

Contents

Part I Biomedical Image Processing and Bioinformatics

Altered PPI Due to Mutations in hPER2 and CKI Delta Locus, Causing ASPS	3
Ananya Ali and Angshuman Bagchi	
A Comparative Framework of Probabilistic Atlas Segmentation Method for Human Organ’s MRI	9
Sushil Kumar Mahapatra, Sumant Kumar Mohapatra, Sakuntala Mahapatra and Lalit Kanoje	
Concentration of Acetone Levels in Breath for Monitoring Blood Glucose Level	17
Sumant Kumar Mohapatra, Sushil Kumar Mahapatra, Shuvendra Kumar Tripathy and Lalit Kanoje	
Computational Molecular Analysis of Human Rhodopsin, Transducin and Arrestin Interactions: An Insight into Signal Transduction for Ophthalmology	25
Tanushree Mukherjee, Arundhati Banerjee and Sujay Ray	
Evaluating the Performance of State of the Art Algorithms for Enhancement of Seismocardiogram Signals	37
Aditya Sundar and Vivek Pahwa	
Common Subcluster Mining to Explore Molecular Markers of Lung Cancer	47
Arnab Sadhu and Balaram Bhattacharyya	

Part II Cloud Computing

Progressing the Security Landscape of Cloud by Incorporating Security Service Level Agreement (Sec-SLA)	59
Joydeep Choudhury, Indushree Banerjee, Amitava Nag and Indika Parera	

On Demand IOPS Calculation in Cloud Environment to Ease Linux-Based Application Delivery	71
Rajesh Bose, Sandip Roy and Debabrata Sarddar	
Intelligent Storage Management Using Cloud Shared Disk Architecture.	79
Subashis Biswas, Nilanjana Roy Chowdhury, Argha Roy and A.B. Bhattacharya	
Hybrid Application Partitioning and Process Offloading Method for the Mobile Cloud Computing.	87
Sukhpreet Kaur and Harwinder Singh Sohal	
Encrypted Data Searching Techniques and Approaches for Cloud Computing: A Survey	97
Lija Mohan and M. Sudheep Elayidom	
A Proposed Conceptual Framework to Migrate Microsoft Technology Based Applications to Cloud Environment	105
Manas Kumar Sanyal, Sudhangsu Das and Sajal Bhadra	
 Part III Communication Network and Services	
An Adaptive Cloud Communication Network Using VSAT with Enhanced Security Implementation	117
Rajesh Bose, Sudipta Sahana and Debabrata Sarddar	
Introspecting Effect of Packet Size on End-to-End Network Delay	127
Uttam Kumar Roy	
An Ontology Based Context Aware Protocol in Healthcare Services	137
Anirban Chakrabarty and Sudipta Roy	
Processing ASP.Net Web Services Using Generic Delegation Approach.	147
Vilakshan Saxena, Harshit Santosh and Chittaranjan Pradhan	
Link Based Protection of Light Trail in WDM Mesh Networks	157
Sampa Rani Bhadra and Utpal Biswas	
 Part IV Data Analytics and Data Mining	
Prediction of Twitter Users' Interest Based on Tweets	167
Nimita Mangal, Sartaj Kanwar and Rajdeep Niyogi	
Event Detection Over Twitter Social Media	177
Sartaj Kanwar, Nimita Mangal and Rajdeep Niyogi	

DMDAM: Data Mining Based Detection of Android Malware 187
 Abhishek Bhattacharya and Radha Tamal Goswami

Comparative Study of Parallelism on Data Mining 195
 Kartick Chandra Mondal, Sayan Bhattacharya and Anindita Sarkar

Brief Review on Optimal Suffix Data Structures 205
 Kartick Chandra Mondal, Ankur Paul and Anindita Sarkar

**Demalvertising: A Kernel Approach for Detecting Malwares
 in Advertising Networks**. 215
 Prabaharan Poornachandran, N. Balagopal, Soumajit Pal, Aravind Ashok,
 Prem Sankar and Manu R. Krishnan

Closure Based Integrated Approach for Associative Classifier 225
 Soumyadeep Basu Chowdhury, Debasmita Pal, Anindita Sarkar
 and Kartick Chandra Mondal

**Approaches and Challenges of Big Data Analytics—Study
 of a Beginner**. 237
 Ankita Roy, Soumya Ray and Radha Tamal Goswami

A Novel MapReduce Based k-Means Clustering. 247
 Ankita Sinha and Prasanta K. Jana

**Supplier Selection in Uncertain Environment: A Fuzzy MCDM
 Approach**. 257
 Sobhan Sarkar, Vishal Lakha, Irshad Ansari and Jhareswar Maiti

**Intelligent Computing for Skill-Set Analytics in a Big Data
 Framework—A Practical Approach** 267
 Sirisha Velampalli and V.R. Murthy Jonnalagedda

**Implication of Performance Appraisal Process on Employee
 Engagement Mediated Through the Development and Innovation
 Oriented Culture: A Study on the Software Professionals of IT
 Companies in West Bengal**. 277
 Manas Kumar Sanyal, Soma Bose Biswas and Rana Ghosh

Part V Device System and Modeling

**Estimation of MOS Capacitance Across Different
 Technology Nodes** 297
 Sarita Kumari, Rishab Mehra, Amit Krishna Dwivedi and Aminul Islam

Cross-Coupled Dynamic CMOS Latches: Scalability Analysis 307
 Rishab Mehra, Sarita Kumari and Aminul Islam

Cross-Coupled Dynamic CMOS Latches: Robustness Study of Timing	317
Rishab Mehra, Swapnil Sourav and Aminul Islam	
A Design of a 4 Dot 2 Electron QCA Full Adder Using Two Reversible Half Adders	327
Sunanda Mondal, Debarka Mukhopadhyay and Paramartha Dutta	
Secure Data Outsourcing in the Cloud Using Multi-secret Sharing Scheme (MSSS)	337
Amitava Nag, Soni Choudhary, Subham Dawn and Suryadip Basu	
Design of a BCD Adder Using 2-Dimensional Two-Dot One-Electron Quantum-Dot Cellular Automata	345
Kakali Datta, Debarka Mukhopadhyay and Paramartha Dutta	
Design Based New Coupling Metric for Component Based Development Environment	355
Jyoti Sharma, Arvind Kumar and M. Iyyappan	
Scientific Workflow Management System for Community Model in Data Fusion	363
Boudhayan Bhattacharya and Banani Saha	
An Improved Stator Resistance Adaptation Mechanism in MRAS Estimator for Sensorless Induction Motor Drives	371
S. Mohan Krishna and J.L. Febin Daya	
A New Implementation Scheme in Robotic Vehicle Propulsion Using Brushless DC Motor	387
Debjyoti Chowdhury, Arunabha Mitra, Santanu Mondal and Madhurima Chattopadhyay	
Binary Fuzzy Goal Programming for Effective Utilization of IT Professionals	395
R.K. Jana, M.K. Sanyal and Saikat Chakrabarti	
AVR Microcontroller Based Conference Presentation Timer	407
Sagar Bose, Soham Mukherjee, Sayak Kundu, Utpal Biswas and Mrinal Kanti Naskar	
Part VI Image Processing and Pattern Recognition	
A Person Identification System with Biometrics Using Modified RBFN Based Multiple Classifiers	415
Sumana Kundu and Goutam Sarker	

An Application of GIS Techniques Towards Pasture Land Use Studies 425
 Urbasi Roy, Debasish Das and Mihir Bhatta

Wavelet-Based Image Compression Using SPIHT and Windowed Huffman Coding with Limited Distinct Symbol and It’s Variant 435
 Utpal Nandi and Jyotsna Kumar Mandal

Extraction of Distinct Bifurcation Points from Retinal Fundus Images 443
 Nilanjana Dutta Roy, Suchismita Goswami, Sushmita Goswami, Sohini De and Arindam Biswas

Automatic Measurement and Analysis of Vessel Width in Retinal Fundus Image 451
 Suchismita Goswami, Sushmita Goswami and Sohini De

Recognition of Handwritten *Indic* Script Numerals Using Mojette Transform 459
 Pawan Kumar Singh, Supratim Das, Ram Sarkar and Mita Nasipuri

A Survey of Prospects and Problems in Hindustani Classical Raga Identification Using Machine Learning Techniques 467
 Sreeparna Banerjee

A Neuro Fuzzy Based Black Tea Classifying Technique Using Electronic Nose and Electronic Tongue. 477
 Sourav Mondal, Runu Banerjee(Roy), Bipan Tudu, Rajib Bandyopadhyay and Nabarun Bhattacharyya

Design of Novel Feature Vector for Recognition of Online Handwritten Bangla Basic Characters. 485
 Shibaprasad Sen, Ankan Bhattacharyya, Avik Das, Ram Sarkar and Kaushik Roy

An Eigencharacter Technique for Offline-Tamil Handwritten Character Recognition 495
 R.N. Ashlin Deepa and R. Rajeswara Rao

Text and Non-text Separation in Handwritten Document Images Using Local Binary Pattern Operator 507
 Showmik Bhowmik, Ram Sarkar and Mita Nasipuri

Page-to-Word Extraction from Unconstrained Handwritten Document Images 517
 Pawan Kumar Singh, Sagnik Pal Chowdhury, Shubham Sinha, Sungmin Eum and Ram Sarkar

A Computer Vision Framework for Detecting Dominant Points on Contour of Image-Object Through Thick-Edge Polygonal Approximation 527
 Sourav Saha, Saptarshi Roy, Prasenjit Dey, Soumya Pal, Tamal Chakraborty and Priya Ranjan Sinha Mahapatra

Kuan Modified Anisotropic Diffusion Approach for Speckle Filtering 537
 Abhishek Tripathi, Vikrant Bhateja and Aditi Sharma

Part VII Security and Cryptography

Dual-Image Based Reversible Data Hiding Scheme Through Pixel Value Differencing with Exploiting Modification Direction. 549
 Jana Biswapati, Giri Debasis and Mondal Shyamal Kumar

Cryptanalysis of an Asymmetric Image Cryptosystem Based on Synchronized Unified Chaotic System and CNN 559
 Musheer Ahmad, Faiyaz Ahmad and Syed Ashar Javed

Chaotic Map Based Image Encryption in Spatial Domain: A Brief Survey 569
 Monjul Saikia and Bikash Baruah

A Novel Approach to E-Voting Using Multi-bit Steganography 581
 Soura Dutta, Xavier Das, Ritam Ganguly and Imon Mukherjee

Comparative Analysis of Classification Techniques in Network Based Intrusion Detection Systems 591
 Sunil Kumar Gautam and Hari Om

A New and Resilient Image Encryption Technique Based on Pixel Manipulation, Value Transformation and Visual Transformation Utilizing Single-Level Haar Wavelet Transform 603
 Arindrajit Seal, Shouvik Chakraborty and Kalyani Mali

A Scheme for QR Code Based Smart Door Locks Security System Using an ARM Computer 613
 Suprakash Mukherjee and Subhendu Mondal

Image Steganography Using BitPlane Complexity Segmentation and Hessenberg QR Method 623
 Barnali Gupta Banik and Samir Kumar Bandyopadhyay

A Novel Scheme for Analyzing Confusion Characteristics of Block Ciphers 635
 Dipanjan Bhowmik, Avijit Datta and Sharad Sinha

Part VIII Wireless Sensor Network

Source-Initiated Routing to Support Large-Scale Pseudo-Linear ZigBee Networks 645
 Uttam Kumar Roy

SSeS: A Self-configuring Selective Single-Path Routing Protocol for Cloud-Based Mobile Wireless Sensor Network 655
 Sandip Roy, Rajesh Bose and Debabrata Sarddar

Link Quality Modeling for Energy Harvesting Wireless Sensor Networks 669
 Moumita Deb and Sarbani Roy

GA Based Energy Efficient and Balanced Routing in k -Connected Wireless Sensor Networks 679
 Suneet Kumar Gupta, Pratyay Kuila and Prasanta K. Jana

An Approach Towards Energy Efficient Channel Reduction in Cellular Networks. 687
 Spandan Chowdhury and Parag Kumar Guha Thakurta

Military Robot Path Control Using RF Communication 697
 Sandeep Bhat and Manjalagiri Meenakshi

Author Index. 705



<http://www.springer.com/978-981-10-2034-6>

Proceedings of the First International Conference on
Intelligent Computing and Communication

Mandal, J.K.; Satapathy, S.C.; Sanyal, M.K.; Bhateja, V.
(Eds.)

2017, XXVII, 707 p. 306 illus., Softcover

ISBN: 978-981-10-2034-6