2015 International Conference on Smart Technologies and Management for Computing, Communication, Controls, Energy and Materials

(ICSTM 2015)

Avadi, Chennai, India 6-8 May 2015



IEEE Catalog Number: ISBN:

CFP15B55-POD 978-1-4799-9856-2

Contents

	Messages	iii
	Preface	vi
	Invited Speakers	vii
	Committees	ix
	COMPUTING	
1.	Analyzing the Query Performances of Description Logic based Service Matching using Hadoop K. Jayasri, R. Rajmohan and D. Dinagaran	1
2.	Vision Based Gesturally Controllable Human Computer Interaction System S. Veluchamy, L.R. Karlmarx and J. Jeya Sudha	8
3.	Named Entity Recognition for Malayalam Language: A CRF based Approach Gowri Prasad, K.K. Fousiya, Dr. M. Anand Kumar and Dr. K.P. Soman	16
4.	An Approach to Identify Subject Specific Human Emotions Swagata Sarkar and Dr. H. Ranganathan	20
5.	A Novel Knowledge – Engineering based Approach for Anaphora Resolution of Tamil Pronouns Dr. R. Padmamala	24
6.	Contemporary Semantic Search using Natural Language Processing N. Anish Kumar, Senduru Srinivasulu and M.N. Dinesh Kanna	30
7.	DD-SARP: Dynamic Data Secure Anonymous Routing Protocol for MANETs in Attacking Environments S. Imran, R. Vimal Karthick and P. Visu	39
8.	Question Answering System: A Survey Ashish Mathur and M.T.U. Haider	47
9.	Authentication of MAV Communication using Caesar Cipher Cryptography B.S. Rajatha, Dr. C.M. Ananda and S. Nagaraj	58
10.	RMCHS: Ridge Method Based Cluster Head Selection for Energy Efficient Clustering Hierarchy Protocol in WSN K. Arul Prasath and T. Shankar	64
11.	Digital Brand Management — A Study on the Factors Affecting Customers' Engagement in Facebook Pages V. Mangala Vadivu and Dr. M. Neelamalar	71
12.	Imail: Webmail Service in Indian Languages Dasari Sai Ganesh, Senthil Murugan Tamilarasan and Jahnavi Bodhankar	76

13.	Effective Preprocessing of Speech and Acoustic Features Extraction for Spoken Language Identification Abhijeet Kumar, H. Hemani, N. Sakthivel and S. Chaturvedi	81
14.	Comparative Analysis of Machine Learning Algorithms along with Classifiers for Network Intrusion Detection Sumouli Choudhury and Anirban Bhowal	89
15.	IMMIX-Intrusion Detection and Prevention System Sarode Harshal Vasudeo, Prof. Pravin Patil and R. Vinoth Kumar	96
16.	Reversible Watermarking using Median Based Prediction and Dynamic Prediction Error Histogram Shifting Nikhil M. Mathpati and S.N. Kore	102
17.	Migration to Ipv6 From IPV4 by Dual Stack and Tunneling Techniques S. Aravind and G. Padmavathi	107
18.	Development of Safety Zone Detection and Collision Avoidance using Wireless Network C. Chellaswamy, T. Rammohan, Y. Swarna, R. Raja Bharathi and R. Saranya	112
19.	An XML based Data Representation Model to Discover Infrastructure Services Jyothi Shetty and Demian Antony D'Mello	119
20.	Quality of Service Driven Cloud Service Ranking and Selection Algorithm using REMBRANDT Approach Jyothi Shetty and Demian Antony D'Mello	126
21.	Building a Mobile Personalized Marketing System using Multidimensional Data J. Jeya Barathi, G. Kavitha and M. Mohamed Imran	133
22.	Crop Selection Method to Maximize Crop Yield Rate using Machine Learning Technique Rakesh Kumar, M.P. Singh, Prabhat Kumar and J.P. Singh	138
23.	Identifying the Impact of Defects among the Defect Types in Software Development Projects R. Anand, Dr. K. David and Dr. S. Stanley Sagayaraj	146
24.	An Open Framework to Geotag and Locate Plants Around the World Riyad Dhuny, G. Sajeevan and Satish Pardeshi	153
25.	Detection and Analysis of Waterborne Bacterial Colonies using Image Processing and Smartphones Meet Poladia, Pawankumar Fakatkar, Sachin Hatture, S.S. Rathod and Sanjana Kuruwa	159
26.	Efficient and Effective Security Model for Database Specially Designed to Avoid Internal Threats Aditya A. Shastri and Dr. P.N. Chatur	165
27.	Obtaining Hand Gesture Parameters using Image Processing Alisha Pradhan and B.B.V.L. Deepak	168
28.	Optimized Path Planning Mechanism for Localization in Wireless Sensor Networks M.S. Aruna, R. Ganesan and A. Pravin Renold	171
29.	Distributed Detection of Flooding and Gray Hole Attacks in Wireless Sensor Network N. Dharini. Ranjith Balakrishnan and A. Pravin Renold	178

