

**2014 Fourth International  
Conference on Communication  
Systems and Network Technologies  
(CSNT 2014)**

**Bhopal, India  
7-9 April 2014**

**Pages 1-596**



**IEEE Catalog Number: CFP1418P-POD  
ISBN: 978-1-4799-3071-5**

# 2014 Fourth International Conference on Communication Systems and Network Technologies

## CSNT 2014

### Table of Contents

Message from General Chairs.....	xxiii
Message from Program Chairs.....	xxv
Conference Committees.....	xxvi
Program Committees.....	xxviii

---

#### **Track A: Microwave Devices, Circuits, Antennas, and Filters**

Performance Analysis of Microstrip Patch Antenna by Varying Slot Size for UMTS Application .....	1
<i>Janabeg Loni, Shahanaz Ayub, and Vinod Kumar Singh</i>	
Semi-circular Microstrip Patch Antenna for Multi-frequency Application .....	6
<i>Samrat Ghosh, C.C. Ravindranath, and A.V. Pratapkumar</i>	
Bandwidth Enhancement of Wang Shape Microstrip Patch Antenna for Wireless System .....	11
<i>Chandan and B.S. Rai</i>	
A Study of Plasma Antenna Parameters with Different Gases .....	16
<i>Sharan Bonde, Vikram Ghiye, and Ashwinikumar Dhande</i>	
A UWB Frequency-Band Reconfigurable Antenna Using Switchable Slotted Ground Structure .....	20
<i>Chirag Gupta, Divyanshu Maheshwari, Ritesh Kumar Saraswat, and Mithiles Kumar</i>	
Sequential Parameter Extraction of Direct-Coupled Resonator Filter .....	25
<i>Ambrish Ghadiya and Shilpi Soni</i>	
A New Approach for the Coupling Identification in Dielectric Resonators Filters .....	30
<i>Shilpi Soni, Ambrish Ghadiya, and Nishant Shukla</i>	
Design of Wideband Inverted Sinc Shaped Monopole Antenna .....	34
<i>Ritesh Kumar Badhai and Nisha Gupta</i>	

Design of Planar Bandpass Filter for Ultra Wideband Applications .....	38
<i>Suman Kumari and Mithilesh Kumar</i>	
Design of a Broadband Planar Equiangular LPDA .....	41
<i>Zhen Yu, Xiaoying Ran, Zhen Yu, and Jianguo Yu</i>	
Dual Band Rectangular and Circular Slot Loaded Microstrip Antenna for WLAN/GPS/WiMax Applications .....	45
<i>Rajat and Srivastava</i>	
Design of Grooved Microstrip Band Pass Filter at 4.2 GHz .....	49
<i>Vivek Singh Kushwah, Swati Singh Tomar, and Santos Sharma</i>	

## **Track B: Sensors and Wireless Sensor Networks**

Simulation of MTMS Using TSSE and Minimum Energy Consumption Using DVS for WSN Ad Hoc Network .....	54
<i>Nishakumari Lodha, Prasant Rewagad, and Yogita Pawar</i>	
Performance Analysis of Zigbee Based Wireless Sensor Network for Remote Patient Monitoring .....	58
<i>Rinki Sharma, Shreyas K. Gupta, K.K. Suhas, and G. Srikanth Kashyap</i>	
Energy Efficient Grid Based Clustering and Routing Algorithms for Wireless Sensor Networks .....	63
<i>Srikanth Jannu and Prasanta Kumar Jana</i>	
Effect of Number of Active Nodes and Inter-node Distance on the Performance of Wireless Sensor Networks .....	69
<i>Rinki Sharama, J. Uma Shankar, and S.T. Rajan</i>	
Survey on DAG Based Fault Tolerance in Wireless Multimedia Sensor Network .....	74
<i>Poonam P. Borkar</i>	
Design and Implementation of Energy Efficient Node Data Transmission by Using Mobile Sink Node .....	79
<i>Shweta P. Palaskar and Nekita A. Chavhan</i>	
Ant Based Cluster Head Election Algorithm in Wireless Sensor Network to Avoid Redundancy .....	83
<i>Tripti Sharma, Bijesh Kumar, Karan Berry, Akanksha Dhawan, Rahul Singh Rathore, and Vishalakshi Gupta</i>	
Identifying Jammers in Wireless Sensor Network with an Approach to Defend Reactive Jammer .....	89
<i>Apurva A. Bodkhe and Archana R. Raut</i>	
Adaptive Duty Cycle Algorithm for Large Scale Wireless Sensor Networks .....	93
<i>Laxmi Dongre and Veena Gulhane</i>	

