:	**A.P.Shrotri, S.B.Khandagale**

	Paper Title:	**Design of a Predictive Maintenance Program**	
	Abstract: The modern manufacturing plants are generally equipped with complex and continuous running machines and equipment. These are characterized with high speeds heavy working loads high temperatures and pressures etc. The shutdown costs are very large in case of such complex plants. Any breakdown or malfunctioning in such cases is not only a costly affair but it also raises the question of safety of plant itself and persons working there in. This initiates the need for prediction of failure of machines as well in advance so as to initiate the corrective action. The condition monitoring and subsequent condition based maintenance is an effective measure in this regard. However in a factory same maintenance practice is neither desirable nor required for all equipment and machines and a routine practice is to use mixed maintenance scheme. As the predictive maintenance efforts are very expensive hence the design of predictive maintenance scheme itself becomes a task of utmost care. This paper suggests a stepwise procedure for design of predictive maintenance program and also discusses the justification factors, choice of monitoring techniques and various related facts regarding predictive maintenance. The paper also includes a case study of condition monitoring and thereby arranging a predictive maintenance for sugar industry. **Keywords:** condition monitoring, Predictive maintainance,VEIN analysis, vibration analysis. **References:** 1. Higgnis L.R. and Morrow L.C. : Maintenance engineering Hand Book (McGraw-Hill). 2. Corder A.A. : Maintenance Management Techniques (McGraw-Hill) 3. P. Gopalkrishnan & A.K. Banaerji : Maintenance and Spare parts management (Prentice-Hall of India). 4. Dr. S.K.Basu : Reliability based condition monitoring (Proceedings of IPROM-97). 5. R. Keith Mobley: "An Introduction to Predictive Maintenance" 6. Sadettin Orhan , Nizami Aktu¨rk , Veli C¸ elik: "Vibration monitoring for defect diagnosis of rolling element bearings as a predictive maintenance tool: Comprehensive case studies", NDT&E International 39 (2006) 293–298. 7. MaCarmen Carnero :"An evaluation system of the setting up of predictive maintenance programmes", Reliability Engineering and System Safety 91 (2006) 945–963. 8. Dheeraj Bansal , David J. Evans , Barrie Jones :"A real-time predictive maintenance system for machine systems", International Journal of Machine Tools & Manufacture 44 (2004) 759–766.	**242-246**
46.	**Authors:**	**Devashree Rai, Kesari Verma, A. S. Thoke**	
	Paper Title:	**Comparative Analysis of Single and Multiple Minimum Support Based Association Rule Mining Algorithms**	
	Abstract: Association rule mining techniques discover associations between entities. Some techniques are single minimum support based while some are multiple minimum support based. Single minimum support based approach suffer from rare item problem dilemma while multiple support based approach considers rare items for mining association rules. In this paper we have evaluated performance of Apriori-T and MSApriori-T Algorithms that are single and multiple minimum based approaches respectively. These Algorithms uses an efficient data storage mechanism Total support tree for storing item sets. **Keywords:** Apriori-T, Association rule mining, MSApriori-T, Total support tree. **References:** 1. M.S. Chen, J. Han, P.S. Yu, "Data mining: an overview from a database perspective", IEEE Transactions on Knowledge and Data Engineering, 1996, 8, pp. 866-883. 2. J. Han, M. Kamber, Data Mining: Concepts and Techniques, Morgan Kaufmann Publisher, San Francisco, CA, USA, 2001. 3. Agrawal, R., Imielinski, T., and Swami, A. "Mining association rules between sets of items in large databases." SIGMOD, 1993, pp. 207-216. 4. Agrawal, R., and Srikanth, R. "Fast algorithms for mining association rules." VLDB, 1994. 5. J.Han, Y. Fu, "Discovery of multiple-level association rules from large database", in the twenty-first international conference on very large data bases, Zurich, Switzerland, 1995, pp. 420-431.W.-K. Chen, Linear Networks and Systems (Book style). Belmont, CA: Wadsworth, 1993, pp. 123–135. 6. J.Han, J.Pei and Y.Yin., "Mining frequent patterns without candidate Generation", in: Proceeding of ACM SIGMOD International Conference Management of Data, 2000, pp. 1-12. 7. Coenen and Leng (2004). Data Structures for Association Rule Mining: T-trees and P-trees to appear in IEEE Transaction in Knowledge and Data Engineering. 8. Devashree Rai, Kesari Verma, A.S. Thoke "MSApriori using total support tree data structure" (accepted for publication) IJCA, to be published. 9. Liu, B., Hsu, W., and Ma, Y. "Mining Association Rules with Multiple Minimum Supports." SIGKDD Explorations, 1999. 10. R. Rymon, "Search through Systematic Set Enumeration," Proc. Third Int'l Conf. Principles of Knowledge and Reasoning, pp. 539-550, 1992. 11. Weiss, G. M. "Mining With Rarity: A Unifying Framework." SIGKDD Explorations, 2004, Vol. 6, Issue 1, pp. 7 - 19. 12. Mannila, H. "Methods and Problems in Data Mining." ICDT, 1997. 13. Uci: Blake, c.l., & Merz, C.J (1998) UCI repository of machine leaning databases from www.ics.uci.edu/~mlearn/MLrepository.html.	**247-250**
47.	**Authors:**	**Venkata Raviteja. K, K.S.N Murthy, I.Govardhani, M.Venkata Narayana**	
	Paper Title:	**Read Range Performance of UHF RFID Reader Antenna**	
	Abstract: Now a days ultrahigh frequency (UHF) radio frequency identification has gaining popularity because of its rapid development in automated identification of objects wirelessly and having wide range of applications. Radio frequency identification (RFID) is a technology that uses radio waves to transfer data from an electronic tag called RFID tag or label attached to an object through a reader for the purpose of identifying and tracking the object. The tag's information is stored electronically. It includes a small RF transmitter and receiver. An RFID reader transmits an encoded radio signal to interrogate the tag. The tag receives the message and responds with its identification information. In this paper, the read range capabilities of proposed antenna at UHF range are determined. By using the proposed antenna we simulate return loss, gain, Vswr and radiation patterns using HFSS software.	**251-255**

