2009 International Conference on Advances in Computing, Control, and Telecommunication Technologies

(ACT 2009)

Bangalore, India
28 – 29 December 2009
2009 International Conference on Advances in Computing, Control, and Telecommunication Technologies

ACT 2009

Table of Contents

Message from General Chair
Message from Organizing Chair
Organizing Committee
International/National Advisory Committees
Program Committee
Reviewers

ACT 2009

Effective Web Service Discovery Based on Functional Semantics .........................................................1

Demian Antony D’Mello and V. S. Ananthanarayana

Detection of Earth Surface Cracks Using Parallel Genetic Algorithm Based Thresholding .................................................................4

Priyadarshi Kanungo, Pradipta Kumar Nanda, and Ashish Ghosh

A Novel Robust Negative High Gain ILC Current Controller for PMSM ..................................................12

R. Suja and N. Amuthan

A Nonlinear State Observer Design for 2-DOF Twin Rotor System Using Neural Networks ..........................................................15

Ferdose Ahammad Shaik and Shubhi Purwar

Design of Wireless Sensor Network Node on ZigBee for Temperature Monitoring ...........................................20

Sridevi Veerasingham, Saurabh Karodi, Sapna Shukla, and Mehar Chaitanya Yeleti

Rudder Actuation System for an Autonomous System ...........................................................................24

K. Navinkumar, C.M. Sujatha, K.S. Arunlal, and S.A. Hari Prasad

Performance Evaluation of Homomorphic Filtering, Anisotrophic Filtering and Autocontrast Algorithm ..........................................................27

C.M. Sujatha, K. Navinkumar, K.S. Arunlal, and S.A. Hari Prasad
Searching Path by Applying Intelligent Techniques .................................................................30
Kiran Yadav and Ranjit Biswas

Indexed Array Algorithm for Sorting .......................................................................................34
Varinder Kumar Bansal, Rupesh Srivastava, and Pooja

Probable Sequence Determination Using Incremental Association Rule Mining
and Transaction Clustering ........................................................................................................37
Thivakaran T.K, Rajesh N., Yamuna P., and Prem Kumar G.

Performance Analysis of Parallel Apriori on Heterogeneous Nodes ...........................................42
Ketan Shah and Sunita Mahajan

Neural Modeling of 15 Element Dynamic Phased Array Smart Antenna ........................................45
Abhishek Rawat, R.N. Yadav, and S.C. Shrivastava

Standard Scores Correlation Based Off-Line Signature Verification System ....................................49
Prashanth C.R., K.B. Raja, K.R. Venugopal, and L.M. Patnaik

Minutiae Extraction in Fingerprint Using Gabor Filter Enhancement ...........................................54

Design of Trickle Irrigation Control Unit Using PSoC .................................................................57
Nandakumar R., K.S. Lalmohan, and Sreejeesh S.G.

SVD and Error Control Coding Based Digital Image Watermarking .............................................60
Swanirbhar Majumder, Tirtha Sankar Das, Vijay H. Mankar, and Subir Kumar Sarkar

Performance Evaluation and Analysis of Cluster Based Routing Protocols
in MANETs .................................................................................................................................64
Yogesh Chaba, Yudhvir Singh, and Manish Joon

Performance Enhancement of Microstrip Bandpass Filter Using CSSRR .........................................67
S.S. Karthikeyan and Rakshesh Singh Kshetrimayum

Effects of Coupling Coefficient on Static Properties of Bistable QWS-DFB
Semiconductor Laser Amplifiers .................................................................................................71
Mahmoud Aleshams and Masoud Jabbari

Distributed Route Selection Algorithm in Nested Multihomed Mobile
Networks .......................................................................................................................................75
Sulata Mitra and Sumanta Pyne

Parallel Genetic Algorithm for VLSI Standard Cell Placement ...................................................80
P. Subbaraj, S. Saravana Sankar, and S. Anand

Failure Performance Study of Hierarchical Agent Based Patient Health
Monitoring in Wireless Body Sensor Mesh Network ......................................................................85
Norman A.Benjamin and Suresh Sankaranarayanan

A Novel Three Stage Process for Palmprint Verification ................................................................88
Raghavendra R., Ashok Rao, and Hemantha Kumar G.

