Editor In Chief
Dr. Shiv K Sahu
Ph.D. (CSE), M.Tech. (IT, Honors), B.Tech. (IT)
Director, Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., Bhopal (M.P.), India

Dr. Shachi Sahu
Ph.D. (Chemistry), M.Sc. (Organic Chemistry)
Additional Director, Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., Bhopal(M.P.), India

Vice Editor In Chief
Dr. Vahid Nourani
Professor, Faculty of Civil Engineering, University of Tabriz, Iran

Prof. (Dr.) Anuranjan Misra
Professor & Head, Computer Science & Engineering and Information Technology & Engineering, Noida International University, Noida (U.P.), India

Chief Advisory Board
Prof. (Dr.) Hamid Saremi
Vice Chancellor of Islamic Azad University of Iran, Quchan Branch, Quchan-Iran

Dr. Uma Shanker
Professor & Head, Department of Mathematics, CEC, Bilaspur(C.G.), India

Dr. Rama Shanker
Professor & Head, Department of Statistics, Eritrea Institute of Technology, Asmara, Eritrea

Dr. Vinita Kumari
Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd., India

Dr. Kapil Kumar Bansal
Head (Research and Publication), SRM University, Gaziabad (U.P.), India

Dr. Deepak Garg
Professor, Department of Computer Science and Engineering, Thapar University, Patiala (Punjab), India, Senior Member of IEEE, Secretary of IEEE Computer Society (Delhi Section), Life Member of Computer Society of India (CSI), Indian Society of Technical Education (ISTE), Indian Science Congress Association Kolkata.

Dr. Vijay Anant Athavale
Director of SVS Group of Institutions, Mawana, Meerut (U.P.) India/ U.P. Technical University, India

Dr. T.C. Manjunath
Principal & Professor, HKBK College of Engg, Nagawara, Arabic College Road, Bengaluru-560045, Karnataka, India

Dr. Kosta Yogeshwar Prasad
Director, Technical Campus, Marwadi Education Foundation’s Group of Institutions, Rajkot-Morbi Highway, Gauridad, Rajkot, Gujarat, India

Dr. Dinesh Varshney
Director of College Development Counseling, Devi Ahilya University, Indore (M.P.), Professor, School of Physics, Devi Ahilya University, Indore (M.P.), and Regional Director, Madhya Pradesh Bhoj (Open) University, Indore (M.P.), India

Dr. P. Dananjayan
Professor, Department of Department of ECE, Pondicherry Engineering College, Pondicherry, India

Dr. Sadhana Vishwakarma
Associate Professor, Department of Engineering Chemistry, Technocrat Institute of Technology, Bhopal(M.P.), India

Dr. Kamal Mehta
Associate Professor, Deptment of Computer Engineering, Institute of Technology, NIRMA University, Ahmedabad (Gujarat), India

Dr. CheeFai Tan
Faculty of Mechanical Engineering, University Technical, Malaysia Melaka, Malaysia

Dr. Suresh Babu Perli
Professor & Head, Department of Electrical and Electronic Engineering, Narasaraopeta Engineering College, Guntur, A.P., India
Dr. Binod Kumar  
Associate Professor, Schhool of Engineering and Computer Technology, Faculty of Integrative Sciences and Technology, Quest International University, Ipoh, Perak, Malaysia

Dr. Chiladze George  
Professor, Faculty of Law, Akhaltsikhe State University, Tbilisi University, Georgia

Dr. Kavita Khare  
Professor, Department of Electronics & Communication Engineering, MANIT, Bhopal (M.P.), INDIA

Dr. C. Saravanan  
Associate Professor (System Manager) & Head, Computer Center, NIT, Durgapur, W.B. India

Dr. S. Saravanan  
Professor, Department of Electrical and Electronics Engineering, Muthayamal Engineering College, Resipuram, Tamilnadu, India

Dr. Amit Kumar Garg  
Professor & Head, Department of Electronics and Communication Engineering, Maharishi Markandeshwar University, Mulllana, Ambula (Haryana), India

Dr. T.C.Manjunath  
Principal & Professor, HKBK College of Engg, Nagawara, Arabic College Road, Bengaluru-560045, Karnataka, India

Dr. P. Dananjayan  
Professor, Department of Department of ECE, Pondicherry Engineering College, Pondicherry, India

Dr. Kamal K Mehta  
Associate Professor, Department of Computer Engineering, Institute of Technology, NIRMA University, Ahmedabad (Gujarat), India

Dr. Rajiv Srivastava  
Director, Department of Computer Science & Engineering, Sagar Institute of Research & Technology, Bhopal (M.P.), India

Dr. Chakunta Venkata Guru Rao  
Professor, Department of Computer Science & Engineering, SR Engineering College, Ananthasagar, Warangal, Andhra Pradesh, India

Dr. Anuranjan Misra  
Professor, Department of Computer Science & Engineering, Bhagwant Institute of Technology, NH-24, Jindal Nagar, Ghaziabad, India

Dr. Robert Brian Smith  
International Development Assistance Consultant, Department of AEC Consultants Pty Ltd, AEC Consultants Pty Ltd, Macquarie Centre, North Ryde, New South Wales, Australia

Dr. Saber Mohamed Abd-Allah  
Associate Professor, Department of Biochemistry, Shanghai Institute of Biochemistry and Cell Biology, Yue Yang Road, Shanghai, China

Dr. Himani Sharma  
Professor & Dean, Department of Electronics & Communication Engineering, MLR Institute of Technology, Laxman Reddy Avenue, Dundigal, Hyderabad, India

Dr. Sahab Singh  
Associate Professor, Department of Management Studies, Dronacharya Group of Institutions, Knowledge Park-III, Greater Noida, India

Dr. Umesh Kumar  
Principal: Govt Women Poly, Ranchi, India

Dr. Syed Zaheer Hasan  
Scientist-G Petroleum Research Wing, Gujarat Energy Research and Management Institute, Energy Building, Pandit Deendayal Petroleum University Campus, Raisan, Gandhinagar-382007, Gujarat, India.