Real Time Monitoring and Control System for Green House Based on 802.15.4 Wireless Sensor Network .....	98
<i>Jaypal Baviskar, Afshan Mulla, Amol Baviskar, Shweta Ashtekar, and Amruta Chintawar</i>	
Metric Aware Flow Assignment with ARS in Wireless Mesh Networks .....	104
<i>Seema Deshpande and Deepali Gothawal</i>	
Wireless Node Control and Monitoring System Using Web Enabled Interface .....	109
<i>Suniti Purbey and Archana Raut</i>	
Profile Based Scheme against DDoS Attack in WSN .....	112
<i>Varsha Nigam, Saurabh Jain, and Kavita Burse</i>	
Reliable Attribute Based Flooding in Distributed WSN .....	117
<i>Swati D. Hiwase and Veena Gulhane</i>	
Clustering Based Energy Efficient Algorithm Using Max-Heap Tree for MANET .....	123
<i>Madhvi Saxena, Neelam Phate, K.J. Mathai, and M.A. Rizvi</i>	
Area Based Coverage for Three Deployment Distributions and Their Connectivity in Wireless Sensor Networks .....	128
<i>S.K.L.V. Sai Prakash and Niranjan Patidar</i>	
Location and Time Based Clone Detection in Wireless Sensor Networks .....	133
<i>R. Sivaraj and R. Thangarajan</i>	
Cluster and Grid Based Performance Evaluation on Energy Consumption for IEEE 802.15.4/Zigbee Wireless Sensor Network .....	138
<i>Priyanka Tripathi and Rajni Dubey</i>	
A Novel Application Semantics Based Routing Algorithm in Wireless Sensor Networks .....	143
<i>Qingxu Xiong, Chenghao Chen, Jiabing Wang, and Wei Xiong</i>	
Cross-Layer Design of MAC and Application Semantics in Wireless Sensor Networks .....	147
<i>Qingxu Xiong and Xiang Li</i>	
Delivery Probability Aware Data Forwarding Mechanism in Opportunistic Networks .....	151
<i>Liu Qiao-Shou, Liu Jia, and Wang Yan-Yan</i>	
Link Weight Based Enable Protocol in Wireless Sensor Network .....	156
<i>Ankita Samadhiya, Gunjan Jain, and Brijesh Kumar Chaurasia</i>	
A Quick Survey on Wireless Sensor Networks .....	160
<i>Manisha Bhende, Sanjeev J. Wagh, and Amruta Utpat</i>	
Locoduo - Low Cost Dual Hop Clustering Based Routing Protocol for Wireless Sensor Network .....	168
<i>Shounak Chakraborty and Ajoy Kumar Khan</i>	

## **Track C: Wireless Communication, MIMO, Computer Networks, and Wireless Ad Hoc Networks**

Overview of Proactive Routing Protocols in MANET .....	173
<i>T. Prasanna Venkatesan, P. Rajakumar, and A. Pitchaikkannu</i>	
Multiple Energy Detection vs Cyclostationary Feature Detection Spectrum Sensing Technique .....	178
<i>Ashish Bagwari and Geetam Singh Tomar</i>	
Performance Evaluation of Comparison of Sphere Decoder with Other Equalization Techniques on 2x2 MIMO Systems Using Rayleigh and Rician Flat Fading Channels .....	182
<i>Rahul Vij, Priyanka Mishra, and Gurpreet Singh</i>	
Energy Efficient Load Balancing Approach to Improve AOMDV Routing in MANET .....	187
<i>Bhavna Sharma, Shaila Chugh, and Vismay Jain</i>	
Gateway-Level Load Balancing Techniques for WMN: A Comparative Study .....	193
<i>Banani Das, Amit Kumar Roy, Ajoy Kumar Khan, and Sudipta Roy</i>	
An Efficient Broadcast Algorithm in Multi-hop Relay MANETs .....	198
<i>Dipali K. Dakhole and Archana R. Raut</i>	
Path Load Balanced Adaptive Gateway Discovery in Integrated Internet-MANET .....	203
<i>Rafi U. Zaman, Khaleel Ur Rahman Khan, and A. Venugopal Reddy</i>	
Node Failure Effect on Reliability of Mobile Ad-Hoc Networks .....	207
<i>Anil Choudhary, O.P. Roy, and T. Tuithung</i>	
Mobile Application for Safe Driving .....	212
<i>Nadeem Akhtar, Kush Pandey, and Saurabh Gupta</i>	
Implementation of Watchdog Protocol with AODV in Mobile Ad Hoc Network .....	217
<i>Tarun Varshney, Tushar Sharma, and Pankaj Sharma</i>	
An Architecture for Implementation of IEEE1588v2 over MPLS/MPLS-TP Networks .....	222
<i>Vivek Jain and Abhay S. Gandhi</i>	
Performance Comparison of Adaptive Algorithms RLS and LMS on Space-Time Coded MC-CDMA Systems .....	228
<i>Ashish Garg and Rajkumar Rajoria</i>	
Joint Fair Resource Allocation for Multi-radio Multi-channel Mesh Networks with Flow Demand Constraint .....	233
<i>Gervais I. Mady Dzal, Suili Feng, Weijun Tang, Wei Feng, and Yuan Liu</i>	
Packet Loss in Handover for Host Based Mobility Management Protocols .....	239
<i>Malavade Vinayak Nandkishor and Shedge Rajashree</i>	

