2016 International Conference on Computational Techniques in Information and Communication Technologies (ICCTICT 2016)

New Delhi, India 11 – 13 March 2016



IEEE Catalog Number: ISBN:

CFP16D80-POD 978-1-5090-0083-8

Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP16D80-POD

 ISBN (Print-On-Demand):
 978-1-5090-0083-8

 ISBN (Online):
 978-1-5090-0082-1

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



MLO1: Machine Learning and Optimization

A framework for Data Security and Storage in Cloud Computing....1

Akshita Bhandari (NIIT University & IISc, India); Ashutosh Gupta (Student, NIIT University, India); Debasis Das (NIIT University & IIT Patna, India)

A Robust Deinterlacing Multiple Image Watermarking Technique in DWT....8

Shalu Singh (Central University of Rajasthan, India); Ranjan Kumar Arya (Central University Of Rajasthan, India); Harish Sharma (Central University of Rajasthan, India)

Fast Retrieval Approach of Sentimental Analysis with Implementation of Bloom Filter on Hadoop....14

Sumit Yadav (IGDTUW Delhi & GGSIPU Delhi, India); Devendra Tayal (Indira Gandhi Delhi Technical University for Women, India)

Development of a Framework for Analyzing Terrorism Actions via Twitter Lists....19 Kuljeet Kaur (PEC University of Technology, India)

Parametric Analysis of Different GA based Distributed DSS Query Optimizer Models....25 Manik Sharma (DAV University Jalandhar, India); Gurvinder Singh (G N D U, India); Rajinder Virk (GNDU, India)

DI1: Digital India

Web Based Learning: A Research on Assessing its Effectiveness in Contrast to Traditional Classroom Learning Environment....32

Shipra Sharma (Centre of Development For Advanced Computing, India); Shalini Garg (GGSIP University, Sector 16C, Dwarka, New Delhi, India)

Krushi samriddhi: a decision support system for farmers to get high crop yield....35

Tanuja R Patil (BVBCET, India); Shamshuddin K (B V B College Hubli, India); Rajashekhar Patil (Rajaganga Farmer's Foundation, India); Sadanand P (Tontadarya College of Engineering Gadag, India)

GSM based Smart Home and Digital Notice Board....41

Aniket Pramanik (National Institute of Technology Silchar, India); Rishikesh Kumar and Vikash Nagar (NIT Silchar, India); Biplav Choudhury (National Institute of Technology Silchar, India); Satyam Dwivedi (NIT Silchar, India)

High Speed Broadband Communication System for Moving Trains using Free Space Optics....47

Ekta Saini (Indraprastha University, India); Richa Bhatia (Indraprasth University, India); Saurabh Prakash (Indraprastha University, India)

DCN1: Data Communication and Networking

DCN1.1 Storage as a Parameter for Classifying Dynamic Key Management Schemes Proposed for WSNs....51

Nisha and Mayank Dave (National Institute of Technology, Kurukshetra, Haryana, India)

DCN1.2 A Novel TWDM Architecture With Efficient Power Saving....57

Amresh Madavi (MNIT JAIPUR, India); Amit Kumar Garg (Malaviya National Institute of Technology, Jaipur, India); Rakesh Raushan (MNIT JAIPUR, India); Vijay Janyani (Malaviya National Institute of Technology, Jaipur, India)

DCN1.3 Variant of BUBBLE Rap forwarding algorithm for Delay Tolerant Networks....63 Aditya Gupta and Aditya Agrawal (Bharati Vidyapeeth's College of Engineering, India)

DCN1.4 Efficient Deployment Strategies of Sensor Nodes in Wireless Sensor Networks....69 Abhishek Singh (NIT Silchar, India); Sunandita Debnath and Ashraf Hossain (National Institute of Technology Silchar, India)

DCN1.5 A Constraint-based Biometric Scheme on ATM and Swiping Machine....74

Sweta Singh and Akhilesh Singh (Madan Mohan Malaviya University of Technology, India); Rakesh Kumar (MMM University of Technology, India)

DCN1.6 Enhancing Speech Recognition In Developing Language Learning Systems For Low Cost Androids....80

Akshay Jayakumar and Prema Nedungadi (Amrita University, India)

SE1: Software Engineering

User Profiling on Tumblr through Blog Posts....85

Ayush Mittal and Kriti Pandey (Indraprastha Institute of Information Technology, Delhi, India)