Dr. Jaswant Singh Bhomrah  
Director, Department of Profit Oriented Technique, 1 – B Crystal Gold, Vijalpore Road, Navsari 396445, Gujarat, India
**Technical Advisory Board**

**Dr. Mohd. Husain**  
Director MG Institute of Management & Technology, Banthara, Lucknow (U.P.), India

**Dr. T. Jayanthy**  
Principal, Panimalar Institute of Technology, Chennai (TN), India

**Dr. Umesh A.S.**  
Director, Technocrats Institute of Technology & Science, Bhopal(M.P.), India

**Dr. B. Kanagasabapathi**  
Infosys Labs, Infosys Limited, Center for Advance Modeling and Simulation, Infosys Labs, Infosys Limited, Electronics City, Bangalore, India

**Dr. C.B. Gupta**  
Professor, Department of Mathematics, Birla Institute of Technology & Sciences, Pilani (Rajasthan), India

**Dr. Sunandan Bhunia**  
Associate Professor & Head., Dept. of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia, West Bengal, India

**Dr. Jaydeb Bhaumik**  
Associate Professor, Dept. of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia, West Bengal, India

**Dr. Rajesh Das**  
Associate Professor, School of Applied Sciences, Haldia Institute of Technology, Haldia, West Bengal, India

**Dr. Mrutyunjaya Panda**  
Professor & Head, Department of EEE, Gandhi Institute for Technological Development, Bhubaneswar, Odisha, India

**Dr. Mohd. Nazri Ismail**  
Associate Professor, Department of System and Networking, University of Kuala (UniKL), Kuala Lumpur, Malaysia

**Dr. Haw Su Cheng**  
Faculty of Information Technology, Multimedia University (MMU), Jalan Multimedia, 63100 Cyberjaya

**Dr. Hossein Rajabalipour Cheshmehgaz**  
Industrial Modeling and Computing Department, Faculty of Computer Science and Information Systems, Universiti Teknologi Malaysia (UTM) 81310, Skudai, Malaysia

**Dr. Sudhinder Singh Chowhan**  
Associate Professor, Institute of Management and Computer Science, NIMS University, Jaipur (Rajasthan), India

**Dr. Neeta Sharma**  
Professor & Head, Department of Communication Skills, Technocrat Institute of Technology, Bhopal(M.P.), India

**Dr. Ashish Rastogi**  
Associate Professor, Department of CSIT, Guru Ghasi Das University, Bilaspur (C.G.), India

**Dr. Santosh Kumar Nanda**  
Professor, Department of Computer Science and Engineering, Eastern Academy of Science and Technology (EAST), Khurda (Orisa), India

**Dr. Hai Shanker Hota**  
Associate Professor, Department of CSIT, Guru Ghasi Das University, Bilaspur (C.G.), India

**Dr. Sunil Kumar Singla**  
Professor, Department of Electrical and Instrumentation Engineering, Thapar University, Patiala (Punjab), India

**Dr. A. K. Verma**  
Professor, Department of Computer Science and Engineering, Thapar University, Patiala (Punjab), India

**Dr. Durgesh Mishra**  
Chairman, IEEE Computer Society Chapter Bombay Section, Chairman IEEE MP Subsection, Professor & Dean (R&D), Acropolis Institute of Technology, Indore (M.P.), India

**Dr. Xiaoguang Yue**  
Associate Professor, College of Computer and Information, Southwest Forestry University, Kunming (Yunnan), China
Dr. Veronica Mc Gowan  
Associate Professor, Department of Computer and Business Information Systems, Delaware Valley College, Doylestown, PA, Allman, China

Dr. Mohd. Ali Hussain  
Professor, Department of Computer Science and Engineering, Sri Sai Madhavi Institute of Science & Technology, Rajahmundry (A.P.), India

Dr. Mohd. Nazri Ismail  
Professor, System and Networking Department, Jalan Sultan Ismail, Kaula Lumpur, MALAYSIA

Dr. Sunil Mishra  
Associate Professor, Department of Communication Skills (English), Dronacharya College of Engineering, Farrukhnagar, Gurgaon (Haryana), India

Dr. Labib Francis Gergis Rofaiel  
Associate Professor, Department of Digital Communications and Electronics, Misr Academy for Engineering and Technology, Mansoura City, Egypt

Dr. Pavol Tanuska  
Associate Professor, Department of Applied Informetrics, Automation, and Mathematics, Trnava, Slovakia

Dr. VS Giridhar Akula  
Professor, Avanthi's Research & Technological Academy, Gunthapally, Hyderabad, Andhra Pradesh, India

Dr. S. Satyanarayana  
Associate Professor, Department of Computer Science and Engineering, KL University, Guntur, Andhra Pradesh, India

Dr. Bhupendra Kumar Sharma  
Associate Professor, Department of Mathematics, KL University, BITS, Pilani, India

Dr. Praveen Agarwal  
Associate Professor & Head, Department of Mathematics, Anand International College of Engineering, Jaipur (Rajasthan), India

Dr. Manoj Kumar  
Professor, Department of Mathematics, Rashtriya Kishan Post Graduate Degree, College, Shamli, Prabudh Nagar, (U.P.), India

Dr. Shaikh Abdul Hannan  
Associate Professor, Department of Computer Science, Vivekanand Arts Sardar Dalip Singh Arts and Science College, Aurangabad (Maharashtra), India

Dr. K.M. Pandey  
Professor, Department of Mechanical Engineering, National Institute of Technology, Silchar, India

Prof. Pranav Parashar  
Technical Advisor, International Journal of Soft Computing and Engineering (IJSCE), Bhopal (M.P.), India

Dr. Biswajit Chakraborty  
MECON Limited, Research and Development Division (A Govt. of India Enterprise), Ranchi-834002, Jharkhand, India