Keywords: Radio frequency identification (RFID), Reader antenna, Ultrahigh frequency (UHF), Near-field, Far-field

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10. I.Govardhani, K.Rajkamal, M.Venkata Narayana, S.Venkateswarlu published a paper on "Phased Array Antenna for Millimeter Wave Radar in W-band using Liquid Crystal Substrate" VOL. 2, NO. 12, December 2011 ISSN 2079-8407Journal of Emerging Trends in Computing and Information Sciences
11. I.Govardhani , M.Venkata Narayana, Prof S.Venkateswarlu, K.Rajkamal Published paper in International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622 www.ijera.com Vol. 2, Issue 1,Jan-Feb 2012, pp.764-767 on "Microstrip patch antenna using holographic structure for WLAN and Ku Band application".
12. I.Govardhani , M.Venkata Narayana Published paper in International Journal of Computer Science & Communication Networks,Vol 2(1), 375-380, ISSN:2249-5789 on Rectangular Patch Array Antenna with Liquid Crystal Substrate for Ka and Q Band Applications.
13. M. Venkata Narayana, I.Govadhani, K.P.Sai Kumar, K. Pushpa Rupavathipublished paper on "Comparative Analysis of Exponentially Shaped Microstrip-Fed Planar Monopole Antenna With and Without Notch "VOL. 2, NO. 11, October 2011 ISSN 2079-8407. Journal of Emerging Trends in Computing and Information Sciences.
14. M. Venkata Narayana, A.Vikranth, I. Govardhani, Sd. Khaja Nizamuddin, Ch. Venkatesh published paper on"A Novel Design of a Microstrip Patch Antenna with an End Fire Radiation for SAR Applications" Volume 2 No.1, January 2012 ISSN 2224-3577 International Journal of Science and Technology .
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Authors:	**Anuradha Pathak, A.K. Wadhwani**
Paper Title:	**Data Compression of ECG Signals Using Error Back Propagation (EBP) Algorithm**