Dynamic TTL Variance Foretelling Based Enhancement of AODV Routing Protocol in MANET .....	244
<i>D. Singh Karaulia and Nitesh Bharot</i>	
Achieving Reliable Transmission Using Topology Control in MANET .....	249
<i>Vaishali Baviskar and Abhijit Patankar</i>	
Performance Analysis of AODV & DSR Routing Protocols for MANET .....	254
<i>Uma Rathore Bhatt, Abhishek Dangarh, Akanksha Kashyap, and Aishwarya Vyas</i>	
Mechanical Condition Determination of Vehicle and Traffic Density Estimation Using Acoustic Signals .....	259
<i>Bhumika J. Barai and Ghanshyam Kamdi</i>	
Android "Health-Dr." Application for Synchronous Information Sharing .....	265
<i>Mayur S. Potdar, Amitkumar S. Manekar, and Rajesh D. Kadu</i>	
Research Paper on Burst Assembly Modeling for Optical Burst Switched Network .....	270
<i>G. Patel Bhumika</i>	
QoS Enhancement of AOMDV Routing Protocol Using Queue Length Improvement .....	275
<i>Abhinav Vidwans, Ajit Kumar Shrivastava, and Manish Manoria</i>	
Smart Phone Based Approach to Monitor Driving Behavior and Sharing of Statistic .....	279
<i>Ashutosh Kumar Choudhary and Piyush K. Ingole</i>	
IREN Algorithm for Improvement in Performance of Mobile Ad Hoc Networks .....	283
<i>Sarita Simaiya, Anurag Shrivastava, and Narayan Prasad Keer</i>	
Dynamic Load Balancing Algorithm for Heterogeneous Multi-core Processors Cluster .....	288
<i>Rajkumar Sharma and Priyesh Kanungo</i>	
Arima - Asymmetric Receiver Initiated Multiple Access Power Control Protocol for Wireless Ad-Hoc Networks .....	293
<i>Bighnaraj Panigrahi, Swades De, Hemant Kumar Rath, and Anantha Simha</i>	
A Design Approach of Congestion Control for Safety Critical Message Transmission in VANET .....	298
<i>Shruti R. Kolte and Mangala S. Madnkar</i>	
A Study of Motorcycle Noise Detection Based on Holographic Sound Intensity .....	302
<i>Deng Chang Yong and Xing Feng</i>	
Advanced Model of Space Charge Used for Simulation of Conductor under Lightning Strike .....	306
<i>Bengang Wei, Hua Huang, Liming Wang, Li Xu, and Zhengcai Fu</i>	
Advances in Research on the Multipactor Detection Method .....	310
<i>Wei Huan and Ma Yimin</i>	

Analysis of Multipath Effects on Accuracy of Range Estimation Using Received Signal Strength Indicator .....	314
<i>Ming Chen, Aiming Xia, and Yi Zeng</i>	
Analysis of Satellite Communication Network Characteristics .....	317
<i>Zhike Chen and Wei Xiong</i>	
Application of Face Recognition with Graph Embedding Kernelization .....	321
<i>Shuai Ding, Junwei Du, Jiqiang Wang, Shuai Ding, and Zhongzhen Wang</i>	
BER Analysis and Evaluated for Different Channel Models in Wireless Cooperation Networks Based OFDM System .....	326
<i>Ali A. Mohammed, Li Yu, Manar Al-Kali, and Edriss Eisa Babikir Adam</i>	
How to Ensure the Availability of Communication Channel for Event Driven Message in VANET .....	331
<i>Kirti Shukla, C.K. Jha, and Amit Shukla</i>	
Improve Performance DSR Protocol by Application of Mobile Agent .....	336
<i>Manoj Jhuria and Shailendra Singh</i>	
Predict the Storm: A Simulation Model to Measure the Playability before the Game Development .....	341
<i>Debadatta Mishra, Shashank Rachamalla, and Magda El Zarki</i>	
A Cross Layer Scheduling Algorithm in IEEE 802.16e WiMAX Standard to Support RTPS Traffic Class .....	347
<i>M. Vijayalakshmi, Swaroop R. Puranik, and Linganagouda Kulkarni</i>	
An Energy-Aware Backbone Formation Algorithm for Ad Hoc Networks .....	352
<i>Komal Bansal and Awadhesh Kumar Singh</i>	

## **Track D: Data Mining, Web Technology, and Ontology**

Contention Management Policy in Software Transactional Memory in Parallel and Distributed Systems .....	357
<i>Srikanth Bethu, Punugoti Srikanth, and Md. Asrar Ahmed</i>	
Educational Data Mining on Learning Management Systems Using SCORM .....	362
<i>Deka Ganesh Chandra and Anupama C. Raman</i>	
Research on Novel Methodology for Documentation Taxonomy for English IDIOLECT to GAIN Lesser Ambiguity Results .....	369
<i>Snehal A. Lohi and Anand Motwani</i>	
An Approach for Web Pre-fetching to Enhance User Interaction of Web Application Using Markov Model .....	373
<i>Monti BabuLal Pal and Dinesh C. Jain</i>	
Comparative Study of Concurrency Control Techniques in Distributed Databases .....	378
<i>Anand Mhatre and Rajashree Shedge</i>	

A Trigram Word Selection Methodology to Detect Textual Similarity with Comparative Analysis of Similar Techniques .....	383
<i>Ranjeet Kumar and R.C. Tripathi</i>	
Social Network Analysis Tools .....	388
<i>Nadeem Akhtar</i>	
Web Service Enhancement Using Web Pre-fetching by Applying Markov Model .....	393
<i>Monti Babulal Pal and Dinesh Chandra Jain</i>	
Knowledge Discovery from Earth Science Data .....	398
<i>Sangram Panigrahi, Kesari Verma, Priyanka Tripathi, and Rika Sharma</i>	
A Survey of Association Rule Hiding Algorithms .....	404
<i>Vikram Garg, Anju Singh, and Divakar Singh</i>	
Optimize Intrusion Prevention and Minimization of Threats for Stream Data Classification .....	408
<i>Rahul Rajput, Aishwarya Mishra, and Sandeep Kumar</i>	
An Approach to Mine Significant Frequent Patterns by Quantity Attribute .....	414
<i>Arti Rathod, Ajaysingh Dhabariya, and Chintan Thacker</i>	
Modification of Density Based Spatial Clustering Algorithm for Large Database Using Naive's Bayes' Theorem .....	419
<i>Jitendra Agrawal, Sanyogita Soni, Sanjeev Sharma, and Shikha Agrawal</i>	
Educational Data Mining on Learning Management Systems Using Experience API .....	424
<i>S. Sreekanth Chakravarthy and Anupama C. Raman</i>	
Pattern and Cluster Mining on Text Data .....	428
<i>Deepak Agnihotri, Kesari Verma, and Priyanka Tripathi</i>	
Image Mining: An Overview of Current Research .....	433
<i>A.A. Khodaskar and S.A. Ladhake</i>	
A Hybrid Approach for Predicting User's Future Request .....	439
<i>Kaushal Kishor Sharma and Kiran Agrawal</i>	
A Data Labeling Method for Categorical Data Clustering Using Cluster Entropies in Rough Sets .....	444
<i>H. Venkateswara Reddy, B. Suresh Kumar, and S. Viswanadharaju</i>	
Mining Strong Valid Association Rule from Frequent Pattern and Infrequent Pattern Based on Min-Max Sinc Constraints .....	450
<i>Mukesh Poundekar, Amitkumar S. Manekar, Mukesh Baghel, and Hitesh Gupta</i>	
Semantic-Synaptic Web Mining: A Novel Model for Improving the Web Mining .....	454
<i>Hiteshwar Kumar Azad and Kumar Abhishek</i>	