30.	Hybrid Routing Model for Multi Hop Heterogeneous Sensor Network P. Kavitha Rani and E. Kannan	185
31.	Simulation of Speech by Identifying and Classifying Dynamic Gestures Sanjivi Muttena, R. Shiva, S. Sriram and Dr. S. Murugavalli	192
32.	Desktop Phishing Attack Detection and Elimination using TSO Program <i>M.K. Priyan, C. Gokul Nath, E. Vishnu Balan, Prof. K.P. Rama Prabha, Prof. R. Jeyanthi</i>	198
33.	Preservation of Privacy in Data Mining by using PCA Based Perturbation Technique C. Gokulnath, M.K. Priyan, E. Vishnu Balan, Prof. K.P. Rama Prabha and Prof. R. Jeyanthi	202
34.	Simulation of Cloud Infrastructure using CloudSim Simulator: A Practical Approach for Researchers Pravesh Humane and Prof. J.N. Varshapriya	207
35.	Catastrophe Alert System using Social Networks G. Tamilmani, K. Rajathi and P. Ponnaruvi	212
36.	Authentication and Encryption in Cloud Computing Lt. Col. Jatinder Paul Singh, Dr. Mamta and Sunil Kumar	216
	COMMUNICATION	
37.	Multi Channel Data Acqusition and Data Logging System for Meteorology Application Nisha Kashyap and Umesh Chandra Pati	220
38.	Reusable SOLS Structures for DSRC Communications Arya Krishnan and L.S. Anusree	226
39.	Optimization of Energy and Spectral Efficiency of Massive MIMO-Small Cell System Prasad Rayi and M.V.S. Prasad	233
40.	Design of Ultra Low Power Novel 3-Bit Flash ADC in 45nm CMOS Technology Moushumi Das, Bipasha Nath, Durba Sarkar, Aditi Kar and Alak Majumder	239
41.	Issues in NFC as a Form of Contactless Communication: A Comprehensive Survey Shirsha Ghosh, Joyeeta Goswami, Abhishek Kumar and Alak Majumder	245
42.	Design of Differential Mode Wideband Bandpass Filter with Common Mode Suppression using Modified Branch Line Coupler Sachin Kumar and I. Srinivasa Rao	253
43.	Implementation of Modbus RTU and Modbus TCP Communication using Siemens S7-1200 PLC for Batch Process Sadik Tamboli, Mallikarjun Rawale, Rupesh Thoraiet and Sudhir Agashe	258
44.	An Adaptive Face-Recognition Method based on Phase Information Rahul Ray and Suvendu Kumar Dash	264
45.	A Low Power Low Noise VCO and a High Gain LNA for WSN in 130nm CMOS RF Technology Arnov Mukherjee, Pankaj H. Rangaree and Gajendra M. Asutkar	268
46.	Implementation of Ternary Logic Gates using FGMOS Perni Venu Gopal, Satish Narkhede and G. Sasikala	275