Using Lehman's Laws to Validate the Software Evolution of Agile Projects....90

Gurpreet Kour (Lovely Professional University, Phagwara & National Institute of Technology, Jalandhar, India); Paramvir Singh (National Institute of Technology Jalandhar, India)

Research of Optimal Pulse Signal Reception Quality by Mean Risk Minimum Criterion with Action of Gaussian and non-Gaussian noise....97

Rostislav Sokolov and Renat Abdullin (Ural Federal University, Russia)

VLSI1: VLSI Design and Automation

Implementation of Asynchronous Pipeline using Transmission Gate logic....101

Naman Saxena and Shruti Dutta (Delhi Technological University, India); Neeta Pandey (Delhi College of Engineering, India); Kirti Gupta (Bharati Vidyapeeth's College of Engineering & Delhi Technological University, India)

FPGA Implementation of RSA based on Carry Save Montgomery Modular Multiplication....107

Rupali Verma (PEC University of Technology, India); Maitreyee Dutta (National Institute of Technical Teachers Training & Research, Chandigarh, India); Renu Vig (Panjab University, India)

AC Analysis of Junctionless Double Surrounding Gate (JLDSG) MOSFET for Tera Hertz Applications....113

Sonam Rewari (Mahraja Agrasen Institute of Engineering and Technology, India); Vandana Nath (Guru Gobind Singh Indraprastha University, India); Satvir Singh Deswal (GGSIPU, India); R s Gupta (Maharaja Agrasen Institute of Technology, India); Subhasis Haldar (Motilal Nehru College, University of Delhi, India)

Simulation and Analysis of Si GAA Nanowire Tunneling FET....118

Neel Chatterjee (Amity University, Noida, India); Akriti Gupta (Amity University, India); Sujata Pandey (AMITY University, Noida, India)

Dual Workfunction Tunnel Field-Effect Transistor with shifted gate for ambipolar suppression and ON current improvement....123

Bhagwan Raad, Dheeraj Sharma and Pravin Kondekar (PDPM IIITDM Jabalpur, India)

80V InGaAs Lateral Trench Power MOSFET....128

Manoj Singh Adhikari and Yashvir Singh (G B Pant Engineering College, India)

MATLAB/SIMULINK Based Time-Domain Behavioral Modeling Of Multibit Sigma-Delta Converters....132

Mudasir Bashir (National Institute of Technology Warangal, India); Patri Sreeharirao and Ksr KrishnaPrasad (National Institute of Technology, Warangal, India)

MLO2: Machine Learning and Optimization

A Rule Based Expert System for Microaneurysm Detection in Digital Fundus Images....137

Arati Manjaramkar (Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, India); M Kokare (SGGSIE&T, India)

Region Based Undetectable Multiple Image Watermarking....141

Shalu Singh (Central University of Rajasthan, India); Ranjan Kumar Arya (Central University Of Rajasthan, India); Harish Sharma (Central University of Rajasthan, India)

Navigation in Multi Robot System using Cooperative Learning: A Survey....145

Priyanka Singh (ABV-IIITM GWALIOR, India); Ritu Tiwari (ABV-IIITM, Gwalior, India); Mahua Bhattacharya (ABV-IIITM, Gwalior (MP) India, India)

A Survey on multi robots area exploration techniques and algorithms....151

Sujata Sharma (ABV-IIITM, India); Ritu Tiwari (ABV-IIITM, Gwalior, India)

Multi Label Prediction Using Association Rule Generation and Simple k-Means....159

Haripriya H (Amrita Vishwa Vidyapeetham & Amrita CREATE, Amrita University, India); Prathibhamol Cp, Yashwant Pai, Manjeri Sandeep, Arya Sankar, Srinivas Nag Veerla and Prema Nedungadi (Amrita University, India)

DCN2: Data Communication and Networking

Optimized Hybrid Silica TDFA-RAMAN Wideband Amplifier Yielding Flat Gain In Sband....164

Rajandeep Singh and Maninder Lal Singh (Guru Nanak Dev University, Amritsar, India)

Trustworthy Provenance Framework for Document Workflow Provenance....168

Prabath L Rupasinghe (Curtin University of Technlogy, Sri Lanka); Harsha Weerasena (SLIIT, Sri Lanka); Iain Murray (Curtin University, Australia)

