Volume 1 Issue 6, November 2012

International Journal of Innovative Technology and Exploring Engineering

IJITEE

ISSN : 2278 - 3075
Website: www.ijitee.org

Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.
Exploring Innovation: A Key for Dedicated Services

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Khajuri Kala, BHEL-Piplani, Bhopal (M.P.)-462021, India
Website: www.blueeyesintelligence.org
Email: director@blueeyesintelligence.org, blueeyes@gmail.com
Cell #: +91-9669981618, **WhatsApp #:** +91-9669981618, **Viber #:** +91-9669981618
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S. No | **Volume-1 Issue-6, November 2012, ISSN: 2278-3075 (Online)**
Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd. | **Page No.**

1.

Authors: Korosh Koochekian Sabor, Mehran Mohsenzadeh

Paper Title: Adaptive Random Testing Through Dynamic Partitioning By Localization with Distance and Enlarged Input Domain

Abstract: Based on the intuition that evenly distributed test cases have more chance for revealing non-point pattern failure regions, various Adaptive Random Testing (ART) methods have been proposed. A large portion of this methods such as ART with random partitioning by localization have edge preference problem. This problem would decrease the performance of these methods. In this article the enlarged input domain approach is used for decreasing edge preference problem in ART with random partitioning by localization. Simulations have shown that failure detection capability of ART by localization with distance and enlarged input domain is comparable and usually better than that of other adaptive random testing approaches.

Keywords: Random testing, adaptive random testing, localization, enlarged input domain.

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2.

Authors: Vaishali M. Deshmukh, Sachin A. Murab

Paper Title: Signature Recognition &Verification Using ANN

Abstract: The signature of a person is an important biometric attribute of a human being which can be used to authenticate human identity. There are various approaches to signature recognition with a lot of scope of research. In this paper, off-line signature recognition & verification using neural network is proposed, where the signature is captured and presented to the user in an image format. Signatures are verified based on parameters extracted from the signature using various image processing techniques. This paper presents a proposed method for verifying offline-signatures. A Neural Network will be used for verifying signatures

Keywords: component; image preprocessing, feature extraction; Neural network training and testing; signature verification and recognition.

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3.

Authors: **Akash Shrivastava, R.L. Himte**

Paper Title: **Computational Study of Blast Furnace Cooling Stave using Heat Transfer Analysis**

Abstract: Reliable furnace cooling technology is a domain of increasing concern to the metallurgical industry as it can significantly increase process intensities, productivity and campaign times of furnaces. Although there are many advantages in using cooling systems, they also impose a variety of problems mainly related to safety, heat losses and sustainability of the operations. The choice of cooling system is hence a matter of trade-offs and differs for every metallurgical application.

This paper gives a systemic study and review of blast furnace cooling stave lining materials used in the metallurgical industries based on heat transfer analysis. Additionally, the paper describes a model which will be modeled and implemented using Pro- E modeling software. The model will further be utilized for the analysis of the behavior of lining materials at different loads through heat transfer analysis by finite element method software called ANSYS.

In this study two different types of bricks like silicon carbide brick and high alumina bricks will be taken for the lining material of the blast furnace cooling stave as well as two different types of skull is considered, in which the first is having negligible thickness and the other one is having certain thickness, (thickness in mm is considered), so, with these two skulls, the heat transfer analysis will be done at different temperatures (loads) from 773k to 1573k in order to compare which lining will give better results than the other.

Keywords: Blast furnace, Cooling Stave, Heat transfer analysis, Thermal Stress field.

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4.

Authors: **Srinivasa Murthy H N, Roopa M**

Paper Title: **FPGA Implementation of Sine and Cosine Generators using CORDIC Algorithm**

Abstract: The current research in the design of high speed VLSI architectures for real-time digital signal processing (DSP) algorithms has been directed by the advances in the VLSI technology, which have provided the designers with significant impetus for porting algorithm into architecture. Many of the algorithms used in DSP and matrix arithmetic require elementary functions such as trigonometric, inverse trigonometric, logarithm, exponential, multiplication, and division functions and one such algorithm is CORDIC. Often trigonometric functions are used in embedded applications. Examples of this include motion control, filtering and waveform synthesis. For waveforms with few output points per cycle (for example one output point per degree) a lookup table will often suffice, and indeed this method is optimal in that it offers a reasonable compromise between speed and the need to use the microcontroller's memory efficiently. The CORDIC computing technique—a highly efficient method to compute elementary functions and this paper presents how to calculate sine and cosine values of the given angle using CORDIC algorithm. Summary of CORDIC synthesis results based on Xilinx FPGAs is given. The system simulation was carried out using ModelSim and Xilinx ISE Design Suite 9.2i. The system can be implemented using Spartan3 XC3S50 with Xilinx ISE 9.2i and VHDL.