M-ary QIM Data Hiding for Error Concealment of Digital Image in JPEG
Pipeline .........................................................................................................................................93
Amit Phadikar and Santi P. Maity
Sandeep Kumar Kushwaha and Madhvi Shakya

Fuzzy Semi-Markov Model for Web Testing ............................................................. 102
B. Praba, R. Sujatha, and S. Srikrishna

Isolated Word Recognition Using Normalized Teager Energy Cepstral Features .......................................................................................................................... 106
Navnath S. Nehe and Raghunath S. Holambe

Contrast Stretching Recursively Separated Histogram Equalization for Brightness Preservation and Contrast Enhancement .................................................. 111
P. Jagatheeswari, S. Suresh Kumar, and M. Rajaram

Digital Image Compression Using Neural Networks ................................................ 116
Dipta Pratim Dutta, Samrat Deb Choudhury, Md Anwar Hussain, and Swanirbhar Majumder

Energy-Efficient Deployment of Distributed Mobile Sensor Networks Using Fuzzy Logic Systems .................................................................................................. 121
Rahul Mathur, Manoj Kumar Sharma, Abhinav Misra, and Deep Baveja

Performance Analysis of a System Using Fuzzy Probist Reliability and Rank Correlation ......................................................................................................... 126
B. Praba, R. Sujatha, and V. Hilda Christy Gnanam

Computational Modeling and Simulation of Biomolecular Motors .......................................................... 130
Shwetha M., Madathil Suchitra, Vasavi C.S., Radhagayathri K.U., Krishnan Namboori P.K., and Deepa Gopakumar

PSO-DV and Bacterial Foraging Optimization Based Dynamic Economic Dispatch with Non-smooth Cost Functions .......................................................... 135
K. Vaisakh, P. Praveena, and S. Rama Mohana Rao

Adaptive PSO-DV Algorithm for Minimization of Power Loss and Voltage Instability ................................................................................................................. 140
K. Vaisakh, M. Sridhar, and K.S. Linga Murthy

A Novel Cluster Reformation Scheme to Improve Key Pre-distribution for Wireless Sensor Networks .............................................................. 145
Kishore R., Radha S., Dipika G., Pavithra A., and Aarthi R.

Fingerprint's Core Point Detection Using Orientation Field .......................................................................................................................... 150
H.B. Kekre and V.A. Bharadi

Robust Control of Unmanned Arial Vehicles .............................................................. 153
Germane Xavier Athanasius, Jian Guo Zhu, and Anavatti G. Sreenatha

Loading Effect of a Series Resonance Circuit on Asynchronous Generator in an Isolated Power Generation .......................................................... 156
Kulandhaivelu Subramanian and Ray Kalyan Kumar
Master Token Resource Management Algorithm for Distributed System -
Time Sharing Strategy .................................................................159

Abhijeet Uday Gole

Automatic Emotion Recognition from Speech Using Artificial Neural
Networks with Gender-Dependent Databases .................................................................162

Firoz Shah A., Raji Sukumar A., and Babu Anto P.

Performance Comparison of AODV, DSR and ZRP Routing Protocols
in MANETS .......................................................................................165

Shaily Mittal and Prabhjot Kaur

Cryptographic Key Management for SCADA System: An Architectural
Framework ..........................................................................................169

Om Pal, Sharda Saiwan, Peeush Jain, Zia Saquib, and Dhiren Patel

Proposal of a New Steganographic Approach .........................................................175

Amitabh Mishra, Akshay Gupta, and Dinesh Kumar Vishwakarma

An Efficient Algorithm for Mining Frequent Itemsets .............................................179

Jitendra Agrawal and R.C. Jain

Design and Analysis of MEMS Cantilever Based Binary Logic Inverter ..................184

Subha Chakraborty, Ashesh Ray Chaudhuri, and Tarun Kanti Bhattacharyya

Multi-path and Message Trust-Based Secure Routing in Ad Hoc Networks ...............189

Sanjay K. Dhurandher and Vijeta Mehra

3-D Model Watermarking Using Fuzzy Logic ............................................................195

Sharvari C. Tamane, R.R. Manza, and R.R. Deshmukh

Search Engine that Enhances Search Results by Categorizing the Search
Results Based on Conditional Probability .........................................................198

Pralav Dessai and Vijay Mohan Reddy Borra

Robustness Analysis of Efficient & Scalable Priority Based Jingle-Mingle
Model Using Mosix ..................................................................................201

Ankit Gupta, Rahul Agarwal, Rohit Vashishtha, Shakti Mishra, and D.S. Kushwaha

Performance of Dynamic Voltage Restorer (DVR) against Voltage Sags
and Swells Using Space Vector PWM Technique ..................................................206

Palaparthi Ananthababu, Burle Trinadh, and K. Ram Charan

Network Traffic Resilient Remote Resource Management Framework ....................211

Chunky Gupta, Deepak Pandey, Prashant Kr. Singh, Rahul Agrawal, Shakti Mishra,
and D.S. Kushwaha

Performance Comparison and Fabrication of Micro Machined Electron
Tunneling Accelerometers having Cantilever and Proof-Mass Structures ......................214

Ashesh Ray Chaudhuri, Pijus Kundu, Subha Chakraborty, and T.K. Bhattacharyya

Ticketing Solutions for Indian Railways Using RFID Technology ..............................217