Data Generation and Analysis for Digital Forensic Application Using Data Mining .....	458
<i>Prashant K. Khobragade and Latesh G. Malik</i>	
Hybrid Ensemble Classifier for Stream Data .....	463
<i>Purva S. Gogte and Deepti P. Theng</i>	
Feature Selection Algorithm for Improving the Performance of Classification: A Survey .....	468
<i>Kajal Naidu, Aparna Dhenge, and Kapil Wankhade</i>	
An Efficient Approach for Supervised Learning Algorithms Using Different Data Mining Tools for Spam Categorization .....	472
<i>Rachana Mishra and Ramjeevan Singh Thakur</i>	
An Efficient Cache Based Client Side DNS Resolution Approach .....	478
<i>Nikhil Agrawal, M.A. Rizvi, and Shailendra Singh</i>	
Evaluation of the Effective Usage of Web Site Using Interactions of Users for Refinement .....	483
<i>Supriya Chakraborty, Dibakar Chakraborty, Biswabarata Dey, Soumik Banerjee, and Sweta Singh</i>	
An Efficient Approach for Inverted Index Pruning Based on Document Relevance .....	487
<i>Santosh K. Vishwakarma, Kamaljit I. Lakhtaria, Divya Bhatnagar, and Akhilesh K. Sharma</i>	

## **Track E: Fuzzy Logic, Artificial Neural Networks, and Soft Computing**

Dynamic Growth of Hidden-Layer Neurons Using the Non-extensive Entropy .....	491
<i>Seba Susan and Mayank Dwivedi</i>	
Software Reliability Prediction by Using Ant Colony Optimization Technique .....	496
<i>Ramakanta Mohanthy, Venkateswarlu Naik, and Azmath Mubeen</i>	
Video Shot Segmentation Using Spatio-temporal Fuzzy Hostility Index and Automatic Threshold .....	501
<i>Hrishikesh Bhaumik, Siddhartha Bhattacharyya, and Susanta Chakraborty</i>	
Evolutionary Computing Techniques for Optimal Reactive Power Dispatch: An Overview and Key Issues .....	507
<i>Tejaswini Sharma and Laxmi Srivastava</i>	
A Quantum Multilayer Self Organizing Neural Network for Object Extraction from a Noisy Background .....	512
<i>Siddhartha Bhattacharyya, Pankaj Pal, and Sandip Bhowmik</i>	

Optimal Placement of Shunt Facts Devices Using Heuristic Optimization Techniques: An Overview .....	518
<i>Rahul Dubey, Shishir Dixit, and Ganga Agnihotri</i>	
Fuzzy Based Sleep Scheduling in TDM Passive Optical Network .....	524
<i>Akanksha Vyas and Manish Sharma</i>	
Routing in Wireless Sensor Network Using Fuzzy Based Trust Model .....	529
<i>Radhika A. Raje and Apeksha V. Sakhare</i>	
Enhancement of Fuzzy Implication Operator .....	533
<i>Ravi Kant Kumar</i>	

## **Track F: Cloud Computing, Big Data, and IT Services**

Towards Cloud Supported E-Governance Services Delivery Model .....	537
<i>Mahesh Kumar Sharma and Kunwar Singh Vaisla</i>	
An Enterprise Data Center Network Design - Netdes .....	540
<i>Shameemraj M. Nadaf, Vishvesh Revoori, Hemant Kumar Rath, and Anantha Simha</i>	
New Fuzzy Voice Part Algorithm of Chorus Literary Based on Internet Integration Information .....	546
<i>Zhao Jing</i>	
An Efficient Approach for Software Protection in Cloud Computing .....	550
<i>Navneet Singh, Shailendra Singh, and Swapnamukta Agarwal</i>	
Prominence of MapReduce in Big Data Processing .....	555
<i>Shweta Pandey and Vrinda Tokekar</i>	
The Analysis of Exam Paper Component Based on Genetic Algorithm .....	561
<i>Lingling Han and Xiaodong Li</i>	
Mobile Cloud Computing - Bring Your Own Device .....	565
<i>Gurudatt Kulkarni, Rupali Shelke, Rajnikant Palwe, Vikas Solanke, Shrikant Belsare, and Sangita Mohite</i>	
Optimization in Mobile Cloud Computing for Cloud Based Health Application .....	569
<i>Gurudatt Kulkarni, Rupali Shelke, Pooja Bhore Niraj Patil, Vishakha Kulkarni, and Sangita Mohite</i>	
An Effective Approach for Allocating VMs to Reduce the Power Consumption of Virtualized Cloud Environment .....	573
<i>Pushtikant Malviya, Swapnamukta Agrawal, and Shailendra Singh</i>	
Access Control Mechanism for Multi-user Data Sharing in Social Networks .....	578
<i>Ashwajit Ramteke and Girish Talmale</i>	
Parallel Processing and Intercommunication of Multiple Negotiation Processes in E-Commerce for Optimal Business .....	583
<i>Mohamed Jawahar Hussain</i>	