Security Analysis and Implementation of a Simple Method for Prevention and Detection against Evil Twin Attack in IEEE 802.11 Wireless LAN....176

Anil Kumar and Partha Paul (Birla Institute of Technology, India)

Verification of Multi-Owner Shared Data with Collusion Resistant User Revocation in Cloud....182

Dipali Kasunde and Amrita A Manjrekar (Shivaji University, India)

Comparison of Optimum Density of Sensor Nodes Required for Desired Coverage in a Realistic Scenario using Sensing Models....186

Nitika Rai (Veermata Jijabai Technological Institute, Mumbai, India, India)

SE2: Software Engineering

Generic Requirements for M-Learning Software Development....192

Asharul Khan (SQU & CIRC SQU, Oman); Zuhoor Al-Khanjari (Sultan Qaboos University, Oman); Mohamed Sarrab (Sultan Qaboos University & Oman, Oman); Hafedh Al Shihi (SQU, Oman)

Inter-page Access Metrics for Web Site Structure and Performance....196

Vaidehi Takalikar (Sardar Patel Institute of Technology, Mumbai, India); Padmaja Joshi (CDAC, India)

Intelligent Matrimony Using Web Semantics....204

Dolley Srivastava and Manuj Darbari (BBD University, Lucknow, India); Amit Srivastava (TCS, India)

A Framework for Business Process Re-engineering to Reduce the Number of Processes-A Case Study of National Blood Transfusion Services....208

Jayakody Arachchilage Don Chaminda Anuradha Jayakody (Curtin University Technology & Sri Lanka Institute of Information Technology, Sri Lanka); Shashika Lokuliyana (Sri Lanka Institute of Information Technology, Sri Lanka); Anjalika Pemarathna and Navoda Mapa (Sri lanka Institute of Information Technology, Sri Lanka)

Token Based Approach for Cross Project Prediction of Fault Prone Modules....215 Ishleen Kaur and Neha Kapoor (CDAC, India)

MLO3: Machine Learning and Optimization

EDSC: Efficient Document Subspace Clustering Technique for High-Dimensional Data....222 Radhika Kr (VTU & BMSIT, India); Pushpa C N (University Visvesvaray College of Engineering, India); Thriveni Javarappa and Venugopal R (UVCE, India)

3D-Difference Theoretic Texture Features for Dynamic Face Recognition....227 Seba Susan and Roni Chakre (DTU, India)

A Novel Classification of Handwritten Digits Using Compressive Sensing Technique....233 Soumya Ranjan Tripathy (IIT Bhubaneswar, India); Ganapati Panda (Indian Institute of Technology Bhubaneswar, India)

DI2: Digital India

IoT based Smart HealthCare Kit....237

Punit Gupta (JUIT University, India); Deepika Agrawal, Jasmeet Chhabra and Pulkit Dhir (JUIT, India)

An Insight into Digital Forensics Branches and Tools....243

Noble Kumari (Guru Gobind Singh Indraprastha University, Delhi, India); A Mohapatra (GGSIP University, India)

Analysing and Designing Automated and Dynamic Bus Route Allocation....251

Aditya Agrawal (Bharati Vidyapeeth's College of Engineering, India); Preeti Nagrath (Banasthali University & Bharati Vidyapeeth University, India)

DCN3: Data Communication and Networking

Analysis of BER using ternary level line coding....257

Aman Jain (Guru Gobind Singh Indraprastha University, India); Kartik Jain (Raxa Health Information Services Private Limited, India)

15 Gb/s transmission over 25 km using negative dispersion fiber on lightwave systems without dispersion compensation....262

Harminder Singh and Atul Mahajan (Amritsar College of Engineering and Technology, India)

Software Defined Networking based Routing Firewall....267

Karamjeet Kaur and Sukhveer Kaur (AD College Dharamkot, India); Vipin Gupta (U-Net Solutions, Moga, India)

Performance analysis of 16-Channel 80-Gbps optical fiber communication system....270

Ravi Shanker (ABV-IIITM GWALIOR, India); Pankaj Srivastava (Atal Bihari Vajpayee Indian Institute of Information Technology, Gwalior, India); Mahua Bhattacharya (ABV-IIITM, Gwalior (MP) India, India)