Venugopal Prasanth, Hari Prasad R., and K.P. Soman
An Improved Parallel Genetic Algorithm for Path Bandwidth Calculation in TDMA-Based Mobile Ad Hoc Networks ........................................................................................................220
Gunasekaran R., Siddharth S., Raghavan Muthuregunathan, Srivathsan R., and V.R. Uthariaraj

Minimize the Effect of IGMP Leave Latency in Layered Multicast ........................................................................................................227
Karan Singh, Rama Shankar Yadav, and Girish Kumar Gupta

JS2DR2: An Effective Two-Level Job Scheduling Algorithm and Two-Phase Dynamic Replication Strategy for Data Grid ........................................................................................................232
P.K. Suri and Manpreet Singh

2-D Discriminative Component Analysis for Face Recognition ........................................................................................................237
Madhava S., D. Sheshachalam, and Yajnesh Padiyar

ICA Based Flow Artifact Removal from ECG during MRI ........................................................................................................241
Bhargav Bhatt and M. Ramasubba Reddy

FPGA Implementation of Low Phase Noise Oscillator ........................................................................................................244
Nitin P. Narkhede and Shyamkant S. Limaye

Design and Modeling of Biconical Dipole for Broad Band Applications ........................................................................................................248
Chalasani Subba Rao and Alapati Sudhakar

Low-Energy Equivalent Sized Location Aware Grouping in Wireless Sensor Networks ........................................................................................................252
Ajay Kumar Gautam and Amit Kumar Gautam

Evaluation of Audio Based Searching for Indian Traditional Music ........................................................................................................255
Yuvraj Singh Negi

Device Resource Monitoring System in Wireless Grids ........................................................................................................260
S.S. Manvi and M.N. Birje

A Hyperheuristic Approach to Select Enumeration Strategies in Constraint Programming ........................................................................................................265
Broderick Crawford, Mauricio Montecinos, Carlos Castro, and Eric Monfroy

An Ant-Based Solver for Subset Problems ........................................................................................................268
Broderick Crawford, Carlos Castro, and Eric Monfroy

FPGA or Cell for an Image Processing Application ........................................................................................................271
Ryan N. Rakvic, Hau Ngo, Randy P. Broussard, and Robert W. Ives

Direct Torque Fuzzy Control of an AC Drive ........................................................................................................275
Jagadish H. Pujar and S.F. Kodad

Multi-scale Modeling for Nano Scale Phenomenon Using CUDA Based Framework ........................................................................................................278
Rohit Pathak and Satyadhar Joshi

Automated Detection of Brain Tumor in EEG Signals Using Artificial Neural Networks ........................................................................................................284
M. Murugesan and R. Sukanesh

A Scheduling Algorithm for Network on Chip ........................................................................................................289
S. Subha
Implementation of a CCMT Compression Technique to Improve Performance in SECNTP-CKM for MANET

Edna Elizabeth N. and S. Radha

Teaching Engineering Education Using Virtual Worlds and Virtual Learning Environments


Minimum Switching Loss ADPWM Algorithm Based DTC Induction Motor Drive Operating at Near Rated Speeds

K. Sri Gowri, T. Brahmananda Reddy, and Ch. Sai Babu

Capacity Estimation of ADSL Line Using Frequency Domain Based SELT Technique

M. Bharathi, S. Ravishankar, and Usha Rani

Graphical Deadlock Avoidance

Passent M. El-Kafrawy

Position Invariant Optical Character Recognition through Symmetry Features

Sam Holland and Richard Neville

Classification of Handwritten Characters by their Symmetry Features

Sam Holland and Richard Neville

Segmentation of Motion Objects from Four Successive Video Frames Simultaneously Using Multiple Correlation

Girisha R. and Murali S.

Reinforcement Learning Solution for Unit Commitment Problem through Pursuit Method

Jasmin E.A., Imthias Ahamed T.P., and Jagthy Raj V.P.

An Area-Throughput Efficient FPGA Implementation of the Block Cipher AES Algorithm

Banraplang Jyrwa and Roy Paily

Multiresolution Features Based Polynomial Kernel Discriminant Analysis for Speaker Recognition

Pawan K. Ajmera and Raghunath S. Holambe

Support Vector Machine for Classification of Plants and Animal miRNA

Bhasker Pant, Kumud Pant, and K.R. Pardasani

Classification Models: Non Evolutionary vs. Evolutionary Approach

Pardeep Kumar, Saroj, and Rajesh Siddavatam

An Energy-Efficient Congestion-Aware Routing Protocol for Heterogeneous Mobile Ad Hoc Networks