A Performance Analysis of MapReduce Task with Large Number of Files Dataset in Big Data Using Hadoop .....	587
<i>Amrit Pal, Kunal Jain, Pinki Agrawal, and Sanjay Agrawal</i>	
Impact of Software Licenses in Cloud Computing Based E-Governance Initiatives .....	592
<i>Shailesh Kumar Shrivastava, Prabhat Kumar, and Amarnath Pandey</i>	
Analyzing Email Account Creation: Expectations vs Reality .....	597
<i>Vishal Kumar, Kunwar Singh Vaisla, and Jaydeep Kishore</i>	
Virtual Desktop Infrastructure in Higher Education Institution: Energy Efficiency as an Application of Green Computing .....	601
<i>Shalabh Agrawal, Rana Biswas, and Asoke Nath</i>	

## **Track G: Security and Authentication: Image, Data, Network, and Information Security**

Estimation of User Location in 4G Wireless Networks Using Cooperative TDoA/RSS/TDoA Method .....	606
<i>Reza Ashrafi Amineh and Ali Asghar Beheshti Shirazi</i>	
Comparative Analysis of PAVD Security System with Security Mechanism of Different Cloud Storage Services .....	611
<i>Yogita Pawar, Prashant Rewagad, and Nisha Lodha</i>	
Security against Black Hole Attack in Wireless Sensor Network - A Review .....	615
<i>Binod Kumar Mishra, Mohan C. Nikam, and Prashant Lakkadwala</i>	
Smartphone Security and Contact Synchronization .....	621
<i>Kunal Gupta, Ravi Kumar, and Sachin Loothra</i>	
A Review of Watermarking Application in Digital Cinema for Piracy Deterrence .....	626
<i>Nilesh Kumar Dubey and Shishir Kumar</i>	
Consignor Is a Spammer .....	631
<i>Ravi Kumar, Mayank Punetha, Ishani Sharma, and Mahua Bhattacharya</i>	
A Real Time Approach for Secure Text Transmission Using Video Cryptography .....	635
<i>G. Metaliya Viral, Deepak Kumar Jain, and Sardhara Ravin</i>	
A Novel Technique for Data Hiding in Audio Carrier by Using Sample Comparison in DWT Domain .....	639
<i>Satish Singh Verma, Ravindra Gupta, and Gaurav Shrivastava</i>	
Protecting Location Privacy via Synchronously Pseudonym Changing in VANETs .....	644
<i>Wang Ying and Yang Shiyong</i>	
Analysis of Location Monitoring Techniques with Privacy Preservation in WSN .....	649
<i>Shrikant P. Dhawale and Archana R. Raut</i>	

Inter-cloud Data Transfer Security .....	654
<i>Rajkumar R. Chalse, Arun Katara, Ashwin Selokar, and Roshani Talmale</i>	
Defining Categories to Select Representative Attack Test-Cases in MANETs .....	658
<i>Sara Chadli, Mohammed Saber, and Abdelhak Ziyyat</i>	
Proposed Method for Multimedia Data Security Using Cyclic Elliptic Curve, Chaotic System, and Authentication Using Neural Network .....	664
<i>Ankita Baheti, Lokesh Singh, and Asif Ullah Khan</i>	
Key Management in WiMax .....	669
<i>Himanshu Tiwari and Brijesh Kumar Chaurasia</i>	
Secure Localization and Location Verification of Wireless Sensor Network .....	673
<i>Gaurish M. Edake, Ganesh R. Pathak, and Suhas H. Patil</i>	
Analysing Security and Privacy Management for Cloud Computing Environment .....	677
<i>Manish H. Gourkhede and Deepti P. Theng</i>	
Intrusion Detection Based on Support Vector Machine Using Heuristic Genetic Algorithm .....	681
<i>Tao Yerong, Sui Sai, Xie Ke, and Liu Zhe</i>	
Agent Based Intrusion Detection System to Find Layers Attacks .....	685
<i>Jaipal Singh Parihar, Jitendra Singh Rathore, and Kavita Burse</i>	
The Evaluation Model for Network Security .....	690
<i>Zhiyong Lu and Yunyan Zhou</i>	
An Improved Module Based Substitution Steganography Method .....	695
<i>Nadeem Akhtar, Ambreen Bano, and Faraz Islam</i>	
A Design and Implementation of Intrusion Detection System by Using Data Mining .....	700
<i>Brijesh Sharma and Huma Gupta</i>	
Inspecting the Ways of Source Anonymity in Wireless Sensor Network .....	705
<i>Rupali D. Shinganjude and Deepti P. Theng</i>	
A Comparative Study on Various Aspects of Security of Geospatial Data .....	708
<i>Manali Singh Rajpoot and Pratik Patel</i>	
Comparative Study of CIA and Revised-CIA Algorithm .....	713
<i>Sneha Vasant Thakare and Deipali V. Gore</i>	
Overview of CDAMA Scheme in Wireless Sensor Network Using DAS Model .....	719
<i>Nidhi Mouje and Nikita Chavhan</i>	
Efficient Sensor Node Authentication in Wireless Integrated Sensor Networks Using Virtual Certificate Authority .....	724
<i>Rashmi P. Fulare and A.V. Sakhare</i>	

