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**1.**

**Authors:** Probal Banerjee, Pallab Banerjee, Shweta Sonali Dhal

**Paper Title:** Comparative Performance Analysis of ANN Implemented LMS with ANN for Channel Estimation in AWGN Channel Scenario

**Abstract:** In this paper we have done channel estimation using the concepts of LMS algorithm, after that we have implemented the logic of LMS algorithm using the concepts of Supervised Artificial Neural Network and then we have performed channel estimation directly applying the concepts of Supervised Artificial Neural Network. Finally we have compared the performances (BER v/s SNR and Throughput v/s SNR) of these three methods for channel estimation under AWGN channel scenario. Matlab (version 7.9) is used here as the simulation platform.

**Keywords:** Channel estimation, LMS, Artificial Neural Network, BER, Throughput

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13. R. Vicen-Bueno et al, " Artificial Neural Network-Based Clutter Reduction Systems for Ship Size Estimation in Maritime Radars", EURASIP Journal on Advances in Signal Processing, Vol.2010, doi:10.1155/2010/380473



**2.**

**Authors:** Rajat Chaudhary, Prem Singh, Ambika Agarwal

**Paper Title:** A Security Solution for the Transmission of Confidential Data and Efficient File Authentication Based on DES, AES, DSS and RSA

**Abstract:** Data security is an integral part of web based business applications like insurance, banking etc. These applications require a secure infrastructure to meet the security requirements of confidentiality, endpoint authentication, message integrity and no repudiation. Document encryption/decryption and signatures/validation are the data security standards that define XML vocabularies and processing rules to meet these security requirements.
In this paper, we present a how a file securely passes from sender (server) to the receiver (client) through a central gateway with web services applications which mean a secure architecture for the exchange of confidential documents. Designing a secured electronic system architecture i.e. connected to the central gateway through which the whole work is established and takes place accordingly to pass only the files over the internet and have security features like digital signatures. Various algorithms, implementations and coding have been developed for encryption/decryption, signatures/validations and web services.

**Keywords:** Confidentiality, Authentication, Algorithms and Methods.

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**3.**

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| **Authors:** | **Zhenxing Luo** |
| **Paper Title:** | **Robust Energy-based Target Localization in Wireless Sensor Networks in the Presence of Byzantine Attacks** |

**Abstract:** This paper presents a robust energy-based target localization method in wireless sensor networks (WSNs) in the presence of Byzantine attacked sensors. Byzantine attacks will cause sensors to send false information to the fusion centre and disturb the target localization method. Therefore, a robust energy-based target localization method is needed to counter the Byzantine attacks and a method is presented in this paper. The method presented in this paper assumes that the fusion centre knows the exact information about the percentage of Byzantine sensors and the attack probability. If the fusion centre does not know the Byzantine attack information, a Byzantine sensor identification scheme can be used to identify Byzantine sensors. Results showed the robust energy-based target localization method could provide better performance results than the energy-based target localizatin method, which did not consider Byzantine attacked sensors. Moreover, simulation results showed that the Byzantine sensor identificaiton scheme could identify most Byzantine attacked sensors.

**Keywords:** Byzantine sensors, Cramer-Rao lower bound, maximum likelihood estimation, reputation value.

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**4.**

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| **Authors:** | **Srikanth V, Leelavathi G** |