S. Santhosh Baboo and B. Narasimhan

Enhanced Aperiodic Responsiveness by Preemption Control

Ran Vijay, Rama Shankar Yadav, and Smruti Agrawal
Particle Swarm Optimization in Fine Tuning of PID Fuzzy Logic Power System Stabilizer ..........................................................356
K.R. Sudha, V.S. Vakula, and R. Vijayasanthy

A Common Palette Creation Algorithm for Multiple Images with Transparency Information ..................................................359
P.S. Periasamy, S. Athi Narayanan, and K. Duraiswamy

On Improving the Performance of Promoter Prediction Classifier for Eukaryotes Using Fuzzy Based Distribution Balanced Stratified Method ..........................................................364
C. Premalatha, Chandrabose Aravindan, and K. Kannan

Wavelet Transform Based Abnormality Analysis of Heart Sound ..........................................................367
P.S. Vikhe, S.T. Hamde, and N.S. Nehe

Secure Path Loss Prediction in Fringe Areas Using Fuzzy Logic Approach ..........................................................372
Vishal Gupta and S.C. Sharma

Modeling and Analysis of an Efficient Bow-Tie Antenna for UWB Applications ..........................................................376
Bandi Saidaiah, Alapati Sudhakar, and K. Padma Raju

A New Approach for CBIR Using Coefficient of Correlation ..................................................................................380
Neetesh Gupta, Niket Bhargava, Bhupendra Verma, Md. Ilyas Khan, and Shiv Kumar

A Novel Particle Swarm Optimization Based Optimal Design of Three-Ring Concentric Circular Antenna Array ..........................................................385
D. Mandal, A.K. Bhattacharjee, and S.P. Ghoshal

Handover Latency Analysis of Mobility Management Protocols in All-IP Networks ..........................................................390
Deepak Kumar Panwar, Shyam Lal, and Ila Chaudhary

Sea State Monitoring HF Radar Controller Using Reconfigurable LabView FPGA ..........................................................395
Shubhada Rajesh Gadgil, Dharmesh Verma, Meena S. Panse, and Kushal Tuckley

Design of a Form Factor Based Expert System for Detection of Myocardial Infarction Using Supervised Classification Technique ..................................................................................398
Saurabh Pal and Madhuchhanda Mitra

Password Strength Prediction Using Supervised Machine Learning Techniques ..........................................................401
Vijaya M.S. Jamuna K.S, and Karpagavalli S.

Design and Implementation of Embedded Speed Controller on ARM for Micromanufacturing Applications ..........................................................406
Tanmay Pal, Chandra Shekhar, and Himanshu Dutt Sharma

Design of Reconfigurable UWB Transmitter to Implement Multi-rate MB-OFDM UWB Wireless System ..........................................................411
C. Vennila, G. Lakshminarayanan, and Sowjanya Tungala

Process Variations and Noise Analysis on a Miller Capacitance Tuned 1.8_2.4-GHz Dual-Band Low Noise Amplifier ..........................................................414
Deepak Balemarthy and Roy Paily
Low Power Pseudoexhaustive Testing with Cellular Automata ................................................................. 419

Krishna Kumar S., Uday Bhaskar P., and Santanu Chattopadhyay

Multioutput Current-Controlled Current Conveyor-Based Function Generator ........................................ 424

Nigar Minhaj

The Effect of Spreading Factor on Network Lifetime and Energy Consumption

Rate of Low Energy Adaptive Clustering Hierarchy (LEACH) .................................................................. 428

Bhaskar P. Deosarkar, Narendra Singh Yadav, and R.P. Yadav

A Utilization Based Approach for Secured Real Time Applications on Clusters .................................. 433

Sarsij Tripathi, Rama Shankar Yadav, and Rudra Pratap Ojha

Rule Based Machine Translation from English to Malayalam ............................................................. 439

Remya Rajan, Remya Sivan, Remya Ravindran, and K.P. Soman

Transconductance Element-Based Non-inverting and Inverting Precision

Full-Wave Rectifier Circuits .................................................................................................................. 442

Nigar Minhaj

Performance Measures for Fusion of Multiple Input Images ................................................................. 446

Arathi T., Mallika K., Rahul C., and K.P. Soman

Novel Approach for Design and Optimization of Wideband Integrators

and Differentiators .................................................................................................................................. 449

Gaurav Kumar Thakur, Ankur Gupta, and Dharmendra Upadhyay

Implementation of Static VAR Compensator for Improvement of Power

System Stability ........................................................................................................................................ 453

B. Venkateswara Rao, G.V. Nagesh Kumar, M. Ramya Priya, and P.V.S. Sobhan

Rule Based Reordering and Morphological Processing for English-Malayalam

Statistical Machine Translation .................................................................................................................. 458

Rahul C., Dinunath K., Remya Ravindran, and K.P. Soman

Searching for the Centers of Spheres and Ellipsoids .............................................................................. 461