Securing Multipath Routing Protocol Using Authentication Approach for Wireless Sensor Network .....	729
<i>Gaurav Gulhane and Nikita V. Mahajan</i>	
Stealthier Attack on Zone Routing Protocol in Wireless Sensor Network .....	734
<i>Arpit Chaudhari and Prachi Jaini</i>	
Automated Process of Server and Client Environment with Attack Alert Based on DES .....	739
<i>Saket Gupta, Saurabh Jain, and Rachana Mishra</i>	
Secure and Efficient Search Technique in Cloud Computing .....	743
<i>Akshay D. Kapse and Piyush K. Ingole</i>	
An Approach to Secure Sink Node's Location Privacy in Wireless Sensor Networks .....	748
<i>Priti C. Shahare and Nekita A. Chavhan</i>	
Survey of RTS-CTS Attacks in Wireless Network .....	752
<i>Supriya S. Sawwashere and Sonali U. Nimbhorkar</i>	
GUI Based Brain Tumor Identification System by Detecting Infected Region through a Combination of Region Growing, Cryptography, and Digital Watermarking Technique .....	756
<i>Koushik Pal, Subhajit Koley, Goutam Ghosh, and Mahua Bhattacharya</i>	
IAMTT - New Method for Resisting Network Layer Denial of Service Attack on MANET .....	762
<i>Sheetal Akhilesh Ahir, Nilesh Marathe, and Puja Padiya</i>	
A Lifecycle Based Approach for Malware Analysis .....	767
<i>Sudhir Kumar Pandey and B.M. Mehtre</i>	
Physical Security Aspects of E-Cash .....	772
<i>Gaurav Sharma, Mahima Mathur, and Kratika Mathur</i>	
E-Commerce Security through Asymmetric Key Algorithm .....	776
<i>Ankur Chaudhary, Khaleel Ahmad, and M.A. Rizvi</i>	
CLOPRO: A Framework for Context Cloaking Privacy Protection .....	782
<i>Anala Pandit, Phani Polina, and Anup Kumar</i>	
Uniform Selection of Vertices for Watermark Embedding in 3-D Polygon Mesh Using IEEE754 Floating Point Representation .....	788
<i>Hitendra Garg, Krishna Kr. Khandelwal, Manish Gupta, and Suneeta Agrawal</i>	
Bit Level Multi Way Feedback Encryption Standard Ver-1(BLMWFES-1) .....	793
<i>Ankita Bose, Debdeep Basu, Saptarshi Chatterjee, Asoke Nath, and Surajit Bhowmik</i>	

## Track H: Image, Speech, and Signal Processing

Symbol Synchronization for a Class of CPFSK Receiver .....	800
<i>Sapta Girish Neelam</i>	
An Algorithmic Digital Audio Watermarking in Perceptual Domain Using Direct Sequence Spread Spectrum .....	805
<i>Naresh Kumar Trivedi and Munesh Chandra Trivedi</i>	
Sign Language Recognition Using Principal Component Analysis .....	810
<i>Ankita Saxena, Deepak Kumar Jain, and Ananya Singhal</i>	
Real Time Fog Removal Technique with Improved Quality through FFT .....	814
<i>Ashish Saxena and Yogadhar Pandey</i>	
Hand Gesture Recognition Using an Android Device .....	819
<i>Ankita Saxena, Deepak Kumar Jain, and Ananya Singhal</i>	
Fingerprint Segmentation: Optimization of a Filtering Technique with Gabor Filter .....	823
<i>Vishal Krishna Singh, K.J. Mathai, and Shailendra Singh</i>	
High Dynamic Range Imaging for Dynamic Scenes .....	828
<i>Rahul Kumar Chaurasiya and Vishakha Chourasia</i>	
Skin Lesion Detection of Dermoscopy Images Using Estimate Localization Technique .....	833
<i>Sookpotharom Supot</i>	
Subjective Evaluation of Image Color Damage Based on JPEG Compression .....	838
<i>Xiaoqiang He</i>	
The Study on Auto Mosaic Technology of Microscopic Image .....	843
<i>Yunxiao Shan</i>	
An Approach for Secret Sharing Using Randomised Visual Secret Sharing .....	847
<i>Shubhra Dixit, Deepak Kumar Jain, and Ankita Saxena</i>	
Using Self Organized Mapping to Seek Refactorable Code Clone .....	851
<i>Meng Fanqi</i>	
Comparison of Sub-band Decomposition and Reconstruction of EEG Signal by Daubechies9 and Symlet9 Wavelet .....	856
<i>Supriya Shete and Revathi Shriram</i>	
TOA Estimation with Cross Correlation-Based Music Algorithm for Wireless Location .....	862
<i>Liang Zhou, Guangjun Li, Zhi Zheng, and Xuemin Yang</i>	
A Novel Lossy Image Compression Method .....	866
<i>Nadeem Akhtar, Salman Khan, and Gufran Siddiqui</i>	
Coherence Analysis of EEG Signal Using Power Spectral Density .....	871
<i>Sukhada A. Unde and Revati Shriram</i>	