Keywords: CORDIC, Sine, Cosine, VHDL, FPGA.

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5.

Authors: **Amarjeet Kaur, Himani Malik, Vandana Tanwar, V.K.Lamba, Nitesh Kumar, Sanjay Sharma**

Paper Title: **Effect of Permittivity and Conductivity of Tissue on Specific Absorption Rate of Electromagnetic Radiations**

Abstract: In this paper a novel approach for analyzing effect of conductivity and permittivity of human tissue on penetration of electromagnetic radiations inside tissue. Moreover, we concentrated our work on analyzing the other related factors describing system performance like Voltage Standing Wave Ratio (VSWR)& return loss. We simulated tissue by setting different electrical and magnetic properties and used 900MHz communication frequency to simulate antenna for analyzing its effect in terms of variation in Specific Absorption Rate (SAR) of electromagnetic radiations (produced by handheld communication devices) in Human tissues at different permittivity and conductivity.

Keywords: Specific Absorption Rate; EM Radiations; Electromagnetic waves; SAR; XFDTD; Communication Frequency; Return loss; Voltage Standing Wave Ratio (VSWR); Human tissue; Electrical & Magnetic properties of human tissue, conductivity, permittivity.

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6.

Authors: **Pushplata Sagar**

Paper Title: **Optimised Architecture Implementation of Bidirectional Scanning in FPGA for Television**

Abstract: In the past, Field Programmable Gate Array (FPGA) circuits only contained a limited amount of logic and operated at a low frequency, but during last decade there has been a tremendous advancement in the fields of FPGAs circuits. Today FPGA are very fast, high density, and low power, suitable for implementing any kind of application. Bidirectional scanning is one of the novel techniques used in television to avoid the retrace or fly back period of the electron beam. This saves power consumed by the beam during retrace period. RTL using Very High Speed Integrated Hardware Description Language (VHDL) is used to implement bidirectional scanning in FPGA. The functional and timing simulations of design are verified using Modelsim Simulator. Integrated software environment (ISE) from Xilinx is used to generate net-list from RTL code. The power consumption of the design is calculated using Xilinx power calculator.

Keywords: Bidirectional scanning, FPGA.

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7.

Authors: **Silky Pareyani, Prabhat Patel**

Paper Title: **An Improved ICI Self Cancellation Method to Reduce ICI in OFDM Systems**

Abstract: Orthogonal frequency division multiplexing systems are highly sensitive to frequency offset introduced by the wireless channels. This frequency offset destroys the orthogonality between the OFDM subcarriers and causes inter-carrier interference (ICI). Self-cancellation schemes which have been developed to combat the impact of frequency offset on OFDM systems have received a lot of attention due to their simple implementation and high efficiency. This paper proposes an efficient ICI self cancellation scheme to combat the impact of ICI on OFDM systems. In this scheme at the transmitter side, one data symbol is modulated onto four subcarriers with appropriate weighting coefficients. At the receiver side, the linear combination of the received signals on these subcarriers leads to a sufficient reduction in ICI. A detailed analysis and simulation over AWGN channel proves that the proposed

scheme achieves better BER (Bit Error Rate) performance and CIR improvement than the existing self cancellation schemes.

Keywords: Orthogonal frequency division multiplexing (OFDM), inter-carrier interference (ICI), ICI self cancellation, frequency offset, carrier-to-interference ratio (CIR).

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8.

Authors:	**Nisha Kiran, Prabhat Patel**
Paper Title:	**Analysis of Throughput with Reinforcement Learning of TD-CSMA system in Cognitive Radio Networks**

Abstract: Cognitive radio technology is widely accepted as an efficient approach to solve the problem of scarcity of the wireless spectrum resulting due to the rapid growth in the ubiquitous wireless applications. Several cognitive medium access control protocols have been proposed for the secondary users (non-licensed users) to take advantage of the vacant channels whenever they are not occupied by the primary users (licensed users). This paper analyses a cognitive radio scenario based on non-persistent carrier sense multiple access (CSMA) protocol for secondary user and time division multiple access (TDMA) for primary users in multi-channel TD-CSMA network. Performance of secondary users is evaluated for a various proportions of non-persistent CSMA and TDMA traffic levels. Simulations results show that the throughput performance of CSMA users improves when multichannel are used. Further, reinforcement learning is applied in conjunction with non-persistent CSMA which also enhances the throughput performance on same proportions.

Keywords: Cognitive Radio, Multiple Access Scheme, Multichannel CSMA, Channel Assignment, Reinforcement Learning.

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9.