47.	Design and Development of Surface Coil for 1.5T MRI Scanner <i>Abhay M. Morey, Sheetal Bhujade, Tapas Bhuiya, Samruddha Thakur and Twisha Pandey</i>	280
48.	Hybrid Approach for Identification and Modelling of Non Linear Chaotic Signals Sruthi Sreekumar and Dr. Sanjay Badjate	285
49.	An Improved FPGA based Model for Automatic Traffic Sign Detection Mohan Chandra Pradhan, Sambit Satpathy and Bandan Kumar Bhoi	291
50.	Complete Decoupling of Multivariable Systems by Means of Dynamic State Feedback Devi C. Arati, S. Narayanan and N. Sivakumaran	299
51.	A Novel Approach for Fiber Channel based Video Protocol Shweta B. Patil, Naimahmed Nesaragi, B. Pradeep Kumar and Dr. C.M. Ananda	307
52.	Design of CSRR Loaded MIMO Antenna for ISM Band Application <i>M.V. Satishkumar and K.R. Kashwan</i>	313
53.	64 Bit Divider using Vedic Mathematics Aditi Tadas and Prof. Dinesh Rotake	317
54.	Design of Programmable Gain Amplifier for Dosimetry of Variable Energies in Radiotherapy <i>Akshay B. Patil, Rajesh Patil, Mandar Vidwans and Sanjay Pethe</i>	321
55.	FPGA Implementation of Discrete Wavelet Transform using Distributed Arithmetic Architecture C.S. Avinash and John Sahaya Rani Alex	326
56.	Average Direct and Quadrature Axis Based Reference Current Generation for Shunt Active Filter using Xilinx Blockset Toolbox – A Simulink Approach R. Sriranjani and S. Jayalalitha	331
57.	Power Loss Reduction by Optimal Location of DG using Fuzzy Logic Rudresh B. Magadum and D.B. Kulkarni	338
58.	Direct Sequence Spread Spectrum Transmission and Reception using Compression Techniques Harshali Mane, K.Y.K. Kumari, G.B.N. Vamsidhar, A. Kartheek, A. Vinay Kumar and M. Venugopala Rao	344
59.	Reclamation of Zero Discharge System with CDTS Technology Sanjeev Singh Verma and Abhinav Singh	348
60.	Secure Communication Over Trellis: Graph Theoretic Approach C. Pavan Kumar, R. Selvakumar and K. Raghunadh Bhattar	353
61.	Comparative Analysis of Low Power Novel Encoders for Flash ADC in 45nm Technology Aditi Kar, Moushumi Das, Bipasha Nath, Durba Sarkar and Alak Majumder	360
62.	A Novel Concept of Smart Headphones using Active Noise Cancellation and Speech Recognition Amit Baran Roy, Apratim Halder, Rahul Sharma and Veena Hegde	366
63.	IoT Based Access and Analysis of Wireless Sensor Node Protocols with Low Power Host Connectivity Sarfaraj Hussain, Mayur Kulkarni and C. Malathi	372
64.	Wireless Sensor Network System using Raspberry Pi and Zigbee for Environmental Monitoring Applications Sudhir G. Nikhada	376