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| | **Paper Title:** | **Video Monitoring System Based on ARM9** | |
| | **Abstract:** The preceding and existing video surveillance system which entails high end cameras, video servers, network switch and monitoring PC all these resources leads to complexity, expensive, high power consumption and also requires more area to establish. In order to overcome the hitch in the preceding and existing system, this paper presents a proficient where it uses few hardware resources for the implementation of the video monitoring system. S3C2440 is a very good ARM9 family processor providing a camera interface which is very conducive to the application and development. Embedded Linux is chosen as operating system which provides open-source, multi-task, multi-process, highly modular, multi-platform support, performance and stability to the system. The design system achieves maximum frame rate of 30fps with a resolution of 1280x1024 if individual camera is initialized and 10fps with a maximum video resolution of 340x480 if two cameras are initialized. The application of this paper can be implemented at security surveillance, patient monitoring in hospitals and polling booths.<br><br>**Keywords:** ARM9, MINI 2440, MJPG-streamer, JPG, IP address,<br><br>**References:**<br>1. Min Zhang, Jin-guang Sun and Shi Wang,"Research and Implementation of the CMOS Camera Device Driver Based on S3C2440", Intelligent Computation Technology and Automation (ICICTA), 2010 IEEE International Conference, Vol-2, 1039 – 1042, 11-12, May 2010.<br>2. Denan Li, Zhiyun Xiao," Design of embedded video capture system based on ARM9", Electric Information and Control Engineering (ICEICE), 2011 IEEE International Conference, 2092 – 2095, 15-17, April 2011.<br>3. Yi-Shin Tung , Ja-Ling Wu and Ho Chia-Chiang " Architecture Design of an MPEG-4 System", Consumer Electronics, 2000. ICCE. 2000 Digest of Technical Papers. IEEE International Conference, 122 – 123, 2000.<br>4. Guerri, J.C.,Pajares, A.,Esteve, M,Palau, C and Leon, A," A feedback packet-level error control for real-time applications in wireless networks" , Vehicular Technology Conference, 1999. VTC 1999 - Fall. IEEE VTS 50th , Vol 2,879 – 883, 1999.<br>5. Jianyu Dong; Chao He; Zheng, Y.F," AVP: a highly efficient real-time protocol for multimedia communications on Internet ",Information Technology: Coding and Computing, 2001. Proceedings. IEEE International Conference, 280 – 284, 2001.<br>6. Parthasarathy, V.; Bharathi, A.V.; Rhymend Uthariaraj, V," Performance analysis of embedded media applications in newer ARM architectures ",Parallel Processing, 2005. ICPP 2005 Workshops.IEEE International Conference Workshops, 210 – 214, 2005.<br>7. Hyung Su Lee; Hee Young Youn; Hye Dong Jung," Packet control mechanism for seamless multimedia streaming service in wireless network ",Advanced Communication Technology, 2006. ICACT 2006. The 8th International Conference , Vol 3, 6 pp. – 1838, 20-22 Feb. 2006.<br>8. Lihong Xu, Shuhua Ai," A New Feedback Control Strategy of Video Transmission Based on RTP", Industrial Electronics and Applications, 2006 1ST IEEE Conference, pp. 1 – 4, 24-26 May 2006. | | **16-19** |
| **5.** | **Authors:** | **Roopashree S S, Manjunath Lakkannavar** | |
| | **Paper Title:** | **The Controlling of Mobile Robot Based on ARM9** | |
| | **Abstract:** In this proposed work the robot is built using two dc motors for the movement which is administered by AT89C51 Microcontroller, the obstacle is detected by ultrasonic sensor, the controlling of the robot is done by using the resources of MINI 2440 development board. The application of this system can be implemented at archeological survey, place of natural disaster and industrial applications. The previous system of Mobile robot which relies on PC System to coordinate the whole resources, in order to achieve advanced arithmetic among different module, and to realize intelligent behavior just as human beings by plan and decision. In order to overcome the hitch in the previous system, this work is proficient where it is stable and reliable, with low-power, tiny-volume and high integration.<br><br>**Keywords:** ARM9, L293D, LCD, MINI 2440, ultrasonic sensor, Linux.<br><br>**References:**<br>1. Shuangyou Wang, Zhi'an Wang and Xuhui Wang "The Design of PC System for Mobile Robot Based on ARM9". International Conference of Information Science & Engineering, PP 292-295, 2010.<br>2. Luca Bascetta and Paolo Rocco. "Revising the Robust-Control Design for Rigid Robot Manipulators" IEEE TRANSACTIONS ON ROBOTICS, VOL. 26,PP.180-187, NO. 1, 2009.<br>3. Yong Zhang, Brandon K. Chen, Xinyu Liu, and Yu Sun." Autonomous Robotic Pick and Place of Micro-objects". IEEE Transactions On Robotics, VOL. 26, PP. 200-207,NO. 1, FEBRUARY 2010.<br>4. MINI 2440 user's manual, 2004.<br>5. Andreas Kolling, and Stefano Carpin. "Pursuit-Evasion on Trees by Robot Teams". IEEE TRANSACTIONS ON ROBOTICS, VOL. 26, PP. 32-47, NO. 1, FEBRUARY 2010.<br>6. Andreas M¨uller " Consequences of Geometric Imperfections for the Control of Redundantly Actuated Parallel Manipulators". IEEE TRANSACTIONS ON ROBOTICS, VOL. 26, PP. 21-31, NO. 1, FEBRUARY 2010.<br>7. Samsung S3C2440A, User's manual, 2004.<br>8. Torsten Kroger and Friedrich M. Wahl" Online Trajectory Generation: Basic Concepts for Instantaneous Reactions to Unforeseen Events". IEEE TRANSACTIONS ON ROBOTICS, VOL. 26, PP. 94-111, NO. 1, FEBRUARY 2010.<br>9. Matthew Baumann, Simon L´eonard, Elizabeth A. Croft, and James J. Little." Path Planning for Improved Visibility Using a Probabilistic Road Map". IEEE TRANSACTIONS ON ROBOTICS, VOL. 26, PP. 195-200, NO. 1, FEBRUARY 2010.<br>10. Data sheet of lv-maxsonar-ez1 and Data sheet of LCD 16x2.<br>11. Ravinder S. Dahiya, Giorgio Metta, Maurizio Valle and Giulio Sandini." Tactile Sensing-From Humans to Humanoids". IEEE TRANSACTIONS ON ROBOTICS, VOL. 26, PP. 1-20, NO. 1, FEBRUARY 2010<br>12. Dekneuvel E and H.Medromi." AN ULTRASONIC SOUND INTELLIGENT SENSOR FOR A MOBILE ROBOT PERCEPTION SYSTEM". Principles, design and experimentations. VOL.2, PP. 513-520, NO.1 , 1999.<br>13. Zou Yi, Ho Yeong Khing, Chua Chin Seng, and Zhou Xiao Wei." Multi-ultrasonic Sensor Fusion for Mobile Robots". IEEE Intelligent Vehicles Symposium. VOL.6 , PP. 387-391, NO.2 , October 2000.<br>14. K. Ohtani " Shape Recognition by Network Configuration of Ultrasonic Sensor Array and CCD Image Sensors". The 47th IEEE International Midwest Symposium on Circuits and Systems. VOL.77 , PP.509-512 , NO.5 , December 2008.<br>15. Fuquan Pan , Lixia Zhang, Gang Sun and Jiyou Li." Design of Vehicle Reversing Collision Avoidance Device Based on Single Chip Computer". International Conference on Power Electronics and Intelligent Transportation System. VOL.19, PP. 223-226, NO.4, 2009.<br>16. Ying-Wen Bai, Li-Sih Shen and Zong-Han Li. "Design and Implementation o f an Embedded Surveillance System by Use of Multiple Ultrasonic Sensors". IEEE Paper. Vol. 2, PP. 1-3, NO. 1, 2010.<br>17. Ying-Wen Bai, Li-Sih Shen and Zong-Han Li." Design and Implementation of an Embedded Home Surveillance System by Use of Multiple Ultrasonic Sensors". Design and Implementation of an Embedded Home Surveillance System by Use of Multiple Ultrasonic Sensors. VOL. 56, PP. 119-124, NO. 1, FEBRUARY 2010. | | **20-24** |

