

2009 1st International Conference on Computational Intelligence, Communication Systems and Networks

(CICSyN 2009)

**Indore, India
23 – 25 July 2009**



**IEEE Catalog Number: CFP0981H-PRT
ISBN: 978-1-4244-4937-8**

2009 First International Conference on Computational Intelligence, Communication Systems and Networks

CICSYN 2009

Table of Contents

Plenary Abstracts

Grid Computing: Tenfold Acceleration on the Internet/Grids	1
<i>Frank Zhigang Wang</i>	
Microwave High Power Amplifiers for Satellite Communication	3
<i>Raghuvir Tomar</i>	
Throwing of Objects: A New Technology for Factory Automation	4
<i>Heinz Frank</i>	

Track: 01(A) Intelligent Systems

A Fast Method for Detection of Video Shot Boundaries Using Compressed Domain Features of H.264 for PVR Enabled Set Top Boxes: A Novel Approach	6
<i>Tanushyam Chattopadhyay, Ayan Chaki, and Utpal Garain</i>	
An Ultra Wide-Band VCO Using MOS Varactor in 0.35 μ m SiGe BiCMOS Technology	12
<i>H. Mokari, A.A. Lotfi Neyestanak, and G. Zandkarimi</i>	
Refine Crude Corpus for Opinion Mining	17
<i>Debnath Bhattacharyya, Poulami Das, Kheyali Mitra, Swarnendu Mukherjee, Debashis Ganguly, Samir Kumar Bandyopadhyay, and Tai-hoon Kim</i>	
Dynamic Path Selection Algorithm for Beneš Networks	23
<i>Amitabha Chakrabarty, Martin Collier, and Sourav Mukhopadhyay</i>	
Rank-Based Genetic Algorithm with Limited Iteration for Grid Scheduling	29
<i>Wael Abdulal, Omar Al Jadaan, Ahmad Jabas, S. Ramchandram, Mustafa Kaiiali, and C.R. Rao</i>	

Integration of Artificial Intelligence and Database Management System: An Inventive Approach for Intelligent Databases	35
<i>Neelu Nihalani, Sanjay Silakari, and Mahesh Motwani</i>	

Track: 02(B) Hybrid Intelligent Systems & Hybrid Soft Computing

An Application of OPC Data Interaction in the Bag Filter Monitor System	41
<i>Chao Pan, Qing Wang, Wanlin Gao, Ganghong Zhang, Xinlan Jiang, Wei Shao, and Lina Yu</i>	
Simulation of Coordinating Sniffer Robots for Building Odor Maps	45
<i>Niket Tandon, A. Karthik, Shardul Singh Rana, and P. Venkata Krihsna</i>	
Engineering Case Studies Using Parameterless Penalty Non-dominated Ranked Genetic Algorithm	51
<i>Omar Al Jadaan, Ahmad Jabas, Wael Abdula, Lakshmi Rajamani, Essa Zaiton, and C.R. Rao</i>	

Track 03(C) Sensor Nodes, Circuits, Devices, Wireless Sensor Networks

Solar Energy Harvesting for Wireless Sensor Networks	57
<i>P.T.V. Bhuvaneshwari, R. Balakumar, V. Vaidehi, and P. Balamuralidhar</i>	
Analog Multiplier with High Accuracy	62
<i>K. Diwakar, C. Senthilpari, Ajay Kumar Singh, and Lim Way Soong</i>	
An Approach for Interpretation of MEMS Data for Gesture Based Man Machine Interaction in Advanced Set-top Box	67
<i>Tanushyam Chattopadhyay, Soumali Roychowdhury, and Mita Nasipuri</i>	
A New Approach to Task Allocation in Wireless Sensor Actor Networks	73
<i>Hossein Momeni, Mohsen Sharifi, and Saeed Sedighian</i>	
An Efficient Method for Generating Coherent Digital Sweep Signals	79
<i>Ashraf Samarah, Mohammad Al-Ibrahim, and Otmar Loffeld</i>	
Transmission of Data Using Distinct Intensity Levels in IR Radiations	86
<i>Viranjay M. Srivastava, Nitish Paliwal, and Anupam Chahar</i>	
Fuzzy-Based Movement-Assisted Sensor Deployment Method in Wireless Sensor Networks	90
<i>A. Osmani, M. Dehghan, H. Pourakbar, and P. Emdadi</i>	
Touch Sensor Assembly Using Infrared Radiations and its Applications	96
<i>Vanita Rana, Nitish Paliwal, and Anupam Chahar</i>	
Channel Guard in ROADM Networks	99
<i>Anuj Malik and Sanjay Choudhary</i>	
A Hybrid Model of Defense Techniques against Base Station Jamming Attack in Wireless Sensor Networks	102
<i>Sushil Kumar Jain and Kumkum Garg</i>	
Primary Interference Suppression in Secondary Underlay Transmission Using Direct Sequence Spread Spectrum	108
<i>Shadi Ebrahimi Asl and Bahman Abolhassani</i>	

PAPR Reduction for OFDM Scheme by New Partial Transmit Sequence Technique in Wireless Communication Systems	114
<i>Pankaj Kumar Sharma, R.K. Nagaria, and T.N. Sharma</i>	
Wireless System for Monitoring Environmental Variables of Rain Shelter House (RSH)	119
<i>Saiful Farhan M. Samsuri, Robiah Ahmad, Mohamed Hussein, and Abd. Rahman Abdul Rahim</i>	
Wireless Sensor Network Based Industrial Monitoring & Diagnostic System	125
<i>Sumeet Gupta, Shekhar Varma, G.S. Tomar, and R.K. Abrol</i>	
Self-Protection Strategies in WSN Using Geometrical Arrays of Directional Antennas and Incremental RSSI Measurements	131
<i>Mario Limon Mendoza and Victor Hugo Zarate Silva</i>	
Evaluation of Self-Organization Architecture for Special WSN Using Geometrical Arrays of Nodes	137
<i>Mario Limon Mendoza and Victor Hugo Zarate Silva</i>	
Distributed Energy Efficient Key Distribution for Dense Wireless Sensor Networks	143
<i>Abhishek Goyal, Navdeep Kaur, Padmavati, Kuldeep, and Ramamurthy Garimella</i>	
MAIL: Multi-Hop Adaptive Iterative Localization for Wireless Sensor Networks	149
<i>S.B. Kotwal, Shekhar Verma, G.S. Tomar, and R.K. Abrol</i>	
Track: 04(D) RFIDs and their Applications	
Electrical Model Simulation for a UHF RFID System	155
<i>Sara Abou Chakra, Usamah O. Farrukh, and Beatriz Amante Garcia</i>	
RFID Tracking System for Vehicles (RTSV)	160
<i>Anala Aniruddha Pandit, Ankit Kumar Mundra, and Jyot Talreja</i>	
RFID Assisted Vehicular Communication Systems	166
<i>Chirawat Kotchasarn</i>	
Track: 05(E) Protocols and Standards	
Simplified Application of the IEC 61850 for Distributed Energy Resources	172
<i>Heinz Frank, Sidonia Mesentean, and Friederich Kupzog</i>	
A Survey for Designing Attack Resilient and Adaptive Medium Access Control Protocol for Wireless Networks	178
<i>Piyush Kumar Shukla, S. Silakari, S.S. Bhadouria, and Shikha Sharma</i>	
An Adaptive Medium Access Control Protocol for Computer Network	184
<i>Piyush Kumar Shukla, S. Silakari, S.S. Bhadouria, Kavindra Raghuvanshi, and Mitesh Bargadiya</i>	

Track: 06(F) Modelling and Performance

Joint Radio Resource Management for HSDPA and WiMAX Networks	190
<i>Hesham Mahmoud El Sawy, Hesham Mohamed El Badawy, and Khaled Ali Shehata</i>	
Multi-Objective Optimization of NARX Model for System Identification Using Genetic Algorithm	196
<i>S. Mohammad Reza Loghmanian, Robiah Ahmad, and Hishamuddin Jamaluddin</i>	
Utilization of SIP Contact Header for Reducing the Load on Proxy Servers in FoIP Application	202
<i>Ketan J. Sarvakar, Kiran R. Amin, Rajendra J. Patel, Menka Patel, Komal A. Maheta, and Bhavesh P. Patel</i>	
C ³ Semantics Modeling—Dynamics	207
<i>John Ronczka</i>	
On Prediction Accuracy of Machine Learning Algorithms for Characterizing Shared L2 Cache Behavior of Programs on Multicore Processors	213
<i>Jitendra Kumar Rai, Atul Negi, Rajeev Wankar, and K.D. Nayak</i>	
Saksham: Customizable x86 Based Multi-Core Microprocessor Simulator	220
<i>Amol Vasudeva, Arvind Kumar Sharma, and Ashish Kumar</i>	
Performance Improvement of Wi-Max IEEE 802.16e in Presence of Different FEC Codes	226
<i>Shraddha Bansal and Raksha Upadhyay</i>	
A Comparative Study between Two Parameter Estimators for the Synthesis of an Electrical Machine Default Detection Mechanism	230
<i>Sondess Ben Aoun and Nabil Derbil</i>	

Track: 07(G) Software Platforms and Middleware

Experimental Analysis of Different Metrics (Object-Oriented and Structural) of Software	235
<i>Lalji Prasad and Aditi Nagar</i>	
An Architecture for Mobile Social Networking Applications	241
<i>Juwel Rana, Johan Kristiansson, Josef Hallberg, and Kåre Synnes</i>	
A Design of Sensor Web Registry for Wireless Sensor Networks with SOA Approach	247
<i>Kamlendu Kumar Pandey and S.V. Patel</i>	
Models and Transformations in MDA	253
<i>Yashwant Singh and Manu Sood</i>	
Classification Rule Mining for Object Oriented Databases: A Brief Review	259
<i>Ajita Satheesh, D.K. Mishra, and Ravindra Patel</i>	

Track: 08(H) Tools and Techniques for Design, Deployment, Testing and Evaluation

Design of 1.3 GHz Microstrip Highpass Filter Using Optimum Distributed Short Circuited Stubs	264
<i>Subodh Kumar Singhal, Deepak Sharma, and Ram Mehar Singh Dhariwal</i>	
Design of 1.5 GHz Quasilumped Microstrip Highpass Filter	268
<i>Deepak Sharma, Subodh Kumar Singhal, and Ram Mehar Singh Dhariwal</i>	
Prioritization of Scenarios Based on UML Activity Diagrams	271
<i>Sapna P.G. and Hrushikesh Mohanty</i>	
Design & Development of Small Linux Operating System for Browser Based Digital Set Top Box	277
<i>Lalit Kumar, Rajesh Kushwaha, and Rishi Prakash</i>	
Dynamic Interaction Analysis of Soil and End Bearing Pile Using Boundary Element Model Coupled with Finite Element Model	282
<i>Paulus Karta Wijaya</i>	

Track: 09(I) Security, Authentication, Wireless Security, Dependability

Enhanced Authentication Mechanism for Next Generation Networks	288
<i>Mamdouh Gouda and Mohamed Haggag</i>	
Content-Split Based Effective String-Matching for Multi-Core Based Intrusion Detection Systems	296
<i>Subramanian Neelakantan and Shrisha Rao</i>	
Hybrid Spam E-mail Filtering	302
<i>Ronald Bhuleskar, Anoop Sherlekar, and Anala Pandit</i>	
A Single Sign-On Model for Web Services Based on Password Scheme	308
<i>Lata Kiran, Kuldeep Singh, and Sandeep Sood</i>	
Shielding against SQL Injection Attacks Using ADMIRE Model	314
<i>Supriya Madan and Sushila Madan</i>	
Information Security Risk Assessment in Healthcare: The Experience of an Italian Paediatric Hospital	321
<i>Michele Bava, Domenico Cacciari, Edoardo Sossa, Daniel Zotti, and Riccardo Zangrando</i>	
Correcting Noise in Block Ciphers	327
<i>Nabil M.K. Mirza, Ziad Osman, Rached Zantout, and Mohamed El-Sayed</i>	
Design of a Private Credentials Scheme Based on Elliptic Curve Cryptography	332
<i>Aditi Yoganand Athavale, Kuldeep Singh, and Sandeep Sood</i>	
Efficient Snort Rule Generation Using Evolutionary Computing for Network Intrusion Detection	336
<i>Raghavan Muthuregunathan, Siddharth S., Srivathsan R., and Rajesh S.R.</i>	
An Ethical Way of Image Encryption Using ECC	342
<i>Kamlesh Gupta, Sanjay Silakari, Ranu Gupta, and Suhel A. Khan</i>	

Track: 11(K) Image, Speech and Signal Processing

Synthetic Aperture Radar Image Processing Based on Piecewise Linear Mapping	346
<i>Navneet Agrawal and K. Venugopalan</i>	
Amplitude Phase Algorithm for SAR Signal Processing	351
<i>Navneet Agrawal and K. Venugopalan</i>	
Probability Based Search Motion Estimation Algorithm	357
<i>Deepak J. Jayaswal and Mukesh A. Zaveri</i>	
A New Fast Radix-2 Decimation-in-Frequency Algorithm for Computing the Discrete Hartley Transform	363
<i>Gautam Abhaychand Shah and Tejmal Saubhagyamal Rathore</i>	
Orthogonal Hermite Pulses for Indoor Communication with UWB (S-V) Channel	369
<i>Joanne Newton Gomes and B.K. Mishra</i>	
Discrete Cosine Transformation Based Image Authentication and Secret Message Transmission Scheme	374
<i>Debnath Bhattacharyya, Jhuma Dutta, Poulami Das, Samir Kumar Bandyopadhyay, and Tai-hoon Kim</i>	
Cyclostationarity-Based Spectrum Sensing for Analog TV and Wireless Microphone Signals	380
<i>Alfateh M. Alhassan Mossa and Varun Jeoti</i>	
Adaptive Classified Vector Quantisation of Non-orthogonal Representations of Images and its Application to Image Compression	386
<i>Abir Jaafar Hussain, Dhiya Al-Jumeily, and Paulo Lisboa</i>	
Compressed Domain Image Retrieval Using Thumbnails of Images	392
<i>Vidya R. Khapli and Anjali S. Bhalchandra</i>	
Multiple Subgroup Data Compression Technique Based on Huffman Coding	397
<i>Piyush Kumar Shukla, Pradeep Rusiya, Deepak Agrawal, Lata Chhablani, and Balwant Singh Raghuvanshi</i>	
Image Clustering Using Color and Texture	403
<i>Manish Maheshwari, Sanjay Silakari, and Mahesh Motwani</i>	
High Immunity Triple Channelized Correlation Receiver	409
<i>Mamdouh Gouda</i>	

Track: 12(L) Transport, Logistics, Harbour, Shipping and Marine

Detection and Classification of Moving Objects by Using Real Time Traffic Flux through Differential and Graphical Analysis	414
<i>H.S. Mohana, M. Ashwathakumar, G. Shivkumar, and Manjunatha K.C.</i>	
Pseudonym Based Mechanism for Sustaining Privacy in VANETs	420
<i>Brijesh Kumar Chaurasia, Shekhar Verma, Geetam Singh Tomar, and S.M. Bhaskar</i>	

Track: 14(N) Parallel and Distributed Architectures and Systems

Agent Based Replica Placement in a Data Grid Environment	426
<i>Shaik Naseera and K.V. Madhu Murthy</i>	
Reducing Feed-Forward Neural Network Processing Time Utilizing Matrix Multiplication Algorithms on Heterogeneous Distributed Systems	431
<i>Ali Kattan, Rosni Abdullah, and Rosalina Abdul Salam</i>	
A Communication-Centric Embedded System Architecture (ACCESA)	436
<i>Radha Guha</i>	
PASE: P2P Network Based Academic Search and File Sharing Application	442
<i>Amol Vasudeva, J. Sandeepan, and Nitin Kumar</i>	

Track: 15(O) Internet Modelling, Semantic Web and Ontologies

Semantic Similarity Based Focused Crawling	448
<i>Mehdi Ravakhah and Mohsen Kamyar</i>	
Fuzzy Two Time-scale Congestion Control Algorithm	454
<i>Mehdi Mohtashamzadeh, Mohsen Soryani, and Mahmoud Fathy</i>	
Toward the Intelligent Web Systems	459
<i>Radha Guha</i>	

Track: 16(P) Mobile Ad hoc Networks

Design of Energy Efficient Scheme for Conducting Secure E-Class Application on MANET	464
<i>Ekta Verma, Jibi Abraham, and Snehlata Yadav</i>	
A Novel Approach towards Cost Effective Region-Based Group Key Agreement Protocol for Ad Hoc Networks	470
<i>K. Kumar, J. Nafeesa Begum, and V. Sumathy</i>	
Remote Surveillance System over MANET	476
<i>Bathrun J., Manju R., Darshana R., and Kathiravan K.</i>	
Throughput Enhancement of Multi-hop Static Ad-hoc Networks through Concurrent Transmission	482
<i>Rajesh Verma, Arun Prakash, Rajeev Tripathi, and Neeraj Tyagi</i>	

Track: 17(Q) Vehicular Technology and Networks

A Class of ANFIS Based Channel Equalizers for Mobile Communication Systems	486
<i>K.C. Raveendranathan</i>	

Track: 19(S) QoS for Voice and Video in Wireless Networks

Call Admission Control Approaches in Beyond 3G Networks Using Multi Criteria Decision Making	492
<i>Ramesh Babu H.S., Gowri Shankar, and Satyanarayana P.S.</i>	
User Centric Quality of Experience Testing for Video on Demand over IMS	497
<i>Alhad Kuwadekar and Khalid Al-Begain</i>	
Multimedia Transmission over Wireless LANs	505
<i>K. Kathiravan, R. Ramya, and Tinu Sara Titus</i>	
Performance Evaluation Techniques for Mobile Communication Systems	511
<i>Ranjeet Singh Tomar and Geetam Singh Tomar</i>	

Author Index