65.	MOEMS Based Ultrasensitive Micro Displacement Sensors for the Membrane Applications Kavya V. Ullal, O.V. Johnson and Dr. Preeta Sharan	382
66.	FPGA Prototyping of Vehicle Trajectory Display for Reverse Parking - A State of the Art Survey Arpana Jane Lawrence, N. Avinash and A. Yogaraj	389
67.	Canal Automation using LabVIEW Shubhangi P. Bhat and Prof. Sunil. R. Hirekhan	392
68.	Efficient Bus Arbitration Protocol for SoC Design Jagrati Gupta and Nidhi Goel	396
69.	An Optimal PMU-PDC Placement Technique in Wide Area Measurement System J. S. Bhonsle and A.S. Junghare	401
70.	Design of Low Power 0.8V Flash ADC using TIQ in 90nm Technology Ranam Sireesha and Abhishek Kumar	406
71.	A Novel Low Power and High Speed Multiply-Accumulate (MAC) Unit Design for Floating-Point Numbers N. Jithendra Babu and Rajkumar Sarma	411
	CONTROLS	
72.	An Efficient Speed Control Method for Two Mass Drive Systems using ADALINE J. Nandana and A.S. Anas	418
73.	Stepped Segment LFSR for Low Test Power BIST B.V. Bhargav Ram, G. Harish and Shiva Yelampalli	424
74.	Hardware Trojan Self-Detector N. Ravi Kiran, M. Ritesh, G. Harish and Siva Yellampalli	428
75.	Test Power Aware STUMP BIST M.R. Gowthami, N. Ravi Kiran, G. Harish and Siva Yellampalli	434
76.	Detection and Analysis of Hardware Trojan using Dummy Scan Flip-Flop M. Rithesh, G. Harish and Siva Yellampalli	439
77.	Design of Control Unit for CNC Machine Tool using Arduino based Embedded System Dev P. Desai and Dr. D.M. Patel	443
78.	Adaptive Synchronization of Novel Chaotic System and its FPGA Implementation R. Ramesh Babu and R. Karthikeyan	449
79.	Design & Implementation of MQAM based IEEE 802.15.4/ZigBee Tranceiver using HDL Vivek P. Supare, Bharati B. Sayankar and Pankaj Agrawal	455
80.	Design and Simulation of Perturb and Observe Maximum Power Point Tracking in MATLAB and Simulink Manoj Patil and Amruta Deshpande	459
81.	An Industrial Research on GUI Testing Techniques for Windows based Application using UFT Ravi Narkhede, Sapana Korde, Avinash Darda and Saurabh Sharma	466

82.	Beta Real Time Interface for Deaf and Global Entity (Bridge) M. Sethuraman, Abhinav Rajan and K.P. Sai Saran	472
83.	Implementation of an Embedded System of UART and LED using UBOOT & Linux V. Mahalakshmi, Ashmita Anna Mathew, S. Subash Chandra Bharathi and J. Agnus Jenith	477
	ENERGY	
84.	Implementation of Metering Practices in Smart Grid Velhal Geeta Vilas, Avani Pujara, Dr. S.M. Bakre and Dr. V. Muralidhara	484
85.	Power Based Modeling and Stabilization of Telegraphers Equations Rahul Ghule, Srinivas Doddi, S. Wagh, F. Kazi and N.M. Singh	488
86.	Active Cabin Safety System for M1 Category Vehicles Surender Dhanasekaran, Aniket Katekar, Sivaraman Kumarasamy and Mathi Yugandhara Rao	494
87.	GRIHA Norm Evaluation – A Field Study in Uttarakhand, India Jasmeen Sandhu, Akshaya Tripathi, Kartik Arunachala and Madhu Sharma	499
88.	Virtual Instrumentation based Wavelength Tuning of Quantum Cascade Laser for Multiple Trace Gas Sensing Application Devendra Shetye, M.S. Panse, N. Sreevalsen, S. Chourasia and A.J. Verma	504
89.	Three Dimensional Solar Tracker with Unique Sensor Arrangement Pratik Arlikar, Abhijit Bhowmik, Manoj Patil and Amruta Deshpande	509
90.	The Multi-Input Renewable Source Inverter with Current Fed Isolated Half Bridge Converter and the H-Bridge Inverter <i>H.S. Raghavendra</i>	514
91.	Subpixel Measurements for Unoccluded Circular Object in Machine Vision Chandesh Sayaji Ghule and Prof. Dr. M.S. Panse	521
92.	Model Development and Adaptive Control Implementation of a 3-Axis Platform Stabilization System Sanjoy Paik, M.P. Nandakumar and S. Ashok	526
93.	A Step Forward in Précising Building Roof Top Areas for Solar PV Installations Akshaya Tripathi, Jasmeen Snadhu, Kartik Arunachalam and Saurabh Biswas	532
94.	Dynamic Power Factor Control of Single Phase AC System with Zero Voltage Switching V. Thiyagarajan, K. Sudharsan, M. Kumaran and S. Shanmuga Sundaram	538
95.	A Web-Based Monitoring and Control of DC Motor using LabVIEW Environment Harshatej K. Rane and S. K. Parchandekar	543
96.	Wireless Home Energy Consumption Control based on Prioritised Load Switching S. Bhuvaneswari, B. Satish and R. Mahalaksmi	548
97.	Novel Fourier Multiple Orthogonal Window to Gauge Damping and its Vindication on Real Time Info R. Gopikaramanan, R. Praburaja, Sivaraj Panneerselvam and Surender Dhanasekaran	554