Authors:	**Aanchal Chanana, Harvinder Singh, Dipesh Miglani, Rahul Khemani, Siddharth Kathuria**
Paper Title:	**Research on Bluetooth Technology**

Abstract: This paper introduces a number of problems faced by Bluetooth technology when attempting to use it for building adhoc networks.The paper provides a brief overviewof Bluetooth and describessome of the major issues that need to be addressed,if it is to be successful as a network technology.Some important objectives that any solution

must meet are also introduced and motivated.An initial exploration of some key issues such as topology formation and throughput maximization is also provided.

Keywords: Bluetooth, network, piconet, adhoc networks, piconet size, nodes

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10.

Authors:	**Manojyoti Sarma, S. N. Shinde**
Paper Title:	**Modeling of Sonophotocatalytic Degradation of Formic Acid in Pharmaceutical Wastewater Treatment**

Abstract: Formic acid is one of the major pollutants present in pharmaceutical wastewater. The sonophotocatalytic degradation of formic acid present in pharmaceutical wastewater is analyzed in this review and mathematical model is produced for the same. The mathematical model is generated by regression analysis using Artificial Neural Network (ANN) and Support Vector Machine (SVM) to analyze & predict degradation of formic acid. This modeling and prediction helps to reduce experimental work to analyze the degradation behavior of formic acid. Modeling can also tackle insufficient data. Both ANN & SVM produced good models with negligible MSE. SVM model gave more consistent & reliable prediction compared to ANN model.

Keywords: Artificial Neural Network, Formic Acid, Sonophotocatalysis, Support Vector Machine.

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11.

Authors:	**Ramesh Kumar, Prabhat Patel**
Paper Title:	**Signal Denoising with Interval Dependent Thresholding Using DWT and SWT**

Abstract: Degradation of signals by noise is an omnipresent problem in almost all fields of signal processing. Therefore, in practical applications, before analyzing the received signal it is necessary to de-noise it. In this paper we have used the interval dependent threshold selection rule for threshold calculation and analyzed its performance with the help of Discrete and Stationary Wavelet Transform. The results show that Mean Square Error (MSE) of the interval dependent threshold selection rule is less than that of conventional fix form threshold selection rule for signal de-noising. Moreover using the interval dependent thresholding with Stationary Wavelet Transform (SWT) the denoising capacity of the SWT increases significantly. Therefore, it proves the superiority of proposed signal denoising algorithm. Moreover the result obtained with is compared with the denoising capability of interval dependent threshold selection rule using Discrete Wavelet Transform(DWT) and it is found that SWT gives better performance than DWT due to its property of translational invariance.

Keywords: Interval dependent threshold selection, Discrete Wavelet Transform (DWT). Stationary Wavelet Transform (SWT). Mean Square Error (MSE), Signal Denoising..

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12.

Authors: **Appana. Manikanta Sitaram, Kadali. Mohan Swamy, A. Rama Krishna**

Paper Title: **Gigabit Passive Optical Networks (GPON) the Ultimate Solution for Large Bandwidth**

Abstract: The demand for bandwidth has increased drastically. So optical transmission has got more importance in access networks. The upcoming features like IPTV, High speed internet(HSI), Video on demand(VOD), online gaming are confronting large bandwidth at the customer end.The demand of bandwidth can be satisfied by XDSL, but the distance is restricted by using this type of technique. So we can use optical transmission for achieving large bandwidth by using passive optical networks(PON). One of the most advanced PON solution is Gigabit PON (GPON). This is the most widely used solution where there is a requirement of large bandwidth. This paper provides an overview of GPONfeatures, transmission mechanism, optical splitting and power budget

Keywords: IPTV, GPON, PON, HSI.

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13.

Authors: **Rajanala. Manasa Valli, Parvathaneni.Tejaswini, A.Rama Krishna**

Paper Title: **Security Problems and Their Defenses in TCP/IP Protocol Suite**

Abstract: The Transmission Control Protocol/Internet Protocol (TCP/IP) is combination of different protocols at various layers.TCP/IP is the basic communication language or protocol of the Internet and private networks either an intranet or an extranet. The TCP/IP suite has many design weaknesses so far as security and privacy are concerned. Some of these are protocol design weaknesses, where as rest are defects in the software that implements the protocols. In this paper, I focused mainly on protocol level issues, rather than implementation flaws. In this paper, we discuss about the security issues related to the some of the protocols in the TCP/IP suite.

Keywords: IP (Internet Protocol), RIP (Routing Information Protocol), TCP (Transmission Control Protocol), UDP (User Datagram Protocol).

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14.