Md. Hasanuzzaman Bhuiyan and Syed Ishtiaque Ahmed

Group Communication Based Approach for Reliable Mobile Agent

in Information Retrieval Applications ...................................................................................................... 464

M. Vigilson Prem and S. Swamynathan

Optimal Power Flow by Newton Method for Reduction of Operating Cost

with SVC Models ....................................................................................................................................... 468

B. Venkateswarra Rao , G.V. Nagesh Kumar, M. Ramya Priya , and P.V.S. Sobhan

Resistive Switching of Al/Sol-Gel ZnO/Al Devices for Resistive Random

Access Memory Applications .................................................................................................................... 471

Saniya Deshpande and Vineet Vijayakrishnan Nair

Optimized Automatic Generation Control by SSSC and TCPS in Coordination

with SMES for Two-Area Hydro-hydro Power System ........................................................................ 474

Praghnesh Bhatt, S.P. Ghoshal, and Ranjit Roy
Scheduling Independent Tasks on Heterogeneous Distributed Computing Systems Using Multiobjective Optimization Approach on Multicore Processors .......................................................... 481

S. Saranya, S. Revathi, P. Chitra, and P. Venkatesh

PBFMCSP: Prefix Based Fast Mining of Closed Sequential Patterns ........................................ 484
M. Thilagu, R. Nadarajan, M.S. Irfan Ahmed, and S. Sathya Bama

Secure Transmission Model for Structured Data ......................................................................... 489
Biswajit Biswal

Reliable Task Scheduling for Heterogeneous Distributed Computing Environment ...................... 494

V. Nesa Priya Darshini, P. Sabari Sankari, P. Chitra, and Venkatesh

Look Up Table Based Fuzzy Logic Controller for Unmanned Autonomous Underwater Vehicle .......................................................... 497

P.V.S. Sobhan, G.V. Nagesh Kumar, M. Ramya Priya, and B. Venkateswara Rao

Design and Development of Embedded System on ARM for On-Line Characterization of DC Motor ........................................................................................................ 502
Tanmay Pal, Chandra Shekhar, and Himanshu Dutt Sharma

Framelet Based Image Fusion for the Enhancement of Cloud Associated Shadow areas in Satellite Images .............................................................................................................. 507
Mallika K., Arathi T., Krishna Rao G.V., and K.P. Soman

Daubechies-Lagarias Algorithm – A Simplified Approach ................................................................. 510
K.P. Soman, Arathi T, Mridula Sara Augustine, and Arunima S.V.

False Alert Reduction on Network-Based Intrusion Detection Systems by Means of Feature Frequencies .............................................................................................................. 513

Sara Khanchi and Fazlollah Adibnia

An Intelligent Data Processing Engine for Spatial Data Management in Vehicular Telematics System ................................................................................................................. 517

Animesh Tripathy, Subhalaxmi Das, and Prashanta Kumar Patra

Study of Routing Protocols in Wireless Sensor Networks ...................................................................... 522
K. Pavai, A. Sivagami, and D. Sridharan

A Secure and Lightweight Service Discovery Model for Mobile Ad Hoc Networks .......................................................... 526
R. Deepa and S. Swamynathan

Particle Swarm Optimization Aided Kalman Filter for Object Tracking .................................................. 531
Nimmakayala Ramakoti, Ari Vinay, and Ravi Kumar Jatoth

Design Parameters for a Secure System for Mobile Ad Hoc Network ...................................................... 534
Vini V. Das and R. Vijayakumar