Dr. D.V. Ashoka  
Professor & Head, Department of Information Science & Engineering, SJB Institute of Technology, Kengeri, Bangalore, India

Dr. Sasidhar Babu Suvanam  
Professor & Academic Cordinator, Department of Computer Science & Engineering, Sree Narayana Gurukulam College of Engineering, Kadaiyuruppu, Kolenchery, Kerala, India

Dr. C. Venkatesh  
Professor & Dean, Faculty of Engineering, EBET Group of Institutions, Kangayam, Erode, Caimbatore (Tamil Nadu), India

Dr. Nilay Khare  
Assoc. Professor & Head, Department of Computer Science, MANIT, Bhopal (M.P.), India

Dr. Sandra De Iaco  
Professor, Dip.to Di Scienze Dell’Economia-Sez. Matematico-Statistica, Italy
Dr. Yaduvir Singh  
Associate Professor, Department of Computer Science & Engineering, Ideal Institute of Technology, Govindpuram Ghaziabad, Lucknow (U.P.), India

Dr. Angela Amphawan  
Head of Optical Technology, School of Computing, School Of Computing, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia

Dr. Ashwini Kumar Arya  
Associate Professor, Department of Electronics & Communication Engineering, Faculty of Engineering and Technology, Graphic Era University, Dehradun (U.K.), India

Dr. Yash Pal Singh  
Professor, Department of Electronics & Communication Engineering, Director, KLS Institute Of Engg.& Technology, Director, KLSIET, Chandok, Bijnor, (U.P.), India

Dr. Ashish Jain  
Associate Professor, Department of Computer Science & Engineering, Accurate Institute of Management & Technology, Gr. Noida (U.P.), India

Dr. Abhay Saxena  
Associate Professor & Head, Department of Computer Science, Dev Sanskriti University, Haridwar, Uttrakhand, India

Dr. Judy. M.V  
Associate Professor, Head of the Department CS &IT, Amrita School of Arts and Sciences, Amrita Vishwa Vidyapeetham, Brahmasthanam, Edapally, Cochin, Kerala, India

Dr. Sangkyun Kim  
Professor, Department of Industrial Engineering, Kangwon National University, Hyoja 2 dong, Chunche0nsi, Gangwondo, Korea

Dr. Sanjay M. Gulhane  
Professor, Department of Electronics & Telecommunication Engineering, Jawaharlal Darda Institute of Engineering & Technology, Yavatmal, Maharashtra, India

Dr. K.K. Thyagarajan  
Principal & Professor, Department of Informational Technology, RMK College of Engineering & Technology, RSM Nagar, Thiruyallur, Tamil Nadu, India

Dr. P. Subashini  
Assoc. Professor, Department of Computer Science, Coimbatore, India

Dr. G. Srinivasrao  
Professor, Department of Mechanical Engineering, RVR & JC, College of Engineering, Chowdavaram, Guntur, India

Dr. Rajesh Verma  
Professor, Department of Computer Science & Engg. and Dept. of Information Technology, Kurukshetra Institute of Technology & Management, Bhor Sadian, Pehowa, Kurukshetra (Haryana), India

Dr. Pawan Kumar Shukla  
Associate Professor, Satya College of Engineering & Technology, Haryana, India

Dr. U C Srivastava  
Associate Professor, Department of Applied Physics, Amity Institute of Applied Sciences, Amity University, Noida, India

Dr. Reena Dadhich  
Prof. & Head, Department of Computer Science and Informatics, MBS MAArg, Near Kabir Circle, University of Kota, Rajasthan, India

Dr. Aashis. S. Roy  
Department of Materials Engineering, Indian Institute of Science, Bangalore Karnataka, India

Dr. Sudhir Nigam  
Professor Department of Civil Engineering, Principal, Lakshmi Narain College of Technology and Science, Raisen, Road, Bhopal, (M.P.), India

Dr. S. Senthil Kumar  
Doctorate, Department of Center for Advanced Image and Information Technology, Division of Computer Science and Engineering, Graduate School of Electronics and Information Engineering, Chon Buk National University Deok Jin-Dong, Jeonju, Chon Buk, 561-756, South Korea Tamilnadu, India
Dr. Gufran Ahmad Ansari  
Associate Professor, Department of Information Technology, College of Computer, Qassim University, Al-Qassim, Kingdom of Saudi Arabia (KSA)

Dr. R. Navaneetha krishnan  
Associate Professor, Department of MCA, Bharathiyar College of Engg & Tech, Karaikal Puducherry, India

Dr. Hossein Rajabalipour Cheshmejgaz  
Industrial Modeling and Computing Department, Faculty of Computer Science and Information Systems, Universiti Teknologi Skudai, Malaysia

Dr. Veronica McGowan  
Associate Professor, Department of Computer and Business Information Systems, Delaware Valley College, Doylestown, PA, Allman China

Dr. Sanjay Sharma  
Associate Professor, Department of Mathematics, Bhilai Institute of Technology, Durg, Chhattisgarh, India

Dr. Taghreed Hashim Al-Noor  
Professor, Department of Chemistry, Ibn-Al-Haitham Education for pure Science College, University of Baghdad, Iraq

Dr. Madhumita Dash  
Professor, Department of Electronics & Telecommunication, Orissa Engineering College, Bhubaneswar, Odisha, India

Dr. Anita Sagadevan Ethiraj  
Associate Professor, Department of Centre for Nanotechnology Research (CNR), School of Electronics Engineering (Sense), Vellore Institute of Technology (VIT) University, Tamilnadu, India

Dr. Sibasis Acharya  
Project Consultant, Department of Metallurgy & Mineral Processing, Midas Tech International, 30 Mukan Street, Jindalee-4074, Queensland, Australia

Dr. Neelam Ruhil  
Professor, Department of Electronics & Computer Engineering, Dronacharya College of Engineering, Gurgaon, Haryana, India

Dr. Faizullah Mahar  
Professor, Department of Electrical Engineering, Balochistan University of Engineering and Technology, Pakistan