Comparison of Color and Color with Edge Feature Extraction Using Contribution-Based Clustering Algorithm .....	875
<i>Snehal Mahajan and Dharmaraj Patil</i>	
Issues and Challenges in Content-Based Media Retargeting .....	881
<i>Ranjit Y. Fule and Deepti P. Theng</i>	
Vishit: A Visualizer for Hindi Text .....	886
<i>Priyanka Jain, Hemant Darbari, and Virendrakumar C. Bhavsar</i>	
Literature Review: Model Free Human Gait Recognition .....	891
<i>Suvarna Shirke, S.S.Pawar, and Kamal Shah</i>	
A Fragile ROI-Based Medical Image Watermarking Technique with Tamper Detection and Recovery .....	896
<i>R. Eswaraiah and E. Sreenivasa Reddy</i>	
A Conditional Random Field Based Indian Sign Language Recognition System under Complex Background .....	900
<i>Ananya Choudhury, Anjan Kumar Talukdar, and Kandarpa Kumar Sarma</i>	
Line Analyzer Techniques for Teeth Using Edge-Based Method and Gray-Based Method .....	905
<i>Saurabh U. Saoji and Prachi Jaini</i>	
Hiding the Trace of JPEG Compression History .....	909
<i>Hong Yang and Zhiping Zhou</i>	
Resampling Tamper Detection Based on JPEG Double Compression .....	914
<i>Dan Zhu and Zhiping Zhou</i>	
A Method for Hand Gesture Recognition .....	919
<i>Jaya Shukla and Ashutosh Dwivedi</i>	
Exposing Digital Image Forgeries from Near Duplicate Images .....	924
<i>Snehal M. Khamankar and M.S. Madankar</i>	
Image Segmentation Methods: A Survey Approach .....	929
<i>Amit Singh Chauhan, Sanjay Silakari, and Manish Dixit</i>	
Computer Vision Based Human-Computer Interaction Using Color Detection Techniques .....	934
<i>Chetan Dhule and Trupti Nagrare</i>	
Integrating Rule and Template-Based Approaches to Prosody Generation for Emotional BODO Speech Synthesis .....	939
<i>Laba Kr. Thakuria, Purnendu Acharjee, Akalpita Das, and P.H. Thakdar</i>	
A Sentence-Pitch-Contour Model for Indigenous Language (Galo) Using Vector Quantization (VQ) and Hidden Markov Model .....	944
<i>Akalpita Das, Laba Kr. Thakuria, Purnendu Acharjee, and P.H. Thakdar</i>	

Assamese Intonation Modeling for Speech Synthesis .....	948
<i>Palash Dutta, Laba Kr. Thakuria, Akalpita Das, Purnendu Acharjee, and Pranhari Talukdar</i>	

## **Track J: Control Systems, Simulation, Power Systems, and Optimisation Techniques**

Power Distribution System Load Flow Using Microsoft Excel .....	954
<i>M.K.S. Sastry, Randy Roopchand, and Roshan Chhetri</i>	
Exact Loss Procurement for Distribution Franchisee in the Restructured Environment: To Promote Distribution Franchisee Implementation in India .....	960
<i>Baidyanath Bag, Tripta Thakur, and Vijae Pande</i>	
Model Based Experimental Determination of Moisture Content in Oil-Paper Insulation System Using FDS Technique .....	966
<i>Yogesh Yashwant Pundlik and Pradeep M. Nirgude</i>	
A Distinct Pseudo-random Carrier Modulation Approach for a Boost Converter .....	970
<i>Anant Kumar Verma and Gagan Singh</i>	
Optimal Location and Sizing of SVC for Minimization of Power Loss and Voltage Deviation Using NSGA II .....	975
<i>Shishir Dixit, Laxmi Srivastava, and Ganga Agnihotri</i>	
Test Case Generation for Object-Oriented Systems: A Review .....	981
<i>Rajvir Singh</i>	
Dynamic Energy and Reserve Dispatch Solutions for Electricity Market with Practical Constraints: Intelligent Computing Technique .....	990
<i>Aayush Shrivastava, Akanksha Bhatt, Manjaree Pandit, and Hari Mohan Dubey</i>	
Design and Development of Matlab Toolbox for State Estimation .....	995
<i>M.K.S. Sastry, Rajiv Ramrattan, and P.V. Balasubrahmanyam</i>	
A Model Predictive Controller Using Multiple Linear Models for Continuous Stirred Tank Reactor (CSTR) and ITS Implementation Issue .....	1001
<i>Vivek Agarwal, Manish Gupta, Umesh Gupta, and Rahul Saraswat</i>	
Influence of Profile Error on the Bearing Characteristics of Hydrostatic Turntable .....	1006
<i>Ligang Cai, Pengwei Cui, Yongsheng Zhao, and Changqing Jing</i>	
Research and Realization of Media Node Method-MNM and Embedding Future Key Method-EFK to Avoid Selective Jamming .....	1011
<i>Junwei Du, Shuai Ding, and Yan Wan</i>	
Scheduling Algorithms Based on Resource Fragmentation for Advance Reservation Tasks .....	1017
<i>Bo Li, Yijian Pei, Hao Wu, Xian Zhao, and Bin Shen</i>	



Home Energy Audit: A Case Study of Phuentsholing, Bhutan .....	1022
<i>Roshan Chhetri, Kinley Wangchuk, and M.K.S. Sastry</i>	
Three Phase Shunt Active Filter Interfacing Renewable Energy Source with Power Grid .....	1026
<i>S. Dineshkumar and N. Senthilnathan</i>	