Project Classification Using Soft Computing ......................................................................................... 537
Malay Bhatt, Rituraj Jain, and C.K. Bhensdadia
Simulation of Direct Current Controlled PWM Rectifier Feeding to Adjustable Speed Drives .................................................................540
T. Narasa Reddy, T. Purnachandra Rao, and M. Dilip Kumar
Wavelet Based Image Compression: A Comparative Study .................................................................545
S.P. Raja, N. Narayanan Prasanth, S. Arif Abdul Rahuman, S. Kurshid Jinna,
and S.P. Princess
New Feature Vector for Image Retrieval: Sum of Value of Histogram Bins ........................................550
N.S.T. Sai and R.C. Patil
A Survey on Complex Wormhole Attack in Wireless Ad Hoc Networks ....................................555
Mohit Jain and Himanshu Kandwal
Design and Control of Hybrid Switched Capacitor DC-DC Converter with Different Operating Conditions ..................................................559
Mummadi Veerachary and T. Narasa Reddy
A Control Strategy for a VSC HVDC System in Steady State Response ..................................564
Sonali Dasgupta and Gayatri Agnihotri
Development of a State-of-the-Art ECG DAS for Storing, Processing and Analysis Using MATLAB-Based GUI and Microprocessor ..............................................570
Rajarshi Gupta, Madhuchhanda Mitra, and Jitendranath Bera
Robust Feature Extraction Technique for Optical Character Recognition ....................................573
R. Ramanathan, Arun S. Nair, L. Thaneshwaran, S. Ponmathavan, N. Valliappan,
and K.P. Soman
Co-operative Approach to Detect Misbehaving Nodes in MANET Using Multi-hop Acknowledgement Scheme ........................................576
S. Usha and S. Radha
A Novel Power Allocation Scheme for Robust Transmission of JPEG Compressed Images over MIMO System Using LLSE ........................................579
R. Deepa and K. Baskaran
Soft Computing for Voltage Stability Analysis and Contingency Ranking in Power System .................................................................583
C. Subramani, S.S. Dash, M. Arun Bhaskar, M. Jagadeeshkumar, and K. Balaji
A Low-Power Skew Tolerant Domino Digit Serial Multiplier .........................................................588
Akkamahadevi D.H. and Nataraj Urs H.D.
Design of Low Power Mixed Radix FFT Processor for MIMO OFDM Systems ................................591
M.P. Chitra and S.K. Srivatsa
Core-Stateless Fair Queuing for Fair Bandwidth Allocations in Internet ....................................596
M. Azath, A. Neela Madheswari, and R.S.D. Wahida Banu
Design of an Enhanced ACC for Collision Detection and Prevention Using RTOS .................................................................599
P. Saravanan and M. Anbuselvi
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Analysis of Floating Point and Galois Field Multipliers Using Wave-Pipelining</td>
<td>602</td>
</tr>
<tr>
<td>M. Anbuselvi, S. Salivahanan, and P. Saravanan</td>
<td></td>
</tr>
<tr>
<td>An Approach to the Design of a Rate Monotonic Scheduler for Real-Time Systems</td>
<td>605</td>
</tr>
<tr>
<td>Santanu Chatterjee and Dhruba Basu</td>
<td></td>
</tr>
<tr>
<td>Optical Character Recognition for English and Tamil Using Support Vector Machines</td>
<td>610</td>
</tr>
<tr>
<td>R. Ramanathan, S. Ponmathavan, N. Valliappan, Arun S. Nair, and K.P. Soman</td>
<td></td>
</tr>
<tr>
<td>Tamil Font Recognition Using Gabor Filters and Support Vector Machines</td>
<td>613</td>
</tr>
<tr>
<td>R. Ramanathan, S. Ponmathavan, L. Thaneshwaran, Arun S. Nair, N. Valliappan, and K.P. Soman</td>
<td></td>
</tr>
<tr>
<td>Fuzzy Logic Controlled Shunt Active Power Filter for Mitigation of Harmonics with Different Membership Functions</td>
<td>616</td>
</tr>
<tr>
<td>T. Narasa Reddy and M.V. Subramanyam</td>
<td></td>
</tr>
<tr>
<td>Behavior Analysis of Malicious Node in the Different Routing Algorithms in Mobile Ad Hoc Network (MANET)</td>
<td>621</td>
</tr>
<tr>
<td>Dinesh Mishra, Yogendra Kumar Jain, and Sudhir Agrawal</td>
<td></td>
</tr>
<tr>
<td>PID Controllers Tuning for Improved Performance of Unstable Processes</td>
<td>624</td>
</tr>
<tr>
<td>Gajanan M. Malwatkar, Prashant T. Bhosale, Satish D. Nikam, and Laxman N. Waghmare</td>
<td></td>
</tr>
<tr>
<td>Synchronization of Class of One-Way Coupled Chaotic Systems</td>
<td>629</td>
</tr>
<tr>
<td>B.B. Sharma and I.N. Kar</td>
<td></td>
</tr>
<tr>
<td>Protocol for Anonymous and Secure E-Cash Transaction</td>
<td>634</td>
</tr>
<tr>
<td>Vinu V. Das</td>
<td></td>
</tr>
<tr>
<td>Conventional versus Vedic Mathematical Method for Hardware</td>
<td>640</td>
</tr>
<tr>
<td>Parth Mehta and Dhanashri Gawali</td>
<td></td>
</tr>
<tr>
<td>JPEG Image Compression and Transmission over Wireless Channel</td>
<td>643</td>
</tr>
<tr>
<td>Vaibhavi P. Lineswala and Jigisha N. Patel</td>
<td></td>
</tr>
<tr>
<td>Design and Implementation of Integer Transform and Quantization Processor for H.264 Encoder on FPGA</td>
<td>646</td>
</tr>
<tr>
<td>N. Keshaveni, S. Ramachandran, and K.S. Gurumurthy</td>
<td></td>
</tr>
<tr>
<td>Design and Development of Clocked Transmission Gate Cross-Coupled Adiabatic Circuit</td>
<td>650</td>
</tr>
<tr>
<td>Aminul Islam and Mohd. Hasan</td>
<td></td>
</tr>
<tr>
<td>D&amp;C Fast Exponentiation Algorithm</td>
<td>654</td>
</tr>
<tr>
<td>Ashwin Prabhu Verleker and Suneeta Agarwal</td>
<td></td>
</tr>
<tr>
<td>A Novel Approach for Clustering Web User Sessions Using RST</td>
<td>657</td>
</tr>
<tr>
<td>Jyoti, A.K. Sharma, Amit Goel, and Payal Gulati</td>
<td></td>
</tr>
</tbody>
</table>
FPGA Based Micro-PLC Design Approach ................................................................. 660
Dhanashri Gawali and V.K. Sharma