Dr. K. Selvaraju  
Head, PG & Research, Department of Physics, Kandaswami Kandars College (Govt. Aided), Velur (PO), Namakkal DT. Tamil Nadu, India

Dr. M. K. Bhanarkar  
Associate Professor, Department of Electronics, Shivaji University, Kolhapur, Maharashtra, India

Dr. Sanjay Hari Sawant  
Professor, Department of Mechanical Engineering, Dr. J. J. Magdum College of Engineering, Jaisingpur, India

Dr. Arindam Ghosal  
Professor, Department of Mechanical Engineering, Dronacharya Group of Institutions, B-27, Part-III, Knowledge Park, Greater Noida, India

Dr. M. Chithirai Pon Selvan  
Associate Professor, Department of Mechanical Engineering, School of Engineering & Information Technology Manipal University, Dubai, UAE

Dr. S. Sambhu Prasad  
Professor & Principal, Department of Mechanical Engineering, Pragati College of Engineering, Andhra Pradesh, India.

Dr. Muhammad Attique Khan Shahid  
Professor of Physics & Chairman, Department of Physics, Advisor (SAAP) at Government Post Graduate College of Science, Faisalabad.

Dr. Kuldeep Pareta  
Professor & Head, Department of Remote Sensing/GIS & NRM, B-30 Kailash Colony, New Delhi 110 048, India

Dr. Th. Kiranbala Devi  
Associate Professor, Department of Civil Engineering, Manipur Institute of Technology, Takyelpat, Imphal, Manipur, India
Dr. Nirmala Mungamuru  
Associate Professor, Department of Computing, School of Engineering, Adama Science and Technology University, Ethiopia

Dr. Srilalitha Girija Kumari Sagi  
Associate Professor, Department of Management, Gandhi Institute of Technology and Management, India

Dr. Vishnu Narayan Mishra  
Associate Professor, Department of Mathematics, Sardar Vallabhbhai National Institute of Technology, Ichchhanath Mahadev Dumas Road, Surat (Gujarat), India

Dr. Yash Pal Singh  
Director/Principal, Somany (P.G.) Institute of Technology & Management, Garhi Bolni Road, Rewari Haryana, India.

Dr. Sripada Rama Sree  
Vice Principal, Associate Professor, Department of Computer Science and Engineering, Aditya Engineering College, Surampalem, Andhra Pradesh, India.

Dr. Rustom Mamlook  
Associate Professor, Department of Electrical and Computer Engineering, Dhofar University, Salalah, Oman. Middle East.

Managing Editor  
Mr. Jitendra Kumar Sen  
International Journal of Innovative Science and Modern Engineering (IJISME)

Editorial Board  
Dr. Saeed Balochian  
Associate Professor, Gonaabad Branch, Islamic Azad University, Gonabad, Iran

Dr. Mongey Ram  
Associate Professor, Department of Mathematics, Graphics Era University, Dehradun, India

Dr. Arupratan Santra  
Sr. Project Manager, Infosys Technologies Ltd, Hyderabad (A.P.-500005, India

Dr. Ashish Jolly  
Dean, Department of Computer Applications, Guru Nanak Khalsa Institute & Management Studies, Yamuna Nagar (Haryana), India

Dr. Israel Gonzalez Carrasco  
Associate Professor, Department of Computer Science, Universidad Carlos III de Madrid, Leganes, Madrid, Spain

Dr. Guoxiang Liu  
Member of IEEE, University of North Dakota, Grand Forks, N.D., USA

Dr. Khushali Menaria  
Associate Professor, Department of Bio-Informatics, Maulana Azad National Institute of Technology (MANIT), Bhopal (M.P.), India

Dr. R. Sukumar  
Professor, Sethu Institute of Technology, Pulloor, Kariapatti, Virudhunagar, Tamilnadu, India

Dr. Cherouat Abel  
Professor, University of Technology of Troyes, France

Dr. Rinkle Aggrawal  
Associate Professor, Department of Computer Science and Engineering, Thapar University, Patiala (Punjab), India

Dr. Parteek Bhatia  
Associate Professor, Deprtment of Computer Science & Engineering, Thapar University, Patiala (Punjab), India

Dr. Manish Srivastava  
Professor & Head, Computer Science and Engineering, Guru Ghasidas Central University, Bilaspur (C.G.), India

Dr. B. P. Ladgaonkar  
Assoc. Professor&Head, Department of Electronics, Shankarrao Mohite Mahavidyalaya, Aklj, Maharashtra, India

Dr. E. Mohan  
Professor & Head, Department of Computer Science and Engineering, Pallavan College of Engineering, Kanchipuram, Tamilnadu, India
Dr. M. Shanmuga Priya  
Assoc. Professor, Department of Biotechnology, MVJ College of Engineering, Bangalore Karnataka, India

Dr. Leena Jain  
Assoc. Professor & Head, Dept. of Computer Applications, Global Institute of Management & Emerging Technologies, Amritsar, India

Dr. S.S.S.V Gopala Raju  
Professor, Department of Civil Engineering, GITAM School of Technology, GITAM, University, Hyderabad, Andhra Pradesh, India

Dr. Ani Grubisic  
Department of Computer Science, Teslina 12, 21000 split, Croatia

Dr. Ashish Paul  
Associate Professor, Department of Basic Sciences (Mathematics), Assam Don Bosco University, Guwahati, India

Dr. Sivakumar Durairaj  
Professor, Department of Civil Engineering, Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College, Avadi, Chennai Tamil Nadu, India

Dr. Rashmi Nigam  
Associate Professor, Department of Applied Mathematics, UTI, RGPV, Airport Road, Bhopal, (M.P.), India

Dr. Mu-Song Chen  
Associate Professor, Department of Electrical Engineering, Da-Yeh University, Rd., Dacun, Changhua 51591, Taiwan R.O.C., Taiwan, Republic of China

Dr. Ramesh S  
Associate Professor, Department of Electronics & Communication Engineering, Dr. Ambedkar Institute of Technology, Bangalore, India