Authors: **K.V.S.Mounika, Nanduri Jyothirmai, A.Rama Krishna**

Paper Title: **Dynamic Routing With Security Considerations**

Abstract: One of the major issues for data communication over wired and wireless networks is the security. Different from the past works which includes the Cryptography algorithms and System Infrastructures, we are proposing a dynamic routing algorithm that could randomize the delivery of packets for data transmission as it is compatible and also easy to implement. It is compatible with some of the popular routing protocols such as the Routing Information Protocol which uses hop-count as its metric in the wired networks and Destination-Sequenced Distance Vector protocol in the wireless networks. In the RIP where the hop-count is considered only a limited number of hops are chosen and data transmission are done by selecting the hops randomly in a network. This improves security as well as controls traffic in a network. The routing table in this algorithm is based on the one of the Dynamic routing algorithms known as "Bellman-Ford algorithm" or "Ford Fulkerson Routing algorithm". An analytical study on the proposed algorithm is presented and the results are verified to show the capability of the proposed algorithm.

Keywords: Bellman Ford algorithm, Dynamic Routing, IP Security, Routing Information Protocol (RIP), Secure Socket Layer.

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15.

Authors: **Parvathaneni.Tejaswini, K.V.S.Mounika, A.Rama Krishna**

Paper Title: **IPV6 and Deep Packet Inspection**

Abstract: The current version of the internet, IPV4 was depleted of addresses on february3, 2011. The storage of address has led to the introduction of IPV6 which has 128-bit (16-byte) source and destination IP addresses. Many organisations do not see a reason to convert to IPV6, and believe they are not running IPV6.Whether an organisation knows it or not, any laptop/PC running Vista or Windows 7 is a vulnerability from which attacks can come that will be invisible to IPV4 networks.

Since the Internet today uses IPV4 for 99% of the traffic, it will be slow migrations to IPV6.Three transition strategies are being employed: header translation, dual stack and tunnelling of IPV6 inside IPV4.Tunneling is the most precarious method for today's IPV4 networks. The IPV6 packet is included inside the message field of an IPV4 packet. The content of the IPV6 packet will not be noticed by an IP4 firewall or intrusion detection system. Hidden IPv6 traffic running across an organisation's network can wreak havoc, allow malware to enter the network, and be the basis for a denial of service attack. The only defence against such attacks is deep packet inspection (DPI).

The widespread use of DPI is inevitable. The first serious security breach caused by tunnelled IPV6 inside an IPV4 packet is certain to come in the near future. This event will be a stimulus to organisation to defend against such attacks.

Keywords: Cyber terrorism, Deep packet inspection, IPv4, IPv6, Security.

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16.

Authors: **Venkata Videhi Balusupati, Pavani Velaga, A.Rama Krishna**

Paper Title: **Architecture of OCB-283**

Abstract: OCB 283 means Organ De CommandeB2 Version 8300 Microprocessor. It is the latest electronics digital ISDN type switching technology being imported in INDIA, OCB 283 is a digital switching system which supports a variety of communication needs like basic telephony, ISDN, interface to mobile communication, data communication etc, it is a Digital Switching System (DSS) with single 'T' stage switch. A maximum of 2048 PCM's can be connected. It supports both analog and digital subscriber. Subscriber connected units (CSN) are so designed that they can be equipped with either analog subscriber or digital subscriber. Or both the cards for analog subscriber and digital are different, but can be equipped in any slot of the shelf. These provide facility to connect speech path from a subscriber's loop or circuits from an external PCM's and transfers these speech samples on to selected time slots called voice channels on a LR link (internal PCM). This provides access for Man Machine dialogues for the human operators to interact and command the working of exchange equipments.

Keywords: OCB (Organ de Commando with version B), DSS (Digital Switching System), CSN (Subscriber Connection Unit), PCM (Pulse Code Modulation).

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17.

Authors: **Velaga Pavani, Immadisetty L V Chandrika, A.Rama Krishna**

Paper Title: **Local Area Network (LAN) Technologies**

Abstract: Generally, small networks are often called as LAN (Local Area Network).A LAN is a network allowing easy access to the computers or peripherals. Networking means interconnection of computers. These computers can be linked together for different purposes and using a variety of different cabling types. Thus leading to less wastage of time and hence increased productivity.LAN mainly depends on the characteristics and the factors such as Topology, Medium Access Control (MAC) and Transmission Medium. This provides the security. LAN has Ethernet. LAN mainly works on the Carrier-Sense Multiple Access with Collision Detection (CSMA/CD). The Ethernet specification performs the same functions as the OSI physical and Data Link Layer of data communications. Wired LANs transmit the data but these are physically connected through repeaters and bridges and Wireless LANs transmit and receive data over air, without the use of any cable. These are physically not connected.

Keywords: LAN (Local Area Network), MAC (Medium Access Control), CSMA/CD (Collision-Sense Multiple Access with Collision Detection), FHSS (Frequency-Hopping Spread Spectrum technology), DSSS (Direct-Sequence

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	Spread Spectrum Technology), AP (Access Point), NOS (Network Operating System). **References:** 1. LAN Switching, CCIE Routing and Switching Certification Guide, Fourth Edition. 2. Designing Switched LAN networks, CCIE Fundamentals: case studies and Network design, Second Edition. 3. Networking Fundamentals, CCNA Exam cram, Third Edition. 4. Administration of LAN-to-LAN tunnels, Cisco Secure virtual private Networks, second edition. 5. Switched network Management, Case studies and network design of CCIE fundamentals, second edition.	
18.	**Authors:** **N.Jyothirmai, R. Manasa Valli, A.Rama Krishna** **Paper Title:** **SDH and Its Future Trends** **Abstract:** SDH possess an international standard networking principle. It is synchronous by nature so name of the hierarchy is taken from multiplexing method. The evolution of this system improving the economy of operability and reliability of a digital network SDH evolution meets the requirement of the customer with respect to the different band width requirements and different services.SDH standard defines the transmission rate developed to 155.52 mbps. In multiplexing process payloads are layered in to lower order and higher order virtual container, each including a range of over head functions for management and error monitoring. frame has a repeative structure and consists of nine equal length segment .Each segment in STM-1 possess the information structure .The flexibility of SDH can be used to best advantage by introducing a network topology. **Keywords:** CCITT: Comite Consult if International de Telegraphique et Telephonique STM: Synchronous Transport Module ADM: Add Drop Multiplexer, POH: Path Over Head SOH: Section Over Head **References:** 1. ETS 300 304 "Transmission and Multiplexing (TM); Synchronous Digital Hierarchy (SDH) Information Model for Network Element(NE) view". 2. ITU-T Recommendation M.3100 "Generic Network Information Model". 3. EN 300 417-3-1 "Transmission and Multiplexing (TM); Generic Requirements of transport functionality of equipment, part 3-1, Synchronous Transport Module(STM-N) Regenerator and Multiplex Section Layer functions". 4. ITU-T Recommendation G.702 Digital Hierarchy Bit Rates 5. ITU-T G.803"Architechture of Transport Network based on Synchronous Digital Hierarchy (SDH)" 03/2000.	**74-78**
19.	**Authors:** **Immadisetty.L.V.Chandrika, Venkata.Videhi. Balusupati, A.Rama Krishna** **Paper Title:** **Point- To- Point Protocol** **Abstract:** The telephone line provides a physical link, but to control and manage the transfer of data, there is a need for point-to-point connection. The first protocol devised for this purpose was serial line internet protocol (SLIP). However, SLIP has some deficiencies: it does not support protocols other than internet protocol (IP). It does not allow the IP addresses to be assigned dynamically, and it does not support authentication of the user. The POINT-TO-POINT (PPP) is a protocol designed to respond to respond to the deficiencies. Today the PPP protocol standard finds wide use in asynchronous and synchronous connections between computers, bridges, routers and other intermediate devices.PPP is gaining acceptance as a standard for Integrated Services Digital Network(ISDN), and many implementations of X.25 also support PPP connection. **Keywords:** LCP(Link Control Protocol), NCP(Network Control Protocol), CRC(cyclic redundancy check), FCS(Frame check sequence), ISO(International Standards Organization), PDU (Protocol Data Unit), HDLC(High(Level) Data Link Control. **References:** 1. CCENT: Cisco certified entry networking technician, study guide. 2. CCIE Routing and switching V4.0 quick reference, second edition. 3. Perkins, D., "The point –to– point protocol for transmission of multi –protocol Data grams over point-to-point links". 4. Hobby R., and D. Perkins, "The point-to-point protocol Initial configuration options", CMU, UC Davis, July 1990. 5. IEEE Draft Standard p802.1d/D9 MAC Bridges, Institute of Electrical and electronic engineers, also published as ISO DIS 10038, July 1989. 6. IEEE Draft Standard p802.5d/D13 Draft Addendum to ANSI/IEEE standard 802.5-1988 token ring MAC and PHY Specification Enhancement for Multiple-ring networks, Institute of electrical and electronic engineers, May 1989. 7. Establishing a Point-to-point WAN connection with PPP, Authorized self-study guide interconnecting Cisco network devices, Part 2(ICND2). 8. Authentication protocols: computer TTA network +2009 in depth. 9. Layered Data Link Protocols: Introduction to network security. 10. Control (HDLC) and PPP: CCIE routing and switching v4.0 Quick reference, second edition. 11. Point to point protocol: CCENT, Cisco@ certified entry networking technician, study guide. 12. Network control protocol(NCP): CCNA certification all- in –one dummies 13. PPP Concepts: CCNA 640-802, second edition.	**79-81**
20.	**Authors:** **Swapna Devi, Shanu Singla** **Paper Title:** **Comparative Analysis of Modified Social Emotional Optimization Algorithm & Particle Swarm Optimization Techniques** **Abstract:** This paper presents a comparative analysis of Modified Social Emotional Optimization Algorithm and Particle Swarm Optimization techniques. Social Emotional Optimization Algorithm is a population based stochastic optimization technique in which the impact of human beings' emotional factors on decision-making practices is emphasized where as Swarm intelligence (SI) techniques like Genetic algorithm, Ant Colony Optimization and Particle Swarm Optimization are based on swarm behaviour. Although GA [1], PSO [2][3] and ACO[9] algorithms have lot of advantages but they simply simulate group behaviours and animal foraging. Social Emotional	**82-84**

Optimization Algorithm (SEOA)[5] is a new swarm intelligent technique, that simulates human social behaviour. In SEOA, each individual represents one virtual person who communicates through cooperation and competition in the society. This paper focuses on the comparative analysis of Modified Social Emotional Optimization Algorithm in comparison with most successful method of optimization techniques inspired by Swarm Intelligence (SI) : Particle Swarm Optimization (PSO) and a novel swarm intelligent population-based optimization algorithm Social Emotional Optimization (SEOA). An elaborate comparative analysis is carried out to endow these algorithms, aiming to investigate whether the Modified Social Emotional Optimization Algorithm improves performance which can be implemented in many areas.

Keywords: Social Emotional Optimization, Particle Swarm Optimization and Swarm intelligence.

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21.

Authors:	**P.Soundarya, Solomon Gotham**
Paper Title:	**CAVLC Video coding Technique for MPEG-4**

Abstract: This paper presents architecture for context adaptive variable length coding (CAVLC) used in the MPEG-4 AVC/H.264 video coding. The proposed design implements the fine-grained zero skipping at the 4x4 block level and the individual coefficient level. This design saves more than half of cycle count and 41% of area cost when compared with the other designs. The total gate count of the design is 10.2K gates. The design is implemented on Xilinx Spartan 3E Xc3s500 fpga and the total power consumption is estimated to be 0.081W.

Keywords: CAVLC, MPEG-4, AVC/A.264.

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22.

Authors:	**P. Poornima, Solomon Gotham**
Paper Title:	**Implementation of DDS Based Harmonic Signal Generator**

Abstract: A harmonic signal generator with adjustable frequency, phase and harmonic proportion is designed in this paper. The design of this harmonic signal generator is based on direct digital frequency synthesis (DDS) technology. The classic structure of DDS is introduced and a kind of compression ROM is designed. Then, the DDS core with compression ROM is compiled using Xilinx Xc3s500e fpga by VHDL language. The performances such as integration, expansibility are very much improved. The principle of DDS is discussed particularly; the optimized structure of DDS core is presented in this paper. The total power consumption of the device was foundto be 0.081W.

Keywords: DDS, SOPC, harmonic signal generator, Noise

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23.

Authors: **Vivekananda M, R.P.Das, K.V.Ramana Rao**

Paper Title: **Two Dimensional Cellular Automata for Pseudo Random Number Generation**

Abstract: Cellular automata (CA) were initiated in the early 1950s to develop complex structures of capable self-reproduction and self-repair. Since then many researchers have taken attend in the study of CA. Initially, CA concept was first introduced by von Neumann von Neumann (1966) for the proposal of modeling biological self-reproduction. His primary interest was to derive a computationally universal cellular space with self-reproduction configurations. Afterward, a new phase of activities was started by Wolfram Wolfram (1983; 1984), who pioneered the investigation of CA as a mathematical model for self-organizing statistical systems. Wolfram was proved that the randomness of the patterns generated by maximum-length CA is significantly better than other widely used methods, such as linear feedback shift registers. The intensive interest in this field can be attributed to the phenomenal growth of the VLSI technology that permits cost-effective realization of the simple structure of local-neighborhood CA Wolfram (1986).

In this paper, an efficient PRNG based on hybrid between one-dimension (1-D) and two-dimension (2-D) CA is proposed. In the phase of the evolution of 2-D CA cells, the proposed CA PRNG is based on von Neumann neighborhood, in that this method refers to the five cells and new control values (rule decision input value & linear control input value) to decide a rule. In the phase of the evolution of 1-D CA cells, on the other hand,< 90, 150 > rule combination is used because this rule combination is better than the others Hortensius et al. (1989). In the meantime, the proposed CA PRNG is compared with previous works Guan et al. (2004); Tomassini et al. (2000) to check the quality of randomness. The proposed CA PRNG could generate a good quality of randomness because the proposed CA PRNG is better than the previous works and passed by the ENT Walker. In this project we have tried to verify the basic characterization of 2-D CA using a Xilinx Spartan 3E fpga.

Keywords: About four key words or phrases in alphabetical order, separated by commas.

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24.