16 Gbps transmission using minimum power in lightwave systems with metrocor optical fiber....275

Harminder Singh and Atul Mahajan (Amritsar College of Engineering and Technology, India)

SE3: Software Engineering

PSNR and MSE Based Investigation of LSB....280

Kamaldeep Joshi (Maharshi Dayanand University, India); Rajkumar Yadav (M. D. University, India); Sachin Allwadhi (Maharshi Dayanand University, India)

A Database Optimization Model with Quantitative Benchmark....286

Jayakody Arachchilage Don Chaminda Anuradha Jayakody (Curtin University Technology & Sri Lanka Institute of Information Technology, Sri Lanka); Iain Murray and Johannes Herrmann (Curtin University, Australia); Shashika Lokuliyana, Sachini Kandawala and Elainn Nanayakkara (Sri Lanka Institute of Information Technology, Sri Lanka)

An Advanced Trouble Intimation and Automatic Prior Notification System of Locomotives and its Conditions....292

R. Ch A Naidu (JNTU Hyderabad, India); Nagababu G (JNTUH, India); Meghana K and B S Prasad Rao Naidu (JNTUK, India)

New Model of Deterministic And Stochastic Components of Asset Price Change Function....297 Rostislav Sokolov and Renat Abdullin (Ural Federal University, Russia)

MLO4: Machine Learning and Optimization

FPGA Accelerated Abandoned Object Detection....302

Rajesh Rohilla (Delhi Technological University & Delhi College of Engineering, India); Aman Raj, Saransh Kejriwal and Rajiv Kapoor (Delhi Technological University, India)

An Easy Method for Leaf area Estimation Based on Digital Images....307

Madhu Jadon (UIET CSJMU Kanpur, India); Rashi Agarwal (CSJM University, India); Raghuraj Singh (Harcourt Butler Technological Institute, India)

DI3: Digital India

A Hindi Question Answering System using Machine Learning Approach....311

Garima Nanda (Banasthali University, India); Mohit Dua (National Institute of Technology Kurukshetra, India); Krishma Singla (Banasthali University, India)

Task Based Effectiveness Evaluation of Educational Institute Websites....315

Renuka Nagpal (Amity University, India)

Algorithm For Efficient Seating Plan For Centralized Exam System....320

Prosanta Chaki and Shikha Anirban (Daffodil International University, Bangladesh)

A Novel Method for Low Power Hand Gesture Recognition in Smart Consumer Applications....326

Mahesh Chandra (STMIcroelectronics Pvt. Ltd. & IIT Delhi, India); Brejesh Lall (Indian Institute of Technology Delhi, India)

Cuckoo Search Implementation in LabVIEW....331

Puneet Mishra, Vineet Kumar and Kanwar Pal Rana (Netaji Subhas Institute of Technology, India); Sreejith Nair (Netaji Subhas Institute of Technology, New Delhi, India); Jitendra Kumar (Netaji Subhas Institute of Technology, India)

Cognitive Decision Support System for Medical Diagnosis....337

A. Chandiok (Dayalbagh Educational Institute, India); D. K. Chaturvedi (Dayalbagh Educational Institute & Deemed University, India)

DCN4: Data Communication and Networking

A Brief Survey on Molecular Communications in Nanonetworks....343

Gurleen Kaur Walia (Guru Nanak Dev University, Regional Campus, Jalandhar, Punjab, India); Deep Kamal Randhawa (Guru Nanak Dev University Regional Campus, Jalandhar, India); Kanwalpreet Singh Malhi (Panjab University S S Giri, Regional Centre, Hoshiarpur, Punjab, India)

Cognitive Channel Access for Wireless Local Area Networks used in IOT....349

A Rakesh Kumar (Central Research Laboratory, BEL. & Bharat Electronics Ltd, India); Manoj Jain (Principal Scientist, India); Sailaja Ungati (Bharat Electronics ltd, India)

Implementing Static Router Based on Software Defined Networking....358

Sukhveer Kaur and Karamjeet Kaur (AD College Dharamkot, India); Vipin Gupta (U-Net Solutions, Moga, India)

Detection of Application Layer DDoS Attack by Feature Learning Using Stacked Autoencoder....361

Satyajit Yadav (National Institute of Technology, Tiruchirappalli, India); Selvakumar Subramanian (National Institute of Technology, Tiruchirappalli-15., India)