Abstract: Heart is one of the vital parts of our human body, which maintains life line. The paper deals with an efficient composite method which has been developed for data compression and signal reconstruct of ECG signals. ECG data compression algorithm is needed that will reduce the amount of data to be transmitted, stored and analyzed, but without losing the clinical information content. After carrying out detailed studies and by training different topologies of error back propagation (EBP) artificial neural network (ANN) with respect to variation in number of hidden layers and number of elements, the topology with single hidden layer and four elements in each hidden layer has been finalized for ECG data compression using a Physionet.org data base. The compression ratio (CR) in ANN method increases with increase in number of ECG cycles. The entire programming in this paper is carried out on the version of MATLAB 7.8.

Keywords: Compression, Data compression, ECG, Compression ratio (CR), PRD and EBP.

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Authors:	**Hemlata Shakya, A.K.Wadhwani**
Paper Title:	**Transform Based ECG Data Compression**

Abstract: Electrocardiogram (ECG) is widely used in the diagnosis and treatment of cardiac disease. The data needs to be stored and transmitted, so it is necessary to compress the ECG signal data in efficient way. ECG compression methods can be classified into three categories: Direct method, Parameter extraction method & Transform method. In this paper a comparative study of transform. ECG compression allows real time transmission over telephone networks, economic off-line transmission to remote interpretation sites, improve Holter monitor system and enables efficient ECG rhythm analysis algorithms. Wavelet compression technique was found to be optimal in terms of compression

Keywords: ECG, Compression, DWT, DST, CR and PRD.

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Authors: **R.Suresh, K.Saranya, S.Dhivya, K.Thilagapriya**

Paper Title: **Proficient Search in Relational Database Based on Keyword**

Abstract: Information retrieval (IR) is the process of attaining documents relevant to an information need from a great document set. The integration of DB and IR provides flexible ways for users to query information in the same platform. Keyword search is the most popular information retrieval method as users need to know neither a query language nor the underlying structure of the data. In this paper we focus on the keyword query ranking and based on the user preference the top-k results will be retrieved from the relational database and returned to the user. This system will provide an efficient query processing and the ranking functions which is based on the scores calculated by different methods. These scores are the basis for the ranking of the documents.

Keywords: Candidate network, Information retrieval, Ranking method.

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Authors: **K.Kantha Rao, K. Jayathirtha Rao, A.G.Sarwade, B.Madhava Varma**

Paper Title: **Bending Behavior of Aluminum Honey Comb Sandwich Panels**

Abstract: Aluminum sandwich construction has been recognized as a promising concept for structural design of light weight systems such as wings of aircraft. A sandwich construction, which consists of two thin facing layers separated by a thick core, offers various advantages for design of weight critical structure. Depending on the specific mission requirements of the structures, aluminum alloys, high tensile steels, titanium or composites are used as the material of facings skins. Several core shapes and material may be utilized in the construction of sandwich among them, it has been known that the aluminum honeycomb core has excellent properties with regard to weight savings and fabrication costs. This paper is theoretically calculate bending behavior, of sandwich panels and to compare the strength to weight ratios of Normal Aluminium rod(panel) and Aluminium Honey Comb Panel .

Keywords: Aluminium material, Sand witch Panel, Honey Comb core, Adhesive .

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Authors: **Gehad Mohammed Sharaf, Mahdi Alhaji Musa, Azizah Abdul Rahman**

Paper Title: **An Examination of Social Networking Sites Usage Among Muslims Student in Islamic Perspectives**

Abstract: Social networking sites (SNS) have created a new social dimension where individuals can develop increased levels of their social awareness by keeping in touch with old friends, making new friends, dispense new data or product. And also getting information in many more aspects of everyday lives, making one to become more knowledgeable which is very beneficial especially for students. In spite of many preaches by Islamic scholars on the appropriate ways to use these social media, many students tend to use it against the ethics enshrines by Islamic laws. The purpose of this research is to examine student's level of awareness of Islamic regulations while using social networking sites. A survey was conducted among 450 Muslims Undergraduate student of University Teknologi Malaysia. The finding of this research indicates that some students use the social media appropriately by creating ethical Islamic group that will promote the good image of Islam, while other students had become addicted to the social networks so much so that they delayed their prayer time.