Dr. Nor Hayati Abdul Hamid  
Associate Professor, Department of Civil Engineering, Universiti Teknologi Mara, Selangor, Malaysia

Dr. C. Nagarajan  
Professor & Head, Department of Electrical & Electronic Engineering Muthayammal Engineering College, Rasipuram, Tamilnadu, India

Dr. Ilaria Cacciotti  
Department of Industrial Engineering, University of Rome Tor Vergata Via del Politecnico Rome-Italy

Dr. V. Balaji  
Principal Cum Professor, Department of EEE &E&I, Lord Ayyappa Institute of Engg & Tech, Uthukadu, Walajabad, Kanchipuram, Tamil Nadu, India

Dr. G. Anjan Babu  
Assoc. Professor, Department of Computer Science, S V University, Tirupati, Andhra Pradesh, India

Dr. Damodar Reddy Edla  
Assoc. Professor, Department of Computer Science & Engineering, National Institute of Technology, Goa, India

Dr. D. Arumuga Perumal  
Professor, Department of Mechanical Engg, Noorul Islam University, Kanyakumari (Dist), Tamilnadu, India

Dr. Roshyd A. AbdelRassoul  
Professor, Department of Electronics and Communications Engineering, Arab Academy for Science and Technology, Electronics and Communications Engineering Dept., POBox 1029, Abu-Qir, Alexandria, Egypt

Dr. Aniruddha Bhattacharya  
Assoc. Professor & Head, Department of Computer Science & Engineering, Amrita School of Engineering, Bangalore, India

Dr. P Venkateswara Rao  
Professor, Department of Mechanical Engineering, KITS, Warangal, Andhra Pradesh, India

Dr. V. Mahalakshmi M.L  
Assoc. Professor & Head, Institute of Management Studies, Chennai CID Quarters, V.K.Iyer Road, Mandaveli, Chennai
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Volume-1 Issue-9, August 2013, ISSN: 2319–6386 (Online)</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Published By: Blue Eyes Intelligence Engineering &amp; Sciences Publication Pvt. Ltd.</td>
<td></td>
</tr>
</tbody>
</table>

### Authors:
Abayomi O. Ibiyemi, Martins T. A. Adenipekun

### Paper Title:
Self Study Approach to Self Discovery and Motivational Training for Real Estate Professionals in Nigeria

### Abstract:
Entrepreneurship is a key factor in the production of goods and services. This paper reviews the theoretical, empirical, and conceptual approaches to determining the significance of entrepreneurship to national economic growth and empowerment, and also draws evidence from China, Thailand, Singapore, India and Korea to support these approaches. It provides a sample of a Self-Discovery Exercise to Real Estate Professionals (REPs) based on ranking of 12 motivators in order of their importance from 1st to 12th in comparison with standard rankings. It concludes that entrepreneurship is significant to national economic empowerment and development and that REPs can add value in their various areas of professional practice and become players in the international real estate markets. The paper recommends sincere and regular self-discovery based on the standardised scheme for motivational training exercise, and that Governments at all levels synergise efforts towards improving entrepreneurial framework conditions by increasing access to finance, facilitate entry and exit, and create Government support programmes.

### Keywords:
Entrepreneurship, Real Estate Professionals, Self-Discovery Exercise, Economic Growth and Empowerment.

### References:

### Authors:
Amruta G. Whatte, S. S. Jankar

### Paper Title:

### Abstract:
The task of the structural engineer is to design a structure which satisfies the needs of the client and the user. Specifically the structure should be safe, economical to build and maintain, and aesthetically pleasing. By considering the above needs of user this study gives the comparative design of structural element by using three different International Design Codes. Structural Elements such as tension member, compression member, flexural member, beam column, gusseted base, and beam.
column connection are designed for this comparative study. Same data is considered for the design of particular element and that element is designed by using Indian Standard (IS 800:2007), American Standard (AISC 13th Edition) and British Standard (BS 5950, 1:2000). The design methodology used in this study is the same for all the codes but there are some differences in the constants or parameters depending on the code used. Finally the results are evaluated and compared in the tabular format.

Keywords: IS 800:2007, AISC 13th edition, BS 5950 1:2000, LRFD, and ASD.

2. References

18. Prof. S.R. Satish Kumar and Prof. A.R. Santha Kumar, “Design of Steel Structure”. IIT Madras
20. S.K. Duggal, “Design of Steel Structure as per IS 800: 2007”.
24. Steel Sectional Table.

Authors: Pravin W. Raut, S. L. Badjate

Paper Title: FPGA Based Design & Implementation of Alamouti MIMO Encoder for Wireless Transmitter

Abstract: This paper address the Design and implementation of Alamouti Transmit Diversity Scheme using FPGA for Multi-Input-Multi-Output (MIMO) wireless communication transmitter. The task of the FPGA based MIMO Encoder is to process two digital signals (S1 & S1) having real(q) and Imaginary (i) parts, are being transmitted using two transmitting antennas by employing Alamouti transmitting scheme in VHDL. The FPGA devices of the Xilinx family are used to report the results. The performance is checked for optimized device resource utilization, data link for two symbol period. The role of MIMO Encoder/transmitter to handle the traffic of multiuser though multiple channels, to ensure the quality signals at the receiver even in failure of any channel.

Keywords: FPGA, MIMO Encoder, Transmitter, MIMO Decoder, Receiver, antenna, Signal to Noise Ratio (SNR), OFDM.

3. References

2. MIMO: The next revolution in wireless data communications By Babak Daneshrad
6. MIMO: from Theory to Reality . Ruifeng Wang July 2009 Peter J. Smith, Member, IEEE, and Ayman Naguib, Senior Member, IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, VOL. 21, NO. 3, APRIL 2003
Contributions to Optimization of Functioning Of Induction Heating System Using Simulink

Abstract: This paper presents complete modeling of induction heating system comprising (Rectifier Filter, Inverter, Digital PLL control block and work coil) for high frequency around 100 KHz and high Power around 100Kwatt applications. The Modeling is done using Simulink & results at all the stages are presented.

