International Conference on Computational Intelligence and Data Science (ICCIDS 2018)

Procedia Computer Science Volume 132

Gurugram, India 7-8 April 2018

Part 1 of 3

Editors:

Vijendra Singh R B Patel Vijayan K Asari Paheding Sidike

ISBN: 978-1-5108-6413-9

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© by Elsevier B.V. All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact Elsevier B.V. at the address below.

Elsevier B.V. Radarweg 29 Amsterdam 1043 NX The Netherlands

Phone: +31 20 485 3911 Fax: +31 20 485 2457

http://www.elsevierpublishingsolutions.com/contact.asp

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: \$45,758,0400

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

Available online at www.sciencedirect.com

ScienceDirect





Table of Contents

Preface Vijendra Singh, Vijayan K Asari, R B Patel, and Paheding Sidike	1
Gender Recognition Through Face Using Deep Learning Amit Dhomne, Ranjit Kumar, and Vijay Bhan	2
Efficient wavelet families for ECG classification using neural classifiers Ritu Singh, Rajesh Mehta, and Navin Rajpal	11
Credit Scoring Model based on Weighted Voting and Cluster based Feature Selection Diwakar Tripathi, Damodar Reddy Edla, Venkatanareshbabu Kuppili, Annushree Bablani, and Ramesh Dharavath	22
Subject based Deceit Identification using Empirical Mode Decomposition Annushree Bablani, Damodar Reddy Edla, Diwakar Tripathi, and Venkatanareshbabu K	32
Application of Feature Extraction and Classification Methods for Histopathological Image using GLCM, LBP, LBGLCM, GLRLM and SFTA Şaban Öztürk, and Bayram Akdemir	40
A deep learning approach for Malayalam morphological analysis at character level Premjith B, Soman K.P., and M Anand Kumar	47
Methods of Neuromarketing and Implication of the Frontal Theta Asymmetry induced due to musical stimulus as choice modeling Tandle Avinash, Lal Dikshant, and Shah Seema	55
Vision based Identification of Joint Coordinates for Marker-less Gait Analysis Chandra Prakash, Rajesh Kumar, Namita Mittal, and Gaurav Raj	68
Deep Learning on Binary Patterns for Face Recognition A Vinay, Abhijay Gupta, Aprameya Bharadwaj, Arvind Srinivasan, K N Balasubramanya Murthy, and S Natarajan	76
The Influence of Medical Course Experience on Satisfaction, Loyalty, and Word-Of-Mouth in Indian Medical Colleges Sakshi Pandey, and Pankaj Deshwal	84
MRF: MapReduce based Forecasting Algorithm for Time Series Data Ankita Sinha, and Prasanta K. Jana	92
Detection of A Shadow of Animated Video Frames in RGB Color Space Kuldip Acharya, and Dibyendu Ghoshal	103
The Internet of Things: Insights into the building blocks, component interactions, and architecture layers Nallapaneni Manoj Kumar, and Pradeep Kumar Mallick	109
Performance Analysis of Big Data and Cloud Computing Techniques: A Survey Subia Saif, and Samar Wazir	118

iv Contents

Cinical Evaluation of Functional Vision Assessment by Utilizing the Visual Evoked Potential Device for Cerebral Palsy Rehabilitation Illavarason P, Arokia Renjit J, and Mohan Kumar P	128
Matching Before and After Surgery Faces Anchit Bansal, and Nisha P. Shetty	141
A rational cognitive architectural model of language generation Meenakhi Sahu, and Hima Bindu Maringanti	149
Timeline Analysis of Twitter User Sujay R, Jagadeesh Pujari, Vandana Shreenivas Bhat, and Anita Dixit	157
Opinion Mining on Emojis using Deep Learning Techniques Valmeekam Karthik, Dheeraj Nair, and Anuradha J	167
N-Gram Assisted Youtube Spam Comment Detection Shreyas Aiyar, and Nisha P Shetty	174
Performance analysis of artificial bee colony optimization based clustering protocol in various scenarios of WSN Ankit Gambhir, Ashish Payal, and Rajeev Arya	183
An identity based access control and mutual authentication framework for distributed cloud computing services in IoT environment using smart cards B.B. Gupta, and Megha