Kuntal Mukherjee and G. Sahoo

Applying Data Mining Techniques for Placement Chance Prediction ................................................................. 669
Sudheep Elayidom, Sumam Mary Idikkula, Joseph Alexander, and Anurag Ojha

GPS Signal Distribution System .................................................................................. 672
Aaradhana A. Deshmukh and S.A. Kulkarni

Mobile Controlled Smart PLC with Integrated SMS Troubleshooting Technique .................................................................................. 675
Navneet Tohan, Akhil Sharma, and Pankaj Bande

Selection of Wavelets for Medical Image Compression .................................................. 678
V.K. Bairagi and A.M. Sapkal

Evaluation of Performance of Genetic Algorithm for Speech Signals Separation ................................................................................................. 681
Samira Mavaddaty and Ataollah Ebrahimzadeh

Dynamic Partial Reconfigurable Embedded System to Achieve Hardware Flexibility Using 8051 Based RTOS on Xilinx FPGA .............................................. 684
Jitendra B. Zalke and Sandeep Kumar Pandey

Node Voltage Improvement by Network Reconfiguration: A Soft Computing Approach ................................................................................................. 687
Sandeep Chakravorty, Jaydeep Chakravorty, and Shweta Sarkar

Performance Analysis of Dual Vt Asymmetric SRAM - Effect of Process Induced Vt Variations .................................................................................. 692
Mamatha Samson

A New Performance Enhancement Technique of the Current Feedback Amplifier ......................................................................................................... 695
Rakesh Kumar Singh and R.K. Nagaria

SBSQLID: Securing Web Applications with Service Based SQL Injection Detection ................................................................................................. 702
Shri V. Shanmughaneethi, Smt C. Emilin Shyni, and S. Swamynathan

Wavelet Adaptive Output Tracking Control for a Class of Delayed Uncertain MIMO Nonlinear Systems Subjected to Actuator Saturation ........................................ 705
Manish Sharma, Ajay Kulkarni, and Ajay Verma

Digital Signal Modulator on FPGA Using on the Fly Partial Reconfiguration ................................................................................................. 711
Sheetal U. Bhandari, Shaila Subbaraman, and Shashank Pujari

Dynamic Analysis of a Grid-Connected Wind Electric Generator with Embedded Static VAR Compensator ...................................................................... 714
Vishnuvardhanan V. and Sasi K. Kottayil
Active Power Control in Variable Speed Wind Electric Generators ..........................................................717
  Remya K. and Sasi K. Kottayil

H-S-X Cryptosystem and Its Application to Image Encryption .................................................................720
  Bibhudendra Acharya, Sambit Kumar Shukla, Saroj Kumar Panigrahy,
  Sarat Kumar Patra, and Ganapati Panda

Stabilization Using Fractional-Order PIDa Controllers for First Order Time Delay System ..........................................................725
  T. Vinopraba, N. Sivakumaran, N. Selvaganesan, and S. Narayanan

Performance Comparison of Hashing Algorithm with Apriori ...............................................................729
  R. Rathinasabapathy and R. Bhaskaran

Heuristic Approaches with Probabilistic Management for Node Placement in Wireless Sensor Networks ..........................................................734
  Sasikumar P. and Jagadeesan N.

Improving Retrieval Effectiveness Using Ant Colony Optimization .........................................................737
  Sandeep G. Khode and Rajesh Bhatta

Authorship Protection for Textual Documents ..............................................................742
  Adimoolam M., Vasanth I., Prabhu D., and Karthi G.

A Structure Based Computer Grammar to Understand Compound-Complex, Multiple-Compound and Multiple-Complex English Sentences ..........................................................746
  Umesh Chandra Jaiswal, Ravindra Kumar, and Susheel Chandra

Multi-valued Logic Addition and Multiplication in Galois Field ..............................................................752
  Vasundara Patel K.S. and K.S. Gurumurthy

A Novel Technique for Improvement of Power Supply Rejection Ratio in Amplifier Circuits ..........................................................756
  Vivek Gupta, Anu Gupta, Nitin Chaturvedi, and Abhijit Asati

An Adaptive Intrusion Prevention System Based on Immunity .................................................................759
  Peeyush Jain and Sudhansu Goyal

Iris Feature Extraction for Personal Identification Using Lifting Wavelet Transform ..........................................................764
  Chandrashekar M. Patil and Sudarshan Patilkulkarani

Mathematical Modeling for Evaluation of Quality of Service Parameters in Next Generation Cellular Wireless Networks ..........................................................767
  Raj Kumar Samanta, Partha Bhattacharjee, and Gautam Sanyal

Procedure for Multiplication Based on DNA Computing ..............................................................772
  Sanchita Paul and Gadadhar Sahoo

GSM Network Based Z-axis Position Control System ..............................................................775
  S. Hemnath and V. Sridevi

Denoising of ECG by Statistical Adaptative Thresholding and Detection of T-Wave Alternans Using Principal Component Analysis ..........................................................778
  N. Krishna Prakash, S.M. Reseeda Banu, and S.M. Haseena Banu
Improved Analysis on Chang and Chang Password Key Exchange Protocol ........................................781
   R. Padmavathy, Tallapally Shirisha, M. Rajkumar, and Jayadev Gyani

Active Worm Early Detection Using Network Sniffer ........................................................................784
   S. Babu Regna Rajan, R. Arock Nirmelt, S. Arif Abdul Rahuman,
   S. Mohideen Abdul Kader, and S. Ganesh

Enhanced Local Repair AODV (ELRAODV) .......................................................................................787
   Jagpreet Singh, Paramjeet Singh, and Shaveta Rani

Thyristor Controlled Series Capacitor as an Optimizer in an Electrical Market ................................792
   M. Arun Bhaskar, S.S. Dash, N. Meyyappan, and P. Chidambaram

Load Balancing in Structured P2P Systems Using Server Reassignment Technique ..........................................................795
   S.S. Patil and S.K. Shirgave

Congestion in SMS-Based Query-Response Mechanism - A Possible Solution ................................798
   Tathagato Mukhopadhyay and Balaram Bhattacharyya

A Resource Management Mechanism for Down Linking in WiMax Networks ........................................803
   N. Karthick, K. Venkatraman, J. Naren, and B. Amutha

Target Tracking with Integrated Coverage in Wireless Sensor Networks ...............................................806
   Amutha Nanmaran, M. Ponnavaikko, and N. Karthick

Multi Channel MAC Implementation for Wireless Sensor Networks .....................................................809
   M. Ramakrishnan and P. Vanaja Ranjan

Task Independent Privacy Preserving Data Mining on Medical Dataset .................................................814
   E. Poovammal and M. Ponnavaikko

Image Registration by Template Matching Using Normalized Cross-Correlation ................................819
   J.N. Sarvaiya, Suprava Patnaik, and Salman Bombaywala

A Multiagent System for Distributed Sensor Networks .........................................................................823
   R.B. Patel and Deepika Jain

A Novel Metric Learning Method and Its Application .............................................................................827
   A. Shaik Abdul Khadir, S.V. Kasmir Raja, and K. Mohamed Amanullah

A KDD System for the Discovery of Quantified Exception Rules .......................................................830
   Tamanna Siddiqui and M. Afshar Alam

Optimal Learning with Progressive Accuracy for Function Representations in Orthogonal Wavelet Neural Network (WNN) ................................................................................................834
   Pushpalatha M.P. and Nalina N.

An Investigation of the Effect of Discretization on Defect Prediction Using Static Measures ...............837
   Pradeep Singh and Shirish Verma

Enhancement of QoS of VOIP over Heterogeneous Networks by Improving Handoff Speed and Throughput ................................................................................................................840
   B. Balavennakesh, K.A. Bala Krishnan, S. Ramkumar, V. Berlin Hency, and D. Sridharan
Scan Chain Design Targeting Dual Power and Delay Optimization for 3D Integrated Circuit .................................................................845
  Chandan Giri, Surajit Kumar Roy, Baishali Banerjee, and Hafizur Rahaman
Automated Surveillance of Unattended Bags for Complex Situations ...........................................................850
  Irfan Ahmed K. Mohammed and Sreela Sasi
A Novel Edge Based Method to Extract Text in Camera Captured Images .........................................................853
  H.K. Chethan, G. Hemantha Kumar, and Raghavendra R.
Genetic Algorithm Based Indicator Sequence Method for Exon Prediction .........................................................856
  V.G. Biju and P. Mydhili
Image Scaling Comparison Using Universal Image Quality Index .................................................................859
  Prashanth H.S., Shashidhara H.L., and Balasubramanya Murthy K.N.

Author Index