## **Track K: VLSI Design and Implementation of Digital Design Concepts**

Thermal Aware Task Scheduling for Embedded Systems .....	1032
<i>Chanchal Paul, Biju Kranthi, and Santanu Chattopadhyay</i>	
Via Minimization for Multi-layer Channel Routing in VLSI Design .....	1036
<i>Bhaskar Das, Ashim Kumar Mahato, and Ajoy Kumar Mahato</i>	
Design and Development of CMOS Image Sensor for Motion Detection & Localization .....	1040
<i>Shraddha Moon and Trushna Deotale</i>	
A Novel PMOS Data Retention Leakage Power Reduction Design .....	1045
<i>Rohit Lorenzo and Saurabh Chaudhury</i>	
Networks on Chip: The New Trend of On-Chip Interconnection .....	1050
<i>Hridoy Jyoti Mahanta, Abhijit Biswas, and Md. Anwar Hussain</i>	
Investigation of Ternary Function Minimization .....	1054
<i>Vikram Ghiye, Sharan Bonde, and Ashwinikumar Dhande</i>	
Implementation of Wireless Sensor Network Using Microblaze and Picoblaze Processors .....	1059
<i>Seema M. Borawake and P.G. Chilveri</i>	
Performance and Evaluation of Loopback Virtual Channel Router with Heterogeneous Router for On-Chip Network .....	1065
<i>Mamta P. Daf and Bharti B. Saynkar</i>	
A 3.1-10.6 GHz CMOS Two Stage Cascade Topology Low-Noise Amplifier for UWB System .....	1070
<i>Neelam Gautam, Manish Kumar, and Abhay Chaturvedi</i>	
Double Balanced Diode Ring Mixer for Ultra-wideband System .....	1074
<i>Abhay Chaturvedi, Mithilesh Kumar, and R.S. Meena</i>	

## Track L: Machine Learning, Software Modelling, and Intelligent Systems

Using Virtual Reference Tags to Improve the Accuracy of Active RFID-Based Positioning Systems .....	1078
<i>Saber Seyyedi, Behzad Akbari, Esmaeil Arab, Iraj Ramezani, and Milad Mahdavi</i>	
Integrating Machine Learning Techniques to Constitute a Hybrid Security System .....	1082
<i>Nikita Singh and Nidhi Chandra</i>	
Development of a Classification System for Quality Evaluation of Oryza Sativa L. (Rice) Using Computer Vision .....	1088
<i>Niky K. Jain, S.O. Khanna, and Kavindra R. Jain</i>	
The Appliance of Affective Computing in Man-Machine Dialogue: Assisting Therapy of Having Autism .....	1093
<i>Lingling Han and Xiaodong Li</i>	
The Analysis of Checkpoint Strategies for Large-Scale CFD Simulation in HPC System .....	1097
<i>Ren Xiaoguang, Xu Xinhai, Tang Yuhua, and Fang Xudong</i>	
Automation of HR Interview System Using JESS Inference Engine .....	1102
<i>Kush Kumar, Abhay Kumar, Kumar Abhishek, and D.K. Singh</i>	
Blue Brain Technology: A Subway to Artificial Intelligence .....	1106
<i>Swati Sharma, Nitisha Payal, Ankur Kaushik, and Nitin Goel</i>	
Performance Appraisal of Learning Automata in Networks .....	1110
<i>Rohit Kumar Das, Banai Das, and Sudipta Roy</i>	
Digital Circuit Design Using Support Vector Machines .....	1114
<i>J. Manikandan and V.K. Agrawal</i>	
Hybrid Multi-level Cache Management Policy .....	1119
<i>Krupal Chikhale and Urmila Shrawankar</i>	
DTMF Based Automation System with Reduction of Noise Using Goertzel DFT Estimation .....	1124
<i>Afshan Mulla, Jaypal Baviskar, and Amol Baviskar</i>	
Traffic Signal Control Using Reinforcement Learning .....	1130
<i>Namrata S. Jadhao and Ashish S. Jadhao</i>	
A Multiobjective Model for Energy Efficient QoS Provisioning Using Genetic Algorithm .....	1136
<i>Sunita Prasad, Zaheeruddin, and D.K. Lobiyal</i>	
User and Device Tracking in Private Networks by Correlating Logs: A System for Responsive Forensic Analysis .....	1142
<i>Swati Chaudhari, Hitendra Chauhan, S.S. Tomar, and Anil Rawat</i>	

A Camera Calibration Method for Obstacle Distance Measurement Based on Monocular Vision .....	1148
<i>Lin Chenchen, Su Fulin, Wang Haitao, and Gao Jianjun</i>	
A Game-Theoretic View on Objective Function Attack and ITS Defense .....	1152
<i>Guangsheng Feng, Xiaoyu Zhao, Huiqiang Wang, and Qian Zhao</i>	
An Efficient Data Integrity Verification and Fault-Tolerant Scheme .....	1157
<i>Hui Gan and Long Chen</i>	
Automatic Android GUI Traversal with High Coverage .....	1161
<i>Peng Wang, Bin Liang, Wei You, Jingzhe Li, and Wenchang Shi</i>	
Design of Multi-function and Programmable Man-Machine Interface .....	1167
<i>Yuncai Luan</i>	
Intelligent Traffic Guidance System Based on Dynamic Toll Collection Policy .....	1172
<i>Lufei Wang, Peiqi Jiang, Jie Zhong, Liyan Li, Jianbo Zhang, Xingchang Wei, and Erping Li</i>	
Location Prediction in Social Media Based on Contents and Graphs .....	1177
<i>Dan Xu and Shiqiang Yang</i>	
Recognizing Chessboard and Positioning Checkboard in Chinese Chess Game System .....	1182
<i>Huibai Wang and Ming Shi</i>	
An Approach to Solve Tracking and Message Blocking Problems in RFID .....	1187
<i>Ajay Kant Singh, Subhaish Dhal, and Indranil Sengupta</i>	

**Author Index**