SE4: Software Engineering

A marketing solution for cross-selling by high utility itemset mining with dynamic transactional databases....367

Prajakta R Padhye (Shivaji University, Kolhapur, India); Rashmi V. Mane (Shivaji University, India)

Parallel Skyline Computation for Frequent Queries in Distributed Environment....374

Rupali Deepak Kulkarni (Shivaji University, India); B. Momin (Walchand College of Engineering, India)

Auction based Resource Allocation Strategy for Infrastructure as a service....381

Anita Kumari and Sushma Jain (Thapar University, India)

MLO5: Machine Learning and Optimization

Comment Based Seller Trust Model for E-Commerce....387

Kushagra Bhargava, Tanvi Gujral, Tanya Gujral and Mihir Chawla (Guru Gobind Singh Indraprastha University, India)

Rule based Information Leveraging from Business Invoices....392

Vedika Gupta (National Institute of Technology Delhi, India); Abhishek Aggarwal (MAIT, India); Udayan Ghos (University School of Information & Communication Technology, India)

A Synthesis of Structural Creative Problem Solving in the Perspective of OR/MS Methodology....398

Sheshadri Chatterjee (Indian Institute of Technology Delhi, India)

Role of Negative Data and Spoken Corpora in Corpus building....404

Avinash Pandey and Kinjal Joshi (University of Mumbai, India)

MLO6: Machine Learning and Optimization

Interval Type-2 Fuzzy Based Pixel Wise Information Extraction: An Improved Approach To Face Recognition....409

Sudesh Yadav and Virendra P. Vishwakarma (Guru Gobind Singh Indraprastha University, India)

Identification and Classification of Relations for Indian Languages using Machine Learning Approaches for Developing a Domain Specific Ontology....415

Bhaskar Sinha, Megha Garg and Somnath Chandra (DEITY, Min. of IT, Govt. of India, New Delhi, India, India)

A novel approach for lip Reading based on neural network....421

Neeru Rathee (Guru Gobind Singh Inderprastha University, India)

Predicting future place of visit using user's personality profile....427

Arun Chauhan and Durga Toshniwal (Indian Institute of Technology Roorkee, India); Ravi Tejwani (IBM Research and Watson Group, USA)

Identification of outliers in pollution concentration levels using anomaly detection....433

Anandharajan Venugopal, T R (Anna University & Velammal Institute of Technology, Chennai, India); Vignajeth K k and Abhishek Hariharan G (Anna University, India); Jijendiran R (Velammal Institute Of Technology & Anna University, India)

Text Mining based Safety Risk Assessment and Prediction of Occupational Accidents in a Steel Plant....439

Sobhan Sarkar (IIT Kharagpur & NA, India); Sammangi Vinay and Jhareswar Maiti (Indian Institute of Technology, Kharagpur, India)

Improving Existing Punjabi Grammar Checker....445

Sanjeev Kumar Sharma (Dav University, India)

DCN5: Data Communication and Networking

Message Fragmentation of Event-Triggered Traffic in TTEthernet Systems Using the Timely Block Method....450

Ekarin Suethanuwong (Faculty of Commerce and Managment, Prince of Songkla University, Thailand)

Fairness while Improving Smartphone Battery Life using D2D Cooperative Relays Underlaying LTE Networks....459

Rajiv Misra (Indian Institute of Technology Patna & IIT Patna, India); Ankish Gupta (IIT PATNA, India); Ajay Pratap (IIT Patna, India)

Upgrading a 20 Gbps DWDM system to 160 Gbps system using Add/drop multiplexers and couplers....463

Daleep Singh Sekhon (GNDU Regional Campus Jalandhar, India); Harmandar Kaur and Jyootesh Malhotra (GNDU Regional Campus, Jalandhar, India)

Comparative Analysis of Punctured Sequence Pairs for Frame Synchronization Applications....470

K Arasu (Wright State University, France); Deeksha Arya (National Institute of Technology, Kurukshetra, India); Deepak Kedia (Guru Jambheshwar University of Science & Technology, India)

SHome: A Smart Home Environment with Gen2....476

Srn Reddy (Indira Gandhi Delhi Technical University, India); Sumit Yadav (IGDTUW Delhi & GGSIPU Delhi, India); Preeti Sharma (Indira Gandhi Delhi Technical University, India); Nicy Taneja and Monika Mor (Indira Gandhi Delhi Technical University, Delhi, India)

VLSI2: VLSI Design and Automation

Pre-scalar for Diode Free Adiabatic Logic Family....481

Neeta Pandey (Delhi College of Engineering, India); Nitish Nitish (Delhi Technological University New Delhi India, India); Kirti Gupta (Bharati Vidyapeeth's College of Engineering & Delhi Technological University, India); Twinkle Kuhar (Delhi Technological University New Delhi, India)

Performance Evaluation of Subthreshold Schmitt Trigger Using Body Bias Techniques....486

Meenali Janveja and Anum Khan (Indira Gandhi Delhi Technical University For Women, India); Vandana Niranjan (Indira Gandhi Delhi Technical University for Women, Delhi, India)

Implementation of PFSCL Demultiplexer....490

Kirti Gupta (Bharati Vidyapeeth's College of Engineering & Delhi Technoloical University, India); Utkarsh Mittal (GGSIPU & BVCOE, India); Rahul Baghla (GGSIP University & BVCOE, India); Neeta Pandey (Delhi College of Engineering, India)

Comparative Analysis of Different Lottery Bus Arbitration Techniques for SoC Communication....495

Bhawna Tiwari and Ruchi Chandraker (IGDTU-W, India); Nidhi Goel (Indira Gandhi delhi Technical University, India)

Diagnosis of Narcolepsy Sleep Disorder for Different Stages of Sleep Using Short Time Frequency Analysis of PSD Approach Applied on EEG Signal....500

Mohd Maroof Siddiqui (Integral University, India); Geetika Srivastava (Amity University, India); Syed Saeed (Integral University, India)

DI4: Digital India

Ontology-based Classification and Analysis of non-emergency Smart-city Events....509 Monika Rani (Indian Institute of Information Technology, Allahabad, India)

Enhanced Job Scheduling Algorithm with budget constraints in Computational Grids....515 Shalini Chawla and Krishan Kumar (Shaheed Bhagat Singh State Technical Campus, Ferozepur, India)

Wavelet Entropy based classification of Depth of Anesthesia....521

V K Benzy and E Jasmin (Govt. Engineering College, Trissur, Kerala, India); Rachel Koshy (Regional Cancer Centre Trivandrum, India); Frank Amal (Railway Hospital Palakkad, India)

Sentiment Analysis of Top Colleges in India Using Twitter Data....525

Nehal Mamgain and Ekta Mehta (Graphic Era University, India); Ankush Mittal (IIT Roorkee, India); Gaurav Bhatt (College of Engineering Roorkee, India)

DCN6: Data Communication and Networking

Single-photon Synchronization Mode of Quantum Key Distribution System....531

Anton Pljonkin and Konstantin Rumyantsev (Southern Federal University, Russia)

Cash Withdrawal from ATM machine using Mobile Banking....535

Nischal Bansal (Software Company & RSystems International Limited, India); Nepali Singla (Engineering Institute & Punjab Technical University, India)

Microring Resonator Based All Optical XOR and XNOR Logic Gates....540

Abhishek Godbole, Prathmesh Dali and Ghanshyam Singh (Malaviya National Institute of Technology Jaipur, India)

Smart Expense Management Model for Smart Homes....544

Sumit Yadav (IGDTUW Delhi & GGSIPU Delhi, India); Richa Malhotra and Jyoti Tripathi (IGDTUW, India)

A Masking Based RSA to Resist Power Analysis Attacks....552

Hridoy Jyoti Mahanta, Parvej Barbhuiya and Ajoy Kumar Khan (Assam University, India)

VLSI3: VLSI Design and Automation

Realization of Current Mode KHN-Equivalent Biquad Employing Third Generation Current Conveyor....558

Tajinder Arora (Maharaja Surajmal Institute of Technology, India); Ravindra Sharma (Ambedkar Institute of Advanced Communication Technologies and Research, India)

An Improved Performance Parameters Evaluation of The Diode Rectifiers....563

Tapas Halder (Kalyani Government Engineering College, India, India); Rudranil Ghosh and Sampad Acharya (Kalyani Government Engineering College, India)

An Adverse Effect of The Harmonics for The Power Quality Issues....569

Tapas Halder (Kalyani Government Engineering College, India, India); Rudranil Ghosh and Sampad Acharya (Kalyani Government Engineering College, India)