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**6.**

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| **Authors:** | **Hemanth Kumar G, Manjunath Lakkannavar** |
| **Paper Title:** | **The Design of Granary Environmental Monitoring and Control System Based On ARM9 and ZIGBEE** |

**Abstract:** Grain storage is a vital component in the economy and the society. The quality and safety of grain storage are related to the hundreds of millions of people. In the process of grain storage, temperature and humidity are two major ecological factors that can affect the grain quality. Therefore, the parameters of temperature, humidity must be in accurate and real-time monitoring by supervisory systems in large granaries. The automatic monitoring of the grain storage will help us to improve the operation levels of grain storage, reduce the grain losses during stored procedure and reduce labor intensity. This project designs an environment monitoring system of the granary combining Embedded and ZigBee wireless sensor network technology. Using ZigBee wireless sensor network to complete acquisition and transmission of environment parameters and using ARM9 to achieve precise control of the barn environment as system data controller and using GSM to achieve the system's remote control, it greatly improves the flexibility and scalability of the warehouse management which sends available data to grain depot manager (Database management) in time and filters invalid data on the spot. It makes many important aspects not need manager to complete on the scene, which saves a lot of manpower and material resources and improves labor productivity.

**Keywords:** ARM9, MINI 2440, ZIGBEE,GSM,Visual studios

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**7.**

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| **Authors:** | **Meshram Vaibhav Bhimrao, Ramesh T** |
| **Paper Title:** | **ASIC Implementation of HDB3 Codec** |

**Abstract:** This paper demonstrates the working of HDB3 encoder & decoder and also its implementation at chip level. The HDB3 code consist of 3 modules namely violation module, balance module and polarity correction module. The decoder consists of violation detection module, balance detection module and polarity detection module. The encoder design accepts serial data from the information source in binary format. HDB3 encoder encodes the binary data into two bit symbol data. The encoder data is transmitted over a physical channel. At receiver's end when the data is present, the decoder detects the violation symbol and balance symbol using the violation and balance detection module. The polarity is restored by the polarity detection module. The HDB3 codec is a modified AMI generator, the design is targeted on 180nm technology provided by JAZZ foundry.
The HDB3 codec's front-end design development and verification is carried out using QuestaSim simulator. ASIC implementation of HDB3 codec is done using SYNOPSYS tools.

**Keywords:** HDB3 codec.

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| **8.** | **Authors:** | **Paras Chawla, Ruchi Mittal, Kavita Grewal** |
| | **Paper Title:** | **Hybrid Filtering Technique for Image Denoising Using Artificial Neural Network** |

**Abstract:** Image enhancement and restoration in a noisy environment are fundamental problems in image processing. Various filtering techniques have been developed to suppress noise in order to improve the quality of images. Many filters for image processing are designed assuming a specific noise distribution. In the medical field image processing play an important role because most of the diseases are diagnosed by means of medical images. In order to use these images for the diagnosing process, it must be noiseless. However, most of the images are affected by noises and artifacts. Hence an effective technique for denoising medical images particularly in Computed Tomography (CT) is necessary, which is a significant and most general modality in medical imaging. In order to achieve this denoising of CT images, an effective CT image denoising technique is proposed. The proposed technique remove the Additive white Gaussian Noise from the CT images and improves the quality of images. The proposed work is comprised of three phases; they are preprocessing, training and testing. In the preprocessing phase, the CT image which is affected by the AWGN noise is transformed using multi wavelet transformation. In the training phase the obtained multi-wavelet coefficients are given as input to the Adaptive Neuro-Fuzzy Inference System (ANFIS). In the testing phase, the input CT image is examined using this trained ANFIS and then to enhance the quality of the CT image thresholding is applied and then the image is reconstructed. Hence, the quality enhanced and the denoising CT images are obtained in an effective manner.