Keywords: PLL.

References:
4. www.inductionatmospheres.com/industry.html

Analysis of Organic Photovoltaic Cell

Abstract: In this paper analysis of photo voltaic (PV) electricity is one of the best options for most impartment and ecological future energy requirements of the world. Organic photovoltaic (OPV) cells are hopeful views for common renewable energy unpaid to light weight, low cost, and flexibility. But, presently the best total power conversion efficiency of OPV cell is round 8.3% that is very low. The research paper focuses, the basic design, the recent progresses in organic materials, processing technique and operation of organic photovoltaic cells as well as crucial feature of their performance are discussed to this article.

Keywords: Efficiency, Cost effective, Molecular Materials, OPV-Organic Photovoltaic cell, Temperature Effect, Processing Technique.

References:
2. Rivers N.P. Leading edge research in solar energy.(2007).

Authors: Asawari Dudwadkar, Y. S. Rao

Authors: S. V. D. Prasad, V. Krishnanaik, K. R. Babu
Authors: M. S. M. Aras, M. F. Basar, S. S. Abdullah, F. A. Azis, F. A. Ali

Paper Title: Obstacle Avoidance System for Unmanned Underwater Vehicle Using Fin System

Abstract: An underwater glider is a type of an unmanned underwater vehicle (UUV). The movement of an underwater glider in the water is based on the buoyancy-propelled for float and fixed-winged for stabilizing the glider’s body. However, a fixed wing underwater glider has limitation to avoid hitting the obstacle in front of it. To overcome this problem, the application of fin system in underwater glider is needed. In this project, a methodology was introduced which is design a flexible fin system of an underwater glider for obstacle avoidance purpose. This final year project mainly focused on SolidWorks’s simulation and analysis of -30°, -45°, -60° for submerge and rise up at 30°, 45°, 60° to get the most suitable angle for the glider’s fin system to submerge and rise up. The UTeM underwater glider is modified from fixed to flexible wing. Hence, Peripheral Interface Controller (PIC) is used to program the movement of the glider’s wings for upward at 45°and downward at -45°in the water. Thus, a flexible fin system for obstacle avoidance is designed and applied in UTeM underwater glider.

Keywords: Underwater glider, fin system, obstacle avoidance.

References:

Paper Title: A Comparative Analysis of Several Back Propagation Algorithms in Wireless Channel for ANN-Based Mobile Radio Signal Detector

Abstract: Application of Artificial Neural Network (ANN) in cognitive radio has received considerable attention to incorporate artificial intelligence in cognitive radio based communication system. This paper introduces multilayer feed-forward neural network (MFNN) for spectrum sensing to detect the primary users. This in turn would enable the detector to identify the vacant bands that are devoid of primary users. As the accuracy of detection depends on the structure of the network and on
the learning algorithms, an MFNN is trained with different back propagation algorithms varying the number of hidden neurons to find out the best suitable structure of the MFNN for spectrum sensing in different conditions of the wireless channel. Distinct cyclostationary features of different primary users are extracted to generate the input feature vectors for the MFNN as these features are well accepted for signal detection in low signal-to-noise ratio (SNR). The False Alarm Rate (FAR) of the detector is also evaluated with SNR and multipath delay. Simulation results prove that MFNN is suitable for designing a highly robust vacant band detector in the time varying wireless channel as it provides low and almost constant FAR in high multipath delay and low SNR RF environment.

Keywords: Back propagation algorithms, cognitive radio, false alarm rate, multilayer feed forward neural network, spectrum sensing.

References:
15. Chuan-Yu Chang, Yong-Cheng Hong,Pau-Choo Chung, Chn-Hsiao Tseng,”A Neural Network for Thyroid Segmentation and Volume Estimation in CT Images “IEEE Computational Intelligence Magazine, November2011

Authors: P. Nagasekhar Reddy
Paper Title: Modeling and Simulation of Space Vector Pulse Width Modulation based Permanent Magnet Synchronous Motor Drive using MRAS

Abstract: The Permanent Magnet Synchronous Motors (PMSM) is extensively used in low and mid power applications such as robotics, adjustable speed drives, electric vehicles and also in industrial automation. The MRAS is based on the comparison of the outputs of two estimators. The first is independent of the observed variable named as model reference. The second is the adjustable one. The error between the two models feed an adaptive mechanism to turn out the observed variable. This paper presents a detailed modeling of PMSM and a novel space vector pulse width modulation (SVPWM) based control of permanent magnet synchronous motor (PMSM) drive by using a Model Reference Adaptive System (MRAS) for estimating rotor position angle and speed based on a stator current estimator. The three-phase, two-level voltage source inverter (VSI) has a quite simple design and generates a low-frequency output voltage with controlled amplitude and frequency by programming gating pulses at high-frequency. The whole drive system is simulated in Matlab/Simulink based on the mathematical modeling of the system and the results are presented.
Keywords: SVPWM, PI controller, PMSM, model reference adaptive system (MRAS), mathematical modeling, MATLAB, About four key words or phrases in alphabetical order, separated by commas.

References:

Authors: N. Zeelan Basha, G. Mahesh, M. Nuthuprakash

Paper Title: Optimization of CNC Turning Process Parameters on ALUMINUM 6061 Using Genetic Algorithm

Abstract: This paper presents the effect of process parameter in turning operation to predict surface roughness. Application of aluminium 6061 can be found in many manufacturing industries such as aircraft and aerospace components, marine fittings, transport, bicycle frames, camera lenses, drive, shafts, electrical fittings and connectors, brake components, valves, couplings. But some of the limitations during machining of aluminium 6061 are lower strength at elevated temperatures and limited formability affects quality of desired output. A lot of parameters that affect the turning operation are vibration, tool wear, surface roughness etc. Among this surface roughness plays a major role which affects the quality in the manufacturing process. This paper presents the effect of process parameter by considering the Spindle speed, Feed rate and Depth of cut. The main objective of this paper is to predict the surface roughness. Aluminium 6061 is taken into a consideration, machining is done by using coated carbide tool. A second order mathematical model is developed using regression technique of Box-Behnken of Response Surface Methodology (RSM) in design expert software 8.0 and optimization carried out by using genetic algorithm in matlab8.0. This study attempts the application of genetic algorithm to find the optimal solution of the cutting conditions.