Authors: **B.Chandra Shekar, V.Prudhvi Raj, A.Rama Krishna**

Paper Title: **Conversion and Installation Procedure Of256p Rax to Anrax**

Abstract: The present manuscript deals with the conversion of 256P RAX to AN-RAX and also the installation procedure of 256P RAX to AN-RAX. The 256P RAX uses only 184 lines PSTN subscribers but if we convert it into ANRAX it uses 248 lines PSTN subscribers through V5.2 protocol. The 256P RAX consists of three racks, they are: 1) Power Distribution Panel (PDP), 2)Master Frame & 3)Slave Frame. After the conversion of 256P RAX to AN-RAX we can use the master frame as slave frame and slave frame as master frame, both will be same after the conversion. To do the conversion of 256P RAX some of the cards become redundant and those cards have to be removed. Then the modification will be done for the 256P RAX. The conversion and installation procedure is completely done in five steps. The main objective for converting the 256P RAX we can have the maximum lines for the exchange.

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Keywords: 256P RAX, ACCESS NETWORK RURAL AUTOMATIC EXCHANGE (AN-RAX), PUBLIC SWITCHING TELEPHONE NETWORK (PSTN), V5.2 protocol Standard interface between LE and AN, Local Exchange (LE), AN-RAX Controller Card (ARC), AN-RAX Interface Card (ARI).

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5. 'Switching concepts' from wikipedia.

25.

Authors: **Manjiri R. Purohit, V. D. Hajare**

Paper Title: **Performance Evaluation of Heart from its Mathematical Model using Matlab Simulink**

Abstract: Mathematical modeling of the biological systems plays a vital role in understanding of their activities and abnormalities associated with them. Various approaches are there in existence for the mathematical representation of the systems. This paper discusses mathematical modeling of the heart based on the activity of the heart by carotid baroreflex control mechanism as a stimulant. With the mathematical modeling, understanding the complex behavior of the system has become simple. The model shows the normal pressure variations of the heart's chambers within the standard ranges. The model can then further be used for various clinical and research applications.

Keywords: Heart; Mathematical modeling; Simulation.

102-105

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26.

Authors: **Naveen Kumar, B.Venu Gopal**

Paper Title: **VLSI Implementation of Data Encryption Standard Algorithm**

Abstract: There are two main types of cryptography in use today –symmetrico rsecret key cryptography and a symmetric or public key cryptography. Symmetric key cryptography is the oldest type whereas asymmetric cryptography is only being used publicly since the late 1970's 1. Asymmetric cryptography was a major milestone in the search for a perfect encryption scheme.
Secret key cryptography goes back to at least Egyptian times and is of concern here. It involves the use of only one key which is used for both encryption and decryption (hence the use of the term symmetric). Figure 2.1 depicts this idea. It is necessary for security purposes that the secret key never be revealed
To accomplish encryption, most secret key algorithms use two main techniques known assubstitutionandpermutation. Substitution is simply a mapping of one value to another whereas permutation is a reordering of the bit positions for each of the inputs. These techniques are used a number of times in iterations called rounds. Generally, the more rounds there are, the more secure the algrithm. A non-linearity is also introduced into the encryption so that decryption will be computationally infeasible 2 without the secret key. This is achieved with the use of S-boxes which are basically non-linear substitution tables where either the output is smaller than the input or viceversa.

Keywords: cryptography, encrypt ion

106-110

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27.

Authors: **Neha Gupta, V.K Banga**

Paper Title: **Localization of Text in Complex Images Using Haar Wavelet Transform**

Abstract: In this paper, a new hybrid approach is developed which locate text in different backgrounds. However, variation of text due to differences in size, style, orientation and alignment, as well as low image contrast and complex background make the problem of automatic text localization extremely challenging. The text localization algorithm system is designed to locate text in different kinds of images and eliminates the need to devise separate method for various kinds of images. Firstly, the color image is converted into grayscale image. After that, Haar Discrete Wavelet Transform (DWT) is employed. Haar DWT decompose image into four sub image coefficients, one is average and other three are detail. Now, Sobel edge detector is applied on three detail components, the resultant edges so obtained are combined to form edge map. The morphological dilation is performed on binary edge map and further label the connected components. Finally, using some specific condition, the text is obtained in bounding box.

111-115

Keywords: Bounding box, Discrete Wavelet Transform, Haar wavelet, Sobel edge detector.

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28.

Authors:	**Hemchand Vashist, Arvind Pathak, Amarjeet Kaur, Sanjay Sharma, Ashish Sharma,Meenu Jangir**
Paper Title:	**Simulation and Modeling of Fading Channel and Improvement of Channel estimation using Artificial Neural Network**

Abstract: We present a simulation of Rayleigh fading channel. We used MATLAB for its implementation. Further this work explored possible use of Artificial Neural network for channel estimation. This is one of the first steps in improving performance in fading environment. We present a novel algorithm for channel estimation using ANN with the help of user's usage history.

Keywords: MATLAB.

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29.