Keywords: Factor Analysis, Islamic regulations, Malaysia, Social Networking Sites, Students,

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54.

Authors: **AshwiniJajda Modi, N. P. Shinkar**

Paper Title: **Environmental Impact Assessment of Road from Ujjain to Jaora**

Abstract: This paper is related to"Environmental Impact Assessment of Road from Ujjain to Jaora". As the EIA report i.e. Environmental Impact Assessment contains the detail study about the positive as well as negative effects on the plants, human, animals and Environment. Our capacity for destruction is illustrated through the deterioration of the ozone layer, through the extinction of species, and through mass deforestation and desertification. In many parts of the world, economic development projects directed at improving levels of material comfort have had unintended detrimental effects on people and natural resources. Water, land, and air have been degraded to the point where they can no longer sustain existing levels of development and quality of life.We know that as, India is an developing country and economic development in developing countries has been focused on immediate economic gains environmental protection has not been a priority because the economic losses from environmental degradation often occur long after the economic benefits of development have been realized.

Keywords: EIA,EMP,EPA, MOEF,Desertification, Deforestation.

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Authors: **N.N. Osadebe and C.A. Chidolue**

Paper Title: **Response of Double Cell Mono Symmetric Box Girder Structure to Torsional-Distortional Deformations**

Abstract: In this paper the effect of middle web member on torsional-distortional deformations of a double cell mono symmetric box girder structure is examined. First, the torsional and distortional deformations of a single cell mono symmetric box girder structure were examined using a single span, simply supported bridge structure on the bases of Vlasov's theory. By introducing a middle (vertical) web member on the single cell mono symmetric box girder section a double cell mono symmetric box girder structure of the same overall cross sectional dimensions was obtained. The torsional and distortional deformations of the double cell cross sectional profile were also evaluated and compared with those of the mono symmetric cross sectional profile. Results show that the introduction of the middle web member to obtain the double cell mono symmetric box girder structure reduced the distortional deformation by 118% and increased the torsional deformation by 14%

Keywords: box girder, distortion, mono symmetric, thin-walled, torsion, Vlasov's theory.

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Authors: **Sonal Jain, A. K Wadhwani**

Paper Title: **Analysis of EEG Signals for Epilepsy and Seizure by decomposition with Wavelet Transform**

Abstract: The Electroencephalogram (EEG) is a complex signal that indicates the electrical activity of brain. EEG is a signal that represents that effect of the superimposition of diverse processes in the brain. Epilepsy is a common brain disorder. Out of hundred one person is suffering from this problem. Here we study a novel scheme for detecting epileptic seizure from EEG data recorded for healthy subjects and Epileptic patients. EEG is obtained by International 10-20 electrodes system. Wavelet transform is used for feature extraction. Wavelet Transform (WT) provides a flexible way of time-frequency representation of a signal.

Keywords: EEG (Electro Encephalo Graph), Epilepsy, Seizure, Wavelet Transform.

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Authors:	**Mumtaz Ahmad Khan, Shadab Khan, Mohd Sadiq**	
Paper Title:	**Systematic Review of Software Risk Assessment and Estimation Models**	

Abstract: The process of Software risk evaluation and management embodies the identification, analysis, planning, tracking, controlling and communication of risk. Risk assessment methods are one of the most important elements in the process of risk management. The objective of this article is to present the systematic review of Software risk assessment and estimation models. The main emphasis is given to the risk assessment methods based on software metrics like Software Risk Assessment and Estimation Model (SRAEM) and Software Risk Assessment and Evaluation Process (SRAEP) using model based approach because these methods are the latest methods in the field of software risk assessment and estimation.

Keywords: Software Risk, Risk Exposure, Risk Assessment and Estimation.

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