**Keywords:** CT image; denoising; Additive White Gaussian Noise (AWGN); multi-wavelet transformation; Adaptive Neuro- Fuzzy Inference System (ANFIS); thresholding.

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| **9.** | **Authors:** | **Anil Kamboj, Kavita Grewal, Ruchi Mittal** |
| | **Paper Title:** | **Color Edge Detection in RGB Color Space Using Automatic Threshold Detection** |

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| | **Abstract:** Edge detection is one of the most commonly used operations in image processing and pattern recognition, the reason for this is that edges form the outline of an object. An edge is the boundary between an object and the background, and indicates the boundary between overlapping objects. Edge detection reduces the amount of data needed to process by removing unnecessary features. Edge detection in color images is more challenging than edge detection in gray-level images. Compared with gray image, color image provides more edge information of objects. However, the current color edge detection algorithms acquired so much time to compute and they are hardly used in real-time system. In order to improve the efficiency and the performance of the color edge detection. This paper proposes a method for edge detection of color images with automatic threshold detection. The proposed algorithm extracts the edge information of color images in RGB color space with fixed threshold value. The algorithm works on three channels individually and the output is fused to produce one edge map. The algorithm uses the improved Kuwahara filter to smoothen the image, sobel operator is used for detecting the edge. A new automatic threshold detection method based on histogram data is used for estimating the threshold value. The method is applied<br>for large number of images and the result shows that the algorithm produces effective results when compared to some of the existing edge detection methods.<br><br>**Keywords:** RGB color space Kuwahara filter, Sobel Operator, Histogram, Edge Thinning, Threshold.<br><br>**References:**<br>1. Chen, X., Chen, H., Chen, H.: A Novel Approach for Color Edge Detection in RGB Color Space. In: 10th IEEE International Conference on Signal Processing, pp. 793–797. IEEE Press, Germany (2010)<br>2. Niu, L., Li, W.: Color Edge Detection Based on Direction Information Measure. In: 6th World Congress on Intelligent Control and Automation, pp. 9533–9536. IEEE Press,China (2006)<br>3. Zou, J., Li, H., Liu, B., Zhang, R.: Color Edge Detection Based on Morphology. In: 1st International Conference on Communication and Electronics, p. 291. IEEE Press, China(2006)<br>4. Dikbas, S., Arici, T., Altunbasak, Y.: Chrominance Edge Preserving Grayscale Transformation with Approximate First Principal Componenet for Color Edge Detection.In: IEEE International Conference on Image Processing, p. 261. IEEE Press, USA (2007)<br>5. Liu, K.-C., Chou, C.-H.: Perceptual Contrast Estimation for Color Edge Detection. In:IEEE International Conference on Systems, Signals and Image Processing and 6th EURASIP Conference Focused on Speech and Image Processing, Multimedia Communications and Services, pp. 86–89. IEEE Press, Poland (2007)<br>6. Perumal, E., Rajesh, R.S., Shanugam, P.: Fuzzy-PL Transformation based Color Edge Detection. In: 16th International Conference on Advanced Computing and Communications, p. 297. IEEE Press, India (2008)<br>7. Wang, J., Liu, L.: Specific Color-pair Edge Detection using Quaternion Convolution. In: 3rd International Congress on Image and Signal Processing, pp. 1138–1140. IEEE Press, China (2010)<br>8. Datta, S., Chaudhuri, B.B.: A COLOR Edge Detection in RGB Color Space. In: IEEE International Conference on Advances in Recent Technologies in Communications and Computing, India, p. 337 (2009)<br>9. Harish Kumar, J.R., Chaturvedi, A.: Edge Detection of Femur bone – A Comparative Study. In: IEEE International Conference on Signal and Image Processing, India, p. 337 (2009)<br>10. Navatia, R.: A Color Edge Detector and Its Use in Scene Segmentation. J. SMC-7, 820(1977) | **41-45** |
| **10** | **Authors:** | **Siddalinga Aland, V. Venkateswarlu, Rohith B.R** |
| | **Paper Title:** | **Block Level Physical Design of Interfacing Module in RISC Core** |
| | **Abstract:** The physical design plays a major role in implementing the circuit and logic cells physically, because physical devices and interconnecting materials will have its own parasitic resistances and capacitances. Placement and Routing (PNR) flow involves proper placement and routing the interfacing module including majorly PCI and SDRAM. In this project work digital cells called standard cells and macro are placed with minimum congestion of 3% in a block. And routing is done by keeping in mind the manufacturability by utilizing non default rule (NDR) design rules. The clock tree network is built by using the H-Tree network topology. The power network is synthesized with higher metal layers available in technology node. This project is implemented in TSMC 120nm technology, which has 7 metal layers but as this project is block level so 6 metal layers are used for routing. The clock frequency of block system is 250MHz is used as the main clock, peripheral clocks and generated clock of 133MHz. The GDSII format of layout is generated with no violations.<br><br>**Keywords:** Placement and Routing (PNR) flow involves proper placement and routing the interfacing module including majorly PCI and SDRAM.<br><br>**References:**<br>1. Stephan Rusu, “Trends and challenges in VLSI Technology scaling towards 100nm”, Intel Corporation, Sept 2011.<br>2. Subrat Kumar panda, “Advanced VLSI Design Lab”, Dept. of Computer science, IIT Kharagpur.<br>3. Ioannis Fudos, Xrysovalantis Kavousianos , Dimitrios Markouzis and Yiorgos Tsiatouhas, “Placement and Routing in Computer Aided Design of Standard Cell Arrays by Exploiting the Structure of the Interconnection Graph”, Computer-Aided Design & Applications, 5(1-4), 2008, 325-337.<br>4. Eisenmann H, “Generic global placement and floor-planning”, Design Automation Conference IEEE, 1998, page 269-274.<br>5. Naveed Sherwani, “Algorithm for physical design Automation”, third edition, kluwer academic publication, page 16.<br>6. Impact of small process geometries on microarchitectures in systems on a chip, Sylvester, D. Keutzer, K. Michigan Univ., Ann Arbor, MI Proceedings of the IEEE Apr 2001, pages 467 – 489.<br>7. Yao-Wen Chang, “Physical Design for Nanometer ICs”, Department of Electrical Engineering National Taiwan University Spring 2012 | **46-51** |
| **11** | **Authors:** | **Bashar Alsarayreh, Hassan Khudair** |
| | **Paper Title:** | **Structural Equation Modeling Analysis between Enabler and Results in EFQM Model; a Case Study in Vocational Training Corporation in Jordan** |
| | **Abstract:** In order to achieve excellence, organizations need to be aware of the impact of the individual criteria on each other and also the analysis of relationships between Enabler criteria and Results criteria. The aim of this paper is to evaluate the relationships between Enablers and Results in the EFQM Excellence Model applied in a Vocational Training Corporation (VTC) in Jordan. To this end, all the EFQM model data of the Vocational Training Corporation (VTC) was | **52-55** |

collected. Research method used for this article is descriptive, where Structural Equation Modeling (SEM) was used to assess the relations between the criteria. The results confirm the previous findings and shows that Enablers are strongly related to the Results. All the Enabler criteria contribute to Results improvements, so a balanced approach in the development of Enabler criteria allows organizations to obtain an optimal gain from the implementation of the EFQM Excellence Model.

**Keywords:** EFQM Excellence Model, Structural equation modeling Analysis, Vocational Training Corporation.

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| **Authors:** | **Pallab Banerjee, Probal Banerjee, Shweta Sonali Dhal** | |
| **Paper Title:** | **Comparative Performance Analysis of Average Max Round Robin Scheduling Algorithm (AMRR) using Dynamic Time Quantum with Round Robin Scheduling Algorithm using static Time Quantum** | |
| **12** | **Abstract:** Round Robin Scheduling algorithm is designed especially for time sharing Operating system (OS).It is a preemptive CPU scheduling algorithm which switches between the processes when static time Quantum expires. The Round Robin Scheduling algorithm has its disadvantages that is its longer average waiting time, higher context switches, higher turnaround time .In this paper a new algorithm is presented called Average Max Round Robin (AMRR) scheduling algorithm .In this scheduling algorithm the main idea is to adjust the time Quantum dynamically so that (AMRR) perform better performance than simple Round Robin scheduling algorithm. | **56-62** |

**Keywords:** Operating System, Round Robin, Average Max Round Robin, Turnaround time, Waiting time, Context Switch.

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**13**

**Authors:** **Shrutika Suri, Vandna Batra**

**Paper Title:** **Comparative Study of Network Monitoring Tools**

**Abstract:** There are billions of packets flying around the web sky today. A significant number of them are of malicious intent. These packets help us to understand when there are notable security or performance events occurring on the network and also to find out common network problems such as loss of connectivity, slow network etc.This paper focus on the comparative study of different packet analyzers available in current market and how we can choose amongst them according to our requirements.

**Keywords:** Packetcapturing, Packetanalysis, Wireshark, Eherape, capsa, libpcap.

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**14**

**Authors:** **Preetam Bhosle, Hari Krishna Moorthy**

**Paper Title:** **FPGA Implementation Of Low Power Pipelined 32-Bit Risc Processor**

**Abstract:** This paper presents the design and implementation of a low power pipelined 32-bit High performance RISC Core. The various blocks include the Fetch, Decode, Execute and Memory Read / Write Back to implement 4 stage pipelining. In this paper we are proposing low power design technique in front end process. Harvard architecture is used which has distinct program memory space and data memory space. Low power consumption helps to reduce the heat dissipation, lengthen battery life and increase device reliability. To minimize the power of RISC Core, clock gating technique is used in the architectural level which is an efficient low power technique. 7-SEG LEDs are connected to the RISC IO interface for testing purpose, Verilog code is simulated using Modelsim and then implementation is done using Altera Quartus II and Altera FPGA board.

**Keywords:** Architectural level power reduction, Auto branch prediction, Clock Gating, High performance architecture.

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**15**

**Authors:** **Shaik Ghouse Basha, P B Chennaiah, Kandalam Giridhar**

**Paper Title:** **Economic Generation of Electrical Power by using SFL Algorithm**

**Abstract:** An important criterion in power system operation is to meet the power demand at minimum fuel cost using an optimal mix of different power plants. Moreover, in order to supply electric power to customers in a secured and economic manner, unit commitment (UC) is considered to be one of the best available options. The problem of unit

commitment (UC) is to decide which units to inter connect over the next T hours, where T is commonly daily or weekly duration of time. The problem is complicated by the presence of constraints and also it is complicated because it involves integer decision variables, i.e., a unit is either committed or not. In this paper SFLA algorithm is used for the solution of UC by meeting all its constraints. Minimum up and minimum down constrains are directly coded. This SFLA algorithm has been applied to 10 generating units considered for one day scheduling period.

**Keywords:** Economic dispatch, generation scheduling, optimization techniques, unit commitment.

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| **Authors:** | **Nandeesh.B.B, Ganesh Kumar R, Jitendranath Mungara** |
| **Paper Title:** | **Secure and Dependable Cloud Services for TPA in Cloud Computing** |

**Abstract:** The cloud storage provides users to easily store their data and enjoy the good quality cloud applications need not install in local hardware and software system. So benefits are clear, such a service is also gives users' physical control of their outsourced data, which provides control over security problems towards the correctness of the storage data in the cloud. In order to do this new problem and further achieve a secure and dependable cloud storage services, we propose in this paper a flexible distributed storage integrity auditing mechanism, using the homomorphism token and distributed erasure-coded data. We are also proposing allows users to audit the cloud storage with very lightweight communication and computation cost. The auditing result not only ensures strong cloud storage correctness guarantee, but also simultaneously achieves fast data error localization, i.e., the identification of hacker information. And securely introduce an effective TPA, the auditing process should bring in no new vulnerabilities towards user data privacy, and introduce no additional online burden to user. In this paper, we propose a secure cloud storage system supporting privacy-preserving public auditing. We further extend our result to enable the TPA to perform audits for multiple users simultaneously and efficiently. This shows the proposed scheme is highly efficient and data modification attack, and even server colluding attacks.

**Keywords:** Data integrity, dependable distributed storage, error localization, data dynamics, Cloud Computing.

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| **Authors:** | **A.Arockia Aswini, V.R.Manisankar, J.Jagadeesan** |
| **Paper Title:** | **An Efficient Approach For Avoiding Down Time of Production Data Base Server In Active/Passive Windows Failover Clustering Environment** |

**Abstract:** Modern IT department facing immense challenge is to ensure the production Server availability at all times.

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| | To avoid downtime of Production Server, High availability Solution should be implemented like Microsoft Windows Failover Clustering. Microsoft Failover Windows Cluster provides the automatic failover to the standby node if a hardware (RAM, SMPS, CPU and etc...) failure or software failure (OS, SQL Server and etc...) occurs. Failover automatically occurs if the primary server fails. In this case, Active/passive two node windows Cluster is implemented along with SQL Server cluster. Windows Failover cluster will not failover for the customized application services which are node specific.<br>In three tier architecture (Web, App and DB), SQL Server Database instance installed in Cluster Environment as it has capable of failover to the passive node if primary node SQL instance or with Server level Software/Hardware failure occurs. Suppose, if any Application dependent Services which is installed in Primary Node which is required for providing interface between Web and Database Servers will not failover to the secondary node even though SQL Server and Cluster resources can does. Again, there will be a showstopper of entire business due to this application dependent services non-working. Intention of this paper is to provide the solution for how to failover such dependent application services to the passive node along with Cluster Services in order to avoid downtime.<br><br>**Keywords:** SQL Server Database instance installed in Cluster Environment as it has capable of failover to the passive node if primary node<br><br>**References:**<br>1. Smith, S.M. ProSapien LLC, Eagle Mountain Krolik, J. ; Bilik, I. "Theoretical Passive Sonar Performance of a Cluster of UUV Towed Line Arrays Employing Orientation Diversity" 9th international conference on Advance Communication Technology<br>2. Mamun-or-Rashid, Md. Dept. of Comput. Eng., Kyung Hee Univ., Kyunggi Mahbub Alam, M. Choong Seon Hong ," Energy Conserving Passive Clustering for Efficient Routing in Wireless Sensor Network", Advance communication technology, 9th international conference<br>3. Gerla, M. Dept. of Comput. Sci., California Univ., Los Angeles, CA Taek Jin Kwon ; Pei, G. ," On-demand routing in large ad hoc wireless networks with passive clustering", Wireless Communications and Networking Confernce, 2000. WCNC. 2000 IEEE<br>4. Sheng-Shih Wang Dept. of Inf. Manage., Minghsin Univ. of Sci. & Technol., Hsinchu, Taiwan," Performance evaluation of passive clustering based techniques for inter-vehicle communications", Wireless and Optical Communications Conference (WOCC), 2010 19th Annual<br>5. Hafid, A.S. Network Res. Lab., Montreal Univ., Montreal, QC Chender, F. ; Taek Jin Kwon," Energy Aware Passive Clustering in Wireless Mobile Networks ",Wireless Communications and Mobile Computing Conference, 2008. IWCMC '08. International<br>6. El Ghanami, D. Ecole Mohammadia d'Ing., Rabat Kwon, T.J. ; Hafid, A.," GRIDS: Geographically Repulsive Insomnious Distributed Sensors – An Efficient Node Selection Mechanism Using Passive Clustering ",Networking and Communications, 2008. WIMOB '08. IEEE International Conference on Wireless and Mobile Computing,<br>7. Gerla, M. Dept. of Comput. Sci., California Univ., Los Angeles, CA Taek Jin Kwon ; Pei, G. ," On-demand routing in large ad hoc wireless networks with passive clustering ",Wireless Communications and Networking Confernce, 2000. WCNC. 2000 IEEE<br>8. Alonso-Zarate, J. Centre Teratologic de Telecomunicacions de Catalunya (CTTC), Castelldefels," Saturation Throughput Analysis of a Passive Cluster-Based Medium Access Control Protocol for Ad Hoc Wireless Networks ",Communications, 2008. ICC '08. IEEE | **8<br>9** |
| **18** | **Authors:** | **Mrs. Preet Kaur, Geetu lalit** |
| | **Paper Title:** | **Comparative Analysis of DCT, DWT &LWT for Image Compression** |
| | **Abstract:** Image compression is a method through which we can reduce the storage space of images, videos which will helpful to increase storage and transmission process's performance. In image compression, we do not only concentrate on reducing size but also concentrate on doing it without losing quality and information of image. In this paper, we present the comparison of the performance of Discrete cosine transform, Discrete wavelet transform & Lifting wavelet transform for implementation in a still image compression system and to highlight the benefit of these transforms relating to today's methods. The performance of these transforms are compared in terms of Peak-signal-to-noise ratio (PSNR), Signal to noise ratio SNR, Mean squared error (MSE), Energy Retained (ER) & Execution time etc.<br><br>**Keywords:** DWT, DCT, LWT, image compression.<br><br>**References:**<br>1. Sonal, Dinesh Kumar, A STUDY OF VARIOUS IMAGE COMPRESSION TECHNIQUES, GJU Hissar.<br>2. Edmund Y. Lam, Member, IEEE, and Joseph W. Goodman, Fellow, IEEE,"A Mathematical Analysis of the DCT Coefficient Distributions for Images", IEEE TRANSACTIONS ON IMAGE PROCESSING, VOL. 9, NO. 10, OCTOBER 2000<br>3. NunoRoma ,LeonelSousa , " A tutorial overview on the properties of the discrete cosine transform for encoded image and video processing", IST/TULisbon/INESC-ID,RuaAlves Redol,9-1000-029 Lisboa-Portugal.<br>4. Andrew B. Watson, NASA Ames Research Center, Image Compression Using the Discrete Cosine Transform, Mathematica Journal, 4(1), 1994, p. 81-88.<br>5. DCT-BASED IMAGE COMPRESSION by Vision Research and Image Sciences Laboratory.<br>6. Amara Graps , "An Introduction to Wavelets ",1995 Institute of Electrical and Electronics Engineers, Inc.<br>7. Christian Gargour, Marcel Gabrea, VenkatanarayanaRamachandran, and Jean-Marc Lina , "A Short introduction to Wavelet & Its Applications" ©2009 IEEE, IEEE CIRCUITS AND SYSTEMS MAGAZINE.<br>8. Priyanka Singh, Priti Singh, Rakesh Kumar Sharma,"JPEG Image Compression based on Biorthogonal, Coiflets and Daubechies Wavelet Families", International Journal of Computer Applications (0975 – 8887)Volume 13– No.1, January 2011.<br>9. Chesta Jain, Vijay Chaudhary,KapilJain,SaurabhKarsoliya, "Performance Analysis of Integer Wavelet Transform for Image Compression"©2011 IEEE.<br>10. Wade Spires, University of Central Florida,wspires@cs.ucf.edu, "Lossless Image Compression Via the Lifting Scheme", November 2005<br>11. SwanirbharMajumder, N.Loyalakpa Meitei, A.Dinamani Singh, Madhusudhan Mishra on "Image Compression on lifting Wavelet Transform" in 2010 international Conference On Advances in Communication, Network & Computing<br>12. Syed Ali Khayam, "The Discrete Cosine Transform (DCT):Theory and Application", Michigan State University March 10th 2003 | **90-<br>9<br>3** |
| **19** | **Authors:** | **B. Rajesh kumar, CH. Sai Murali** |
| | **Paper Title:** | **Multimedia Content protection Based on Commutative Watermarking and Cryptographic Technique** |
| | **Abstract:** Watermarking embeds information into a digital signal like images. Watermarking Technologies are being regarded as a vital mean to proffer copyright protection of digital signals. The effectiveness of watermarking and Encryption technique is indicated by the robustness of embedded watermarks against various attacks such as, Rotation, Resizing, etc. In this paper, a novel Commutative Watermarking and Partial Encryption technique using single level 2- | **94-<br>9<br>7** |

Dimension Discrete Wavelet Transform and Multi-Map Orbit Hopping Chaotic System is proposed. In proposed system, the low-low sub-band decomposition is only encrypted. So, it is able to reduce the encryption to one quarter of the image information and the watermark image is embedded into the selected high sub-1bands. The results of the security analysis shows that the proposed algorithm provides a high security level for real time application.