Authors:	**P.Bhanu Krishna, K.V.Vamsi Krishna, M.Kuladeep, G.Karuna Kumar**
Paper Title:	**The Importance of Transport and Logistics Services in Green Supply Chain Management.**

Abstract: This paper is focused on the importance of transportation & logistics in green supply chain management (GSCM).It is very important for all the related industries to realize the importance of implementing best practices to protect the health of our planet Earth. If no attention is given to the environmental consequences and to ways of addressing environmental challenges in that sector, the beautiful promises of a better lifestyle associated with the information age will be tarnished by the poor quality of our essential commodities – clean air, clear water, and pristine soils. Although GSCM has been comprehensively reviewed, there are areas around Green supply chain that still require further study. One is a gap in the literature in terms of the stakeholder's views towards green supply chain. Stakeholders would definitely have different views about this and can sometimes be conflicting from the company's point of view. Some stakeholders would go against green supply chain management and some would not. This paper recommends that researchers should focus more towards qualitative study such as interviews in understanding the different stakeholder views towards green supply chain management to portray the different views about the concept and how this, in the end, implicates management decisions. This is done with the help of four methodologies viz. Reverse Logistics, Calculating the amount of Co2 released, shipment consolidation and Environmental Performance Index(EPI).

Keywords: GSCM = [Green purchasing] + [Green manufacturing/materials management] + [Green Distribution / marketing through Shipment Consolidation] + [Reverse logistics

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30.

Authors: **Prudhvi Raj Vejendla, Chandra Shekar Banoth, A.Rama Krishna**

Paper Title: **Digital Switching In Telecom- Munication**

Abstract: Telecommunication networks carry infor- mation signals among entities, which are geographically far apart. An entity may be a computer or human being, a facsimile machine, a Tele-printer, a data terminal and so on. The entities are involved in the process of infor- mation Transfer which may be in the form of a telephone conversation (telephony) or a file transfer between two computers or message transfer between two terminals etc. Today it is almost truism to state that telecommuni- cation systems are the symbol of our information age. With the rapidly growing traffic and untargeted growth of cyberspace, telecommunication becomes a fabric of our life. The future challenges are enormous as we antic- ipate rapid growth items of new services and number of users. What comes with the challenge is a genuine need for more advanced methodology supporting analysis and design of telecommunication architectures. Telecommu- nication has evaluated and growth at an explosive rate in recent years and will undoubtedly continue to do so.

The communication switching system enables the universal connectivity. The universal Connectivity is realized when any entity in one part of the world can communicate with any other entity in another part of the world. In many ways telecommunication will acts as a substitute for the increasingly expensive physical trans- portation.

The telecommunication links and switching were mainly designed for voice communication. With the appropriate attachments/equipment's, they can be used to transmit data. A modern society, therefore needs new facilities including very high bandwidth switched data networks, and large communication satellites with small, cheap earth antennas.

Keywords: In many ways telecommunication will acts as a substitute for the increasingly expensive physical trans- portation.

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31.

Authors: **Adil Majdoubi, Mohamed Essaaidi**

Paper Title: **The Estimation of DOA in Smart Antenna Systems**

Abstract: Smart antennas systems are being the key solution to increase the spectral efficiency and improving the system performance in mobile communication. Smart antennas usually consist of a number of radiating elements (i.e. array antennas) whose individual excitation can be controlled by DSP (digital signal processor) in order to achieve the desired radiation pattern. The smart antennas systems estimate the direction of arrival of the signal, using techniques such as MUSIC (Multiple Signal Classification), and ESPRIT (estimation of signal parameters via rotational invariance techniques) algorithms. They involve finding a spatial spectrum of the antenna array, and calculating the DOA from the peaks of this spectrum. These calculations are computationally intensive.

Keywords: DOA, MUSIC, antenna array, spatial spectrum, beamforming.

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32.

Authors: **Mohsen Ahmadipour, K.Venkateswara Rao**

Paper Title: **Preparation of Nano Particle Mg0.2Fe0.8O by Solution Combustion Method and Their Characterization**

Abstract: The present paper investigated a preparation of Nano sized Mg0.2Fe0.8O by eco-friendly chemical combustion synthesis using magnesium and iron nitrates as oxidizers and the glycine as a fuel to drive the reaction. Powder characterization was carried out by X-ray diffraction (XRD) to estimate crystallite size, Particle Size Analyzer (PSA), Thermal gravimetric analyzer (TGA) for determining sample purity, weight loss percentage and decomposition reaction, Transmission electron microscope and Scanning electron microscope(SEM, TEM) were done to evaluation the morphology and average particle size. In this study are useful for establishing a simple method for the preparation of Mg0.2Fe0.8O Nano powders.

Keywords: Solution Combustion Synthesis, Mg0.2Fe0.8O, XRD, SEM, TEM

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