Keywords: Surface Roughness, Genetic Algorithm, Optimization, CNC Turning Centre.

References:
<table>
<thead>
<tr>
<th>Authors:</th>
<th>K. Sagar, S. Vathsal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Title:</td>
<td>Design of Combinational Circuits Using Evolutionary Techniques</td>
</tr>
<tr>
<td>Abstract:</td>
<td>With the increasing demand for high quality, more efficient design of logic circuits, the problem of circuit design has become a multi-objective optimization problem. Therefore, there should evolve new methodologies for designing logic circuits. Usually, logic circuits are designed by human beings who have a specific repertoire of conventional design techniques. These techniques limit the solutions that may be considered during the design process in both form and quality. The application of evolutionary algorithms has allowed the creation of circuits which are substantially superior to the best known human designs. Several evolutionary algorithms are applied in design of combinational circuits, namely Genetic Algorithms, Particle Swarm Optimization and Ant colony Optimization techniques. We compared these approaches and produces better performance both in terms of quality of solution and in terms of speed of convergence.</td>
</tr>
<tr>
<td>Keywords:</td>
<td>Circuit Design, Optimization, Evolutionary Algorithms, Convergence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Authors:</th>
<th>Abhinav Aggarwal, Rupika Srivastava, Sumit Malik, Kirti Meena, Poonam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Title:</td>
<td>Virtual Differential Storage Based K-Rollback Concurrency Control Algorithm in Distributed Shared Memory Systems</td>
</tr>
<tr>
<td>Abstract:</td>
<td>Most of the algorithms that exist today for concurrency control over distributed shared memory, either fail to provide a scalable model or involve a large communication overhead for establishing consensus over the state of the shared variables. After a thorough study of some of the efficient algorithms this field, this paper introduces a functional view of a holistic approach, which exploits the best features of all others. It provides a virtual differential storage, which allows fast replication and compact storage, along with a strong subversion control over rollbacks in time, which provides better fault tolerance. It also talks of an intelligent logging mechanism, where the read/write records are used actively by the central controller to provide exclusion over Above all, the algorithm is best implemented in LISP or Scheme due to its functional nature. This make the implementation computationally very fast. A trade off, however, exists between the implementation complexity and the quality of the final product.</td>
</tr>
<tr>
<td>Keywords:</td>
<td>Log, Page, Concurrency, Shared Memory</td>
</tr>
</tbody>
</table>
12. Managing Virtual Hard Disks Using Differentiating Disks, Microsoft

Authors: Revanasiddappa B, K. V. Ramana Reddy

Paper Title: CPLD Implementation of Low Power Multi Serial to Ethernet Gateway for UAV Data Acquisition Systems by Using PIC

Abstract: An Unmanned Aerial Vehicle (UAV), commonly known as a drone, is an aircraft without a human pilot on board. It’s a flight controlled under the remote of a pilot on the ground. Historically, UAVs were simple remotely controlled aircraft, but day-to-day autonomous control is rapidly being employed. The development of autonomy technology makes UAV to combining information from different sensors like temperature sensor and humidity sensor. The collected information communicated to pc. With the help of camera motion planning determines an optimal path for vehicle to go while meeting certain objectives and constraints. CPLD’s flexible programming features also allow further upgrade for system. Low power, as the multi card solution can come in single CPLD card with smaller modules around it communicating local area number of systems transferring the data from one system to another system. In this project all the components which are using they required maximum 3.3V power supply instead of 5V.

Keywords: Ethernet, PIC, CPLD, UAV, UART, Gateway, Multi serial.

References:

Authors: Kalyan Chatterjee, Prasenjit Maji, Arka Banerjee, Debarati Das, Manisha Gupta

Paper Title: A Comparative Analysis to Determine the Optimum Approach for Image Denoising

Abstract: Image denoising demands serious attention and is usually the first and foremost step in any image processing application. Erroneous denoised results lead to improper and inaccurate final results. So it is of prime importance to eliminate the noise from the image to the utmost extent. In this paper an analysis is performed for image denoising by imposing different types of noise on the original image, using a choice of wavelet decomposition techniques and also different feasible thresholding techniques to find the optimum denoised result image and also the best combination involved in the process.

Keywords: Image Denoising, Discrete Wavelet Transformation, Wavelet Decomposition, Wavelet Thresholding.

References:
1. Survey of image denoising techniques, MCMotwani, MC Gadiya, RCMotwani - Proceedings of GSPX, 2004 – Citeseer
2. Comparative Performance Analysis of Haar, Symlets and Bior Wavelets on Image Compression using Discrete Wavelet Transformation, Jashanbir Singh Kaleke, Reecha Sharma
3. Wavelet Browser by PYWAVELETS, wavelet.pybytes.com/wavelet/sym2/Symlets 2 wavelet (sym2) properties, filters and functions – Wavelet Properties Browser.html
4. Wavelet Browser by PYWAVELETS, wavelet.pybytes.com/wavelet/db2/Daubechies 2 wavelet (db2) properties, filters and functions - Wavelet Properties Browser.html
5. Wavelet Browser by PYWAVELETS, wavelet.pybytes.com/wavelet/db4/Daubechies 4 wavelet (db4) properties, filters and functions - Wavelet Properties Browser.html
6. Image Denoising using Wavelet Thresholding Lakhwinder Kaur, Savita Gupta, R.C.
7. A Novel Approach of Harris Corner Detection of Noisy Images using Adaptive Wavelet Thresholding Technique By NilanjaniDey, Pradipri Nandi, Nilanjan Barman
8. Image Denoising using Wavelet Thresholding By Lakhwinder Kaur, Savita Gupta, R.C. Chauhan
9. An Improved Image Denoising Method Based on Wavelet Thresholding Method”, H Om, M Biswas - Journal of Signal
Authors: T. Lakshmi Priyanka, G. Deepthi, B. Sunil Kumar