98.	Performance Analysis of Solar Photovoltaic Module for Multiple Varying Factors in Matlab/Simulink S.S. Inamdar and A.P. Vaidya	562
99.	Fuel Cell Power Penetration into AC Distribution Grid by using New Cascade Multilevel Inverter with Minimum Number of Switches M. Venkateshkumar and Dr. R. Raghavan	568
100.	Cuckoo Search Algorithm based Environmental Economic Dispatch of Microgrid System with Distributed Generation S. Vasanthakumar, N. Kumarappan, R. Arulraj and T. Vigneysh	575
	MATERIALS	
101.	Factors in Development of Semi-Active Suspension for Ground Vehicles S. Srinivasan, P. Shanmugam, U. Solomon and P. Sivakumar	581
102.	Dynamics and Control of Collaborative Robot Manipulators Balasubramanian Esakki and S. Riyaz Ahmed	590
103.	Wireless Mobile Robot Control through Human Machine Interface using Brain Signals L. Ramya Stephygraph, N. Arunkumar and V. Venkatraman	596
104.	Evaluation of Chalkiness in Basmati Rice by Virtual Instrumentation Jyoti D. Bambole and Prof. K.A. Ghodinde	604
105.	Safeguarding of Motorcyclists Through Helmet Recognition G. Sasikala, Kiran Padol, Aniket A. Katekar and Surender Dhanasekaran	609
106.	Performance Analysis of Emotional Controller for Permanent Magnet Synchronous Motor Drive Md Qutubuddin and Dr. N. Yadaiah	613
107.	A Low Cost Thermal Imaging System for Medical Diagnostic Applications S. Sruthi and M. Sasikala	621
108.	Design and Electro-Thermo-Mechanical Analysis of High Temperature Molybdenum Microheaters for Exhaust Gas Sensing Applications L.L. Rajeswara Rao, M.K. Singha, M.S. Kiruba and J Nagaraju	624
109.	A Conditional-Proportional Damper Schedule for Semi-Active Suspension of Ground Vehicles G. Srinivasan, Dr. M. Senthil Kumar and Dr. A.M. Junaid Basha	629
110.	Fault Diagnosis Operation of a Cement Kiln Process using Structural Analysis P. Nivetha, V. Gomathi, K. Ramkumar, G. Balasubramanian and M. Guruprasath	637
111.	Use of Fuzzy Topsis Techniques for Selection of Best Alternatives of Blood Bank Supply Chain P. Mathiyalagan	644
112.	A Comparison Study on Residuals and Estimated Residuals in Spyrometer of a Cement Rotary Kiln using Kalman Filter Estimation Pritish Kumar Moharana, M. Guruprasath, K. Ramkumar, V. Gomathi and G. Balasubramanian	650
113.	Experimental and Computational Evaluation of Temperature Difference of a Cascade Condenser of R134a-R23 Cascade Refrigeration System P.L. Rupesh, J.M. Babu, D. Surryaprakash and Dr. R.D. Misra	659

114.	Sustainable Machining Utilizing Vegetable Oil Based Nanofluids P.N. Rao and R.R. Srikant	664
	AUTHOR INDEX	673