**Keywords:** Chaos; Partial Encryption; Watermarking; DWT

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**Authors:** **Adarsh. R, Ganesh Kumar. R, Jitendranath Mungara**

**Paper Title:** **Secure Data Transition over Multicast Routing In Wireless Mesh network**

**Abstract:** Multicast routing for wireless mesh networks has focused on metrics that estimate link quality to maximize throughput. Nodes must collaborate in order to compute the path metric and forward data. The assumption that all nodes are honest and behave correctly during metric computation, propagation, and aggregation, as well as during data forwarding, leads to unexpected consequences in adversarial networks where compromised nodes act maliciously.
In high-throughput multicast protocol in wireless mesh networks we identify novel attacks in wireless mesh networks. The attacks exploit the local estimation and global estimation of metric to allow attackers to attract a large amount of traffic. We show that these attacks are very effective against multicast protocols based on high-throughput metrics.
We can say that aggressive path increases attack effectiveness in the absence of defense mechanism. Our approach to defend against the identified attacks combines measurement-based detection and accusation-based reaction techniques. The solution also accommodates transient network variations and is resilient against attempts to exploit the defense mechanism itself. A detailed security analysis of our defense scheme establishes bounds on the impact of attacks. We demonstrate both the attacks and our defense using ODMRP, a representative multicast protocol for wireless mesh networks, and SPP, an adaptation of the well-known ETX unicast metric to the multicast setting.

**Keywords:** DSA Key Generation, High-Throughput metrics , Wireless mesh Network, Secure Data transition.

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**Authors:** **Ankur Kumar Shrivastava, Ishan Ranjan, Abhinav Kumar, Anant Kumar Rai, Ramander Singh, Archit Rastogi, Nitisha Payal, Amod Tiwari**

**Paper Title:** **A Tailored Approach to Enhance Wireless LAN Security**

**Abstract:** In the current business scenario world most organizations are moving from wire-connected networks to wireless networks. Thus there is a large growing market for Wireless LANS globally but there are various black holes,

which is associated with such types of networks. This paper will provide an overview of the major risk threats and vulnerabilities in WLAN systems and finally we will present a holistic approach of securing Wireless Network.

**Keywords:** IEEE 802.11, SSID (Service Set Identifier), WEP (Wired Equivalent Privacy), Wi-Fi (Wireless Fidelity), WPA (Wi-Fi Protected Access).

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**Authors:** **Shiv Pratap Singh Kushwah, Keshav Rawat, Pradeep Gupta**

**Paper Title:** **Analysis and Comparison of Efficient Techniques of Clustering Algorithms in Data Mining**

**Abstract:** This paper presents the comparison of data mining algorithms for clustering. These algorithms are among the most influential data mining algorithms in the research community. With each algorithm, we provide a description of the algorithm, discuss the impact of the algorithm, and review current and further research on the algorithm. These algorithms cover classification, clustering, statistical learning, association analysis, and link mining, which are all among the most important topics in data mining research and development.

**Keywords:** cluster, data mining, clustering method, k-mean

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**23**

**Authors:** **Idigo V.E., Azubogu A.C.O., Ohaneme C.O., Isizoh A.N.**

**Paper Title:** **Comparative Performance Analysis of Empirical and Radio Propagation Model for Bluetooth Indoor Localization**

**Abstract:** This work presents the possibility of using channel simulated results as alternative to site measurement for RSS based indoor localization. Three reference radio maps were generated for on-site measurement, Wall Attenuation factor (WAF) and Ray Tracer (RT) channel models. The Bayesian localization algorithm was applied to the three radio maps. An important performance metric called localization error was used which depends on the resolution of the reference radio map. Results obtained show that the performance of an RT model is comparable to a system based on on-site measurement for grid resolutions greater than 10 meters, on the other hand, the WAF model produced results that are very close to the on-site results for grid resolutions less than 8 meters.

**Keywords:** Grid resolution, Localization error, propagation model, Radio Channel, reference point

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| **24** | **Authors:** | **Jyoti Shankar Prasad** |
| | **Paper Title:** | **Cost Optimized Trends in Contouring Using Hand-Held GPS** |

**Abstract:** This paper reveals the use of hand – held Global Positioning System for the purpose of contouring. In this research, major stress is laid on the use of cheaper and accurate GPS along with the conventional instruments. A hand – held GPS is used to determine the position of the particular station and the corresponding reduced level of the occupied station is determined with respect to a Temporary Bench Mark. The data collected is interpolated using Surfer 8.0 software. The profile of the surface generated was found to be in accordance with the actual topography of the site.
The accuracy of the hand – held GPS is also taken into account from the data collected from some of the researches undertaken by various organizations. Thus, the use of hand – held GPS along with the cheaper conventional leveling instruments for the purpose of contouring prove to be very cost effective and considerably accurate.

**Keywords:** A hand – held GPS is used to determine the position of the particular station and the corresponding reduced level of the occupied station is determined with respect to a Temporary Bench Mark.

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