Study of effect of dielectric superstrate on resonance frequency of patch antenna and measurement of dielectric constant of superstrate....575

Pranavsesh VS (Dtu, India); Priyanka Jain (Delhi Technological University, India)

PFSCL based Linear Feedback Shift Register....580

Abhishek Tyagi (Delhi Technological University, India); Neeta Pandey (Delhi College of Engineering, India); Kirti Gupta (Bharati Vidyapeeth's College of Engineering & Delhi Technological University, India)

Single Input Multiple Output Multifunction Filter Employing Current Differencing Buffered Amplifier....586

Udit Rana and Shreyas Suyal (Maharaja Surajmal Institute Of Technology, India); Tajinder Arora (Maharaja Surajmal Institute of Technology, India)

MLO7: Machine Learning and Optimization

DRSIG: Domain and Range Specific Index Generation for Encrypted Cloud Data....591

Raghavendra S and Geeta Mara (UVCE, India); Rajkumar Buyya (University of Melbourne, Australia); Venugopal Kuppanna Rajuk (University Visvesvaraya College of Engineering, India); Sitharama Iyengar (Florida International University, USA); LM Patnaik (Indian Institute of Science, India)

Investigating Gender Recognition in Smartphones using Accelerometer and Gyroscope Sensor Readings....597

Ankita Jain and Vivek Kanhangad (IIT Indore, India)

Gargling affect on salivary electrochemical parameters to predict blood glucose....603

Sarul Malik (Indian Institute of Technology, New Delhi, India); Harsh Parikh (Indian Institute of Technology Delhi & IBM India Research Lab, India); Shalini Gupta (Indian Institute of Technology, New Delhi, India); Sneh Anand (Indian Institute of Technology, New Delhi & All India Institute of Medical Sciences, New Delhi, India)

DCN7: Data Communication and Networking

Broadband Supercontinuum Generation and Raman Response in Ge11.5As24Se64.5 based chalcogenide Photonic Crystal Fiber....607

Sandeep Vyas (Malaviya National Institute of Technology, Jaipur & Vivekanand Institute of Technology (East), India)

A Comparative Study of Cooperative and Non-Cooperative Game Theory in Network Selection....612

Meenakshi Munjal (NIT, Kurukshetra & NA, India); Niraj Pratap Singh (NIT Kurukshetra, India)

Intertwining Logistic Map and Cellular Automata Based Color Image Encryption Model....618 Manish Kumar, Sunil Kumar, Rajat Budhiraja, Mrinal Das and Sanjeev Singh (University of Delhi, India)

A Cooperative approach for Malicious Node Detection in impromptu Wireless Networks....624 Devendra Pratap Gupta (RTM, University, Nagpur, India); Chitra Anil Dhawale (Amravati University, India); Sanjay Misra (Suite 11, Covenant University & Covenant University, Nigeria)

Exploring Off-Path Caching with Edge Caching in Information Centric Networking....630 Anshuman Kalla (Jaipur National University, India); Sudhir Sharma (JNU, Jaipur, India)

SE5: Software Engineering

Cloud data security with hybrid symmetric encryption....636

Shweta Kaushik (Jaypee University, Noida & JIIT 128 Noida, India); Charu Gandhi (Jaypee Institute of Information Technology, India)

Evolution of Evasive Malwares: A Survey....641

Ashish Jadhav (Defence Institute of Advanced Technology, Deemed University(DRDO), Pune, India); Deepti Vidyarthi (Defence Institute of Advanced Technology, India); Hemavathy M. (Central Research Laboratory, BEL, Bangalore, India, India)

Developing a mathematical model for assessing the impact of Loss of trust due to data leakage in cloud....647

Archana B Saxena (JaganNath University, Jaipur, India)

Analysis of Resource Management and Placement Policies using a new Nature Inspired Meta Heuristic SSCWA avoiding Premature Convergence in Cloud....653

Preeti Abrol (Centre for Development of Advanced Computing, India); Savita Gupta (Panjab University, India); Karanpreet Kaur (Center for Development of Advanced Computing, India)

Modularizing Software Systems using PSO optimized Hierarchical Clustering....659

Monika Bishnoi (National Institute of Technology, Jalandhar, India); Paramvir Singh (National Institute of Technology Jalandhar, India)