Paper Title: Reusable Test Bench for Network on Chip Router using Advanced Verification Methodologies

Abstract: The focus of this Paper is the actual implementation of Reusable Network On Chip Router IP(Intellectual Property) and verifies the functionality of the five port IP router for System on chip applications using the latest verification methodologies (OVM,UVM,VMM) Hardware Verification Languages (Verilog, System Verilog),EDA tools. The Design of Network on Chip Router Implementing by using Verilog LRM as for Synthesis Environment. This Router design contains Four output ports and one input port, it is packet based Protocol. This Design consists of Registers, FSM and FIFO’s. The Verification goes on it finds functional coverage of the Network on Chip Router by using Verilog.System Verilog using Questa-Sim 6.5e. Synthesis is Xilinx ISE 9.2i EDA Tools.

Keywords: System Verilog, Fictional Coverage, assertions, Randomization, FIFO, FSM, Network-On-Chip, Verification Methodologies, Register blocks.

References:
1. “Nortel Secure Router 4134”, Nortel Networks Pvt. Ltd.
9. Design Patterns: Elements of Reusable Object-Oriented Software (Addison-Wesley Professional Computing Series), Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides

Authors: Rupinderpal Singh, Pankaj Sapra, Varsha Verma

Paper Title: An Advanced Technique of De-Noising Medical Images using ANFIS

Abstract: Noise reduction has been a traditional problem in image processing. Medical images like X-RAY, CT, MRI, PET and SPECT have minute information about heart, brain, nerves etc. These images are corrupted during transmission. When these are corrupted by noise, it is impossible to rescue a human being from harmful effects. Recent wavelet thresholding based denoising methods proved promising, since they are capable of suppressing noise while maintaining the high frequency signal details. However, the local space-scale information of the image is not adaptively considered by standard wavelet thresholding methods. In this thesis, a new type of technique neutral network and fuzzy has been proposed. The proposed technique confiscates the Additive white Gaussian Noise from the CT images and improves the quality of the CT 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 Neural Network and Fuzzy System and then to enhance the quality of the CT image thresholding is applied and then the image is reconstructed. Hence, the denoised and the quality enhanced CT images are obtained in an effective manner.

Keywords: Image processing, filters, de-noising, Discrete Wavelet Transform (DCT), neutral network, fuzzy logic.

References:
segmentation techniques were and contour based methods. These are usually dedicated to full enhanced tumors or


ods of automatic detection of brain tumor through

ation neural networks in

al for Image Processing, 9: 1532

003. Chaotic Neural Network Approach To Image Adaptive Wiener

17. References

Keywords: Probabilistic Neural Network (PNN), Edge detection

18. The proposed system out performs the corresponding

training performance, classification accuracies and computational time.

19. The simulation results showed that the modified PNN gives rapid and accurate classification compared with the image

20. Using MRI

region base (CAD). Brain Image classification techniques are studied. Existing methods are classically divided into

Magnetic Resonance Image (MRI) used in different stages of Computer Aided Detection System

it is intended to summarize and compare the meth

21. Recently, data mining and time series prediction in financial forecasting has received much research attention. Many techniques are used in prediction on stock and fund trend, volatility, etc. In this paper, two technique of neural network is compared, namely, Support Vector Machine (Support Vector Machine, SVM) and MLP for considering four years of data of Sensex.(Bombay Stock Exchange).

Keywords: SVM, MLP, Volatility.

References:

1. F.Cruz, Julio A Afonzo-Rodriguez, and Javier Giner (2003), Quantitative Finance volume ,pp 1-10.

Authors: Jibendu Kumar Mantri

Paper Title: Comparison between SVM and MLP in Predicting Stock Trends

Abstract: Recently, data mining and time series prediction in financial forecasting has received much research attention. Many techniques are used in prediction on stock and fund trend, volatility, etc. In this paper, two technique of neural network is compared, namely, Support Vector Machine (Support Vector Machine, SVM) and MLP for considering four years of data of Sensex.(Bombay Stock Exchange).

Keywords: SVM, MLP, Volatility.

References:

Authors: Pankaj Sapra, Rupinderpal Singh, Shivani Khurana

Paper Title: Brain Tumor Detection Using Neural Network

Abstract: The segmentation of brain tumors in magnetic resonance images (MRI) is a challenging and difficult task because of the variety of their possible shapes, locations, image intensities. In this paper, it is intended to summarize and compare the methods of automatic detection of brain tumor through Magnetic Resonance Image (MRI) used in different stages of Computer Aided Detection System (CAD). Brain Image classification techniques are studied. Existing methods are classically divided into region based and contour based methods. These are usually dedicated to full enhanced tumors or specific types of tumors. The amount of resources required to describe large set of data is simplified and selected in for tissue segmentation. In this paper, modified image segmentation techniques were applied on MRI scan images in order to detect brain tumors. Also in this paper, a modified Probabilistic Neural Network (PNN) model that is based on learning vector quantization (LVQ) with image and data analysis and manipulation techniques is proposed to carry out an automated brain tumor classification using MRI-scans. The assessment of the modified PNN classifier performance is measured in terms of the training performance, classification accuracies and computational time. The simulation results showed that the modified PNN gives rapid and accurate classification compared with the image processing and published conventional PNN techniques. Simulation results also showed that the proposed system out performs the corresponding PNN system presented and successfully handle the process of brain tumor classification in MRI image with 100% accuracy.

Keywords: Magnetic Resonance Image (MRI), Computer Aided Detection System (CAD), Probabilistic Neural Network (PNN), Edge detection.

References: