

2012 Second International Conference on Advanced Computing & Communication Technologies

(ACCT 2012)

**Rohtak, Haryana, India
7 – 8 January 2012**



**IEEE Catalog Number: CFP1203S-PRT
ISBN: 978-1-4673-0471-9**

2012 Second International Conference on Advanced Computing & Communication Technologies

ACCT 2012

Table of Contents

Message from General Chair.....	xiii
Message from Program Chair.....	xiv
Organizing Committee.....	xv
Programme Committee.....	xvi
Reviewers.....	xvii

Session 1: Software Engineering

Use of Clonal Selection Algorithm as Software Test Data Generation Technique	1
<i>Ankur Pachauri and Gursaran</i>	
Analysis of Clustering Techniques for Software Quality Prediction	6
<i>Deepak Gupta, Vinay Kr. Goyal, and Harish Mittal</i>	
Analysis and Modelling of Websites Quality Using Fuzzy Technique	10
<i>Harish Mittal, Monika Sharma, and J.P. Mittal</i>	
To Achieve Trust in the Cloud	16
<i>Khalasi Gaurangkumar and Chaudhari Minubhai</i>	
A Study of Pair Programming in the Context of Facilitating the Team Building	20
<i>Manisha Giri and Meeta Dewangan</i>	
Adoption of Knowledge Management Practices in Software Engineering Organizations: A Survey of Software Engineers' Perceptions	24
<i>Neeraj Sharma, KawaJeet Singh, and D.P. Goyal</i>	
Experience Base Approach to Software Process Improvement: Comparative Analysis and Design of Improved Model	30
<i>Neeraj Sharma, KawaJeet Singh, and D.P. Goyal</i>	

A Clustered Approach to Analyze the Software Quality Using Software Defects	36
<i>Puneet Dhiman, Manish, and Rakesh Chawla</i>	
Optimization of Automation in Fuzzy Decision Rules	41
<i>Renuka Arora and Rishu Bhatia</i>	
Analyzing Object Models with Theory of Innovative Solution	46
<i>S.B. Goyal, Aarti Goyal, Pratima Sharma, and Neha Singh</i>	
Software Tools Required to Develop GIS Applications: An Overview	51
<i>Shams Tabrez Siddiqui, Md. Saquib Alam, and Mohammad Ubaidullah Bokhari</i>	
Flexible Discrete Software Reliability Growth Model for Distributed Environment Incorporating Two Types of Imperfect Debugging	57
<i>Sunil Kumar Khatri, P.K. Kapur, and Prashant Johri</i>	

Session 2: Data Warehouse and Data Mining

Profound Survey on Cross Language Information Retrieval Methods (CLIR)	64
<i>B. Ashwin Kumar</i>	
Genetic Algorithm Approach to Automated Discovery of Comprehensible Production Rules	69
<i>Basheer Mohamad Ahmad Al-Maqaleh</i>	
Revisiting Interestingness Measures for Knowledge Discovery in Databases	72
<i>Jyoti Vashishtha, Dharminder Kumar, and Saroj Ratnoo</i>	
Stock Prediction by Fuzzy Neural Networks	79
<i>Manoj B. Karathiya, Diler Singh Sakshi, and Ravinder Singh Sakshi</i>	
Preprocessing and Symbolic Representation of Stock Data	83
<i>Mukesh Kumar and Arvind Kalia</i>	
Performance Analysis of Clustering Methods for Outlier Detection	89
<i>Poonam and Maitreyee Dutta</i>	
A Survey and Future Vision of Data Mining in Educational Field	96
<i>R. Barahate Sachin and M. Shelake Vijay</i>	

Session 3: Artificial Intelligence

A Web-Based Patient Support System Using Artificial Intelligence to Improve Health Monitoring and Quality of Life	101
<i>U.M. Ashwinkumar and K.R. Anandakumar</i>	
Neuro-fuzzy Control of an Intelligent Mobile Robot	106
<i>Dinesh Kumar and Kapil Dhama</i>	
Implementation of Symmetric Key Using DLcs for Wireless Sensor Network	112
<i>Nipin Singla and Malay Ranjan Tripathy</i>	

Multi-agent Planning in Grid World Domain	117
<i>Satyendra Singh Chouhan and Rajdeep Niyogi</i>	
An Efficient Method of Risk Assessment Using Intelligent Agents	123
<i>Shikha and R. Selvarani</i>	
Automated Reasoning Approach to Estimate Thermal Conductivity of Yba ₂ Cu ₃ O ₇ Superconductors	127
<i>Rakesh Mohan Bhatt</i>	

Session 4: Soft Computing

An Investigation on Quantum Teleportation	132
<i>Shefali Singhal, Anjali Jain, Anil Kr. Gankotiya, and Kadambari Aggarwal</i>	
Temperature Control Using Intelligent Techniques	138
<i>Sanju Saini and Sarita Rani</i>	
Nanoism in New Era	146
<i>Munish Gupta, Shilpa Gupta, and Sanjay Gupta</i>	
Analysis of 0/1 Knapsack Problem Using Deterministic and Probabilistic Techniques	150
<i>Ritika Mahajan and Sarvesh Chopra</i>	
Golden Search Based Artificial Bee Colony Algorithm and Its Application to Solve Engineering Design Problems	156
<i>Tarun Kumar Sharma and Millie Pant</i>	

Session 5: Communications and Control Systems

Performance Evaluation of Algorithms for Wavelength Assignment in Optical Ring Network	161
<i>Anuj Singal and R.S. Kaler</i>	
Design and Simulation of 32-Point FFT Using Radix-2 Algorithm for FPGA Implementation	167
<i>Asmita Haveliya</i>	
Approaches to Channel Equalization	172
<i>Harmandeep Singh and S.S. Gill</i>	
Implementation of IPsec Protocol	176
<i>Hitesh Dhall, Dolly Dhall, Sonia Batra, and Pooja Rani</i>	
Process Control of Power Plant Superheater-A Matlab/Simulink Approach	182
<i>Jaideep Panjeta, H.M. Rai, Naresh Kumar, and Nancy Arora</i>	
A Comparative Study of Error Detection and Correction Coding Techniques	187
<i>Jatinder Singh and Jaget Singh</i>	
Automatic Ambulance Rescue System	190
<i>K. Athavan, G. Balasubramanian, S. Jagadeeshwaran, and N. Dinesh</i>	

Noise Detection in IIR Digital Filter Using Matlab	196
<i>Er. Krishan, Er. Kapil Gulati, Er. Munish Gupta, and Er. Rajni</i>	
A Min-Max Approach to Perform Load Balancing in Distributed Network	200
<i>Manish and Rupinder Kaur Cheema</i>	
Fuzzy Based Real Time Traffic Signal Controller to Optimize Congestion	
Delays	204
<i>Parveen Jain and Manoj Sethi</i>	
BER Analysis of Incoherent SAC-OCDMA System Using ZVCC in a Noisy Environment	208
<i>Swati Sharma and Preeti</i>	
Design and Analysis of Hollow Star Shape Fractal Antenna	211
<i>Priyanka Bansal and Sandeep Tayal</i>	
Performance Evaluation of OFDM System in Terms of PAPR	214
<i>Priyanka Sharma</i>	
Design of Robust Control for Perturbed Systems Using QFT	219
<i>Puneet Pahuja and H.M. Rai</i>	
Simulation of D-STATCOM for Voltage Fluctuation	225
<i>Rupal Singh and Dushyant Kumar Singh</i>	
VANET-Challenges in Selection of Vehicular Mobility Model	231
<i>Sandeep Tayal and Malay Ranjan Tripathi</i>	
An Improved Performance Ring Oscillator Design	236
<i>Shruti Suman, Monika Bhardwaj, and B.P. Singh</i>	
An Improved Nonlinear Decision Based Algorithm for Removal of Blotches and Impulses in Grayscale Images	240
<i>Geeta Hanji, M.V. Latte, and N.M. Shweta</i>	
Simulation and Optimal Design of a Monofilar Helix Antenna for 1420 MHz	245
<i>Tushar Sharma</i>	
Face Recognition Using PCA and LDA Algorithm	251
<i>Abhishek Bansal, Kapil Mehta, and Sahil Arora</i>	
Feature Extraction of Currency Notes: An Approach Based on Wavelet Transform	255
<i>Amir Rajaei, Elham Dallalzadeh, and Mohammad Imran</i>	
Generation and Propagation of Image Graphics for Printing & Packaging Industries	259
<i>Arohit Goyat and Kuldeep Soni</i>	
Spatial and Spectral Quality Evaluation Based on Edges Regions of Satellite: Image Fusion	265
<i>Firouz Abdullah Al-Wassai, N.V. Kalyankar, and Ali A. Al-Zaky</i>	

De-noising Filters for TEM (Transmission Electron Microscopy) Image of Nanomaterials	276
<i>Himmat S. Kushwaha, Sanju Tanwar, K.S. Rathore, and Sumit Srivastava</i>	
A Predictive Approach for a Real-Time Remote Visualization of Large Meshes	282
<i>Justin-Hervé Noubissi, Christophe Guillet, and Jean-Luc Martinez</i>	
Gray Image Extraction Using Fuzzy Logic	289
<i>Koushik Mondal, Paramartha Dutta, and Siddhartha Bhattercharyya</i>	
Biometrics Security Concerns	297
<i>Neha Dahiya and Chander Kant</i>	
Modelling of Audio-visio-Tactile (AVT) Machine	303
<i>Piyush Agrawal, Raj Kumar Yadav, Mohammed Asim, and Md. Waseem Ahmad</i>	
Colour Image Steganography Based on Modified Quantization Table	309
<i>Sunny Sachdeva and Amit Kumar</i>	
Image Localization in Gesture Recognition	314
<i>Sweta A. Raut, Nitin J. Janwe, and Nitin Raut</i>	
Gesture Based Operating System Control	318
<i>Yuvraj V. Parkale</i>	

Session 6: Advanced Computing

Optimization of Low Power 7T SRAM Cell in 45nm Technology	324
<i>Anie Jain and Sanjay Sharma</i>	
Mesh Based Parallel Algorithm for Finite Exponential Function	328
<i>Ashish Gupta</i>	
A Fast Parallel Prefix Algorithm on OTIS-Modified Mesh of Trees	331
<i>Ashish Gupta</i>	
Heavy Metal Analysis in Urtica Dioica Aerial Parts Using Automatic Atomic Absorption Spectrophotometer Controlled via Computer Data System	337
<i>Chhavi Singla, Sushma Drabu, and Mohammad Ali</i>	
Leakage Reduction in 7T Using SVL Scheme	339
<i>Gaurav Dixit and Shyam Akashe</i>	
TOAD-based Feynman and Toffoli Gate	343
<i>Goutam Kumar Maity, Santi P. Maity, and Jitendra Nath Roy</i>	
Testing and Formal Verification of Decoder Circuit	350
<i>Indu Bhuria, Pawan Inaniya, and Pramod Kaler</i>	
Impact of Design Parameter on SRAM Bit Cell	353
<i>Jayram Shrivastava and Shyam Akashe</i>	

Data-Aware Virtual Machine Placement and Rate Allocation in Cloud Environment	357
<i>Kamran Zamanifar, Nader Nasri, and Mohammad-Hossein Nadimi-Shahraki</i>	
Modeling and Simulation of 7T SRAM Cell at Various Process Corners at 45 nm Process Technology	361
<i>Khushboo Mishra and Shyam Akashe</i>	
Design of Low Power Low Cost True RMS-to-DC Converter	364
<i>Kopal Gupta, Monika Bhardwaj, B.P. Singh, and Rockey Choudhary</i>	
Design of Low Voltage Low Power Operational Amplifier	368
<i>Manju Sandhu and Manju Bala</i>	
New Technique for Reducing Sub-threshold Leakage in SRAM	374
<i>Monika Yadav and Shyam Akashe</i>	
Design of Low Power Low Input Impedance CMOS Current Comparator	378
<i>Rockey Choudhary, Monika Bhardwaj, B.P. Singh, and Kopal Gupta</i>	
A Novel Cloud Bursting Brokerage and Aggregation (CBBA) Algorithm for Multi Cloud Environment	383
<i>Pritesh Jain, Dheeraj Rane, and Shyam Patidar</i>	
Enhancement of Parameters for 7T SRAM Cell in Nanometer Era	388
<i>Shyam Akashe, Vinod Rajak, Gunakesh Sharma, and Sanjay Sharma</i>	
A Survey Paper on Cloud Computing	394
<i>Shyam Patidar, Dheeraj Rane, and Pritesh Jain</i>	
A Parallel Architecture for In-Line Data De-duplication	399
<i>Seetendra Singh Sengar and Manoj Mishra</i>	

Session 7: Web Applications & Security

A Novel Approach towards Mutual Authentication and Key Exchange Protocol Based on Elliptic Curve	404
<i>Ajit Singh and Rahul Rishi</i>	
Paper Review on Sharable Content Object Reference Model (SCORM): Framework for E-learning Standard	409
<i>Akanksha Parmar</i>	
VLSI Implementation of Advanced Encryption Standard	412
<i>Chetna Sangwan, Chetna Bhardwaj, Nisha, and Taruna Sikka</i>	
A SSL Based Approach to Enhance Security and QOS in Grid Networks	419
<i>Rakesh Chawla, Puneet Dhiman, and Sudhanshu Prakash Tiwari</i>	

Session 8: Wired & Wireless Communications

Modified Integer Factorization Algorithm Using V-Factor Method	423
<i>Prashant Sharma, Amit Kumar Gupta, and Ashish Vijay</i>	
Modified RSA Encryption Algorithm (MREA)	426
<i>Ravi Shankar Dhakar, Amit Kumar Gupta, and Prashant Sharma</i>	
Security Solutions for Wireless Sensor Networks	430
<i>Abhishek Jain, Kamal Kant, and M.R Tripathy</i>	
Air Pollution Detection Based on Head Selection Clustering and Average Method from Wireless Sensor Network	434
<i>Amnesh Goel, Sukanya Ray, Prateek Agrawal, and Nidhi Chandra</i>	
A Novel CMOS Power Amplifier for UWB Application	439
<i>Ancy Aleena Abraham and P. Manikandan</i>	
Localization Schemes in Wireless Sensor Networks	443
<i>Anita Panwar and Sh. Ashok Kumar</i>	
A Novel CMOS Low Noise Amplifier for UWB Application	450
<i>P. Manikandan and Anu Shaju Areeckal</i>	
Constant-k and m-Derived Composite Low Pass Filter Using Defected Ground Structure	454
<i>Ashwani Kumar, Nainu Priya Chaudhari, and A.K. Verma</i>	
Scheduling Algorithms in a WiMAX Network	457
<i>Brijesh Kumar and Pooja Gupta</i>	
Architecture for Inter-cloud Services Using IPsec VPN	463
<i>M.S. Dayananda and Ashwin Kumar</i>	
QoS in WLAN Using IEEE802.11e: Survey of QoS in MAC Layer Protocols	468
<i>Deep Kaur, Kirandeep Kaur, and Vishal Arora</i>	
Routing Protocols in Wireless Sensor Networks: A Survey	474
<i>Deepak Goyal and Malay Ranjan Tripathy</i>	
Analysis of Successive Interference Cancellation in CDMA Systems	481
<i>G.S. Deepthy and R.J. Susan</i>	
Performance of Different Bit Loading Algorithms for OFDM at PLC Channel	486
<i>Isha, Pankaj Rana, and Ravikant Saini</i>	
Radio Frequency Identification: Applications and Security Issues	490
<i>Karamdeep Singh and Gurmeet Kaur</i>	
Energy Efficient Data Transfer in Secure Wireless Sensor Networks	495
<i>Madhu, Alpana Dahiya, and Brahmprakash Dahiya</i>	
Analysis and Design of a Reliable Packet Transfer Mechanism for WIMAX	500
<i>Mangal Sain and H.M. Rai</i>	

Transverse Resonance Phenomena Based Low Pass Filter	505
<i>Nainu Priya Chaudhari, Ashwani Kumar, and A.K. Verma</i>	
Security Analysis of Identity Based Cryptography and Certificate Based in Wimax Network Using Omnet++ Simulator	509
<i>Naveen Chauhan and Rakesh Kumar Yadav</i>	
Wireless Communication in Biomedical Sensors	513
<i>Poonam A. Yadav</i>	
Approach for Improvement in LEACH Protocol for Wireless Sensor Network	517
<i>Reetika Munjal and Bhavneesh Malik</i>	
An Investigation of Wireless Sensor Network: A Distributed Approach in Smart Environment	522
<i>Shivi Singhal, Anil Kumar Gankotiya, Shikha Agarwal, and Tarachand Verma</i>	

Session 9: Mobile Ad Hoc Networks

Security Protocols in MANETs	530
<i>Suresh Kumar, Gaurav Pruthi, Ashwani Yadav, and Mukesh Singh</i>	
DoS Attacks in Mobile Ad Hoc Networks: A Survey	535
<i>Rutvij H. Jhaveri, Sankita J. Patel, and Devesh C. Jinwala</i>	
Performance Evaluation of Hybrid Routing Protocols in Mobile Ad Hoc Networks	542
<i>Avni Khatkar and Yudhvir Singh</i>	
The Black-Hole Node Attack in MANET	546
<i>Nidhi Sharma and Alok Sharma</i>	
Path Discovery in Vehicular Ad Hoc Networks	551
<i>Alpana Dahiya, Madhu, and Niyati Bansal</i>	
A Novel Approach for GrayHole and BlackHole Attacks in Mobile Ad Hoc Networks	556
<i>Rutvij H. Jhaveri, Sankita J. Patel, and Devesh C. Jinwala</i>	
Simulation Based Evaluation of Reactive Routing Protocol for MANET	561
<i>Anand Nayyar</i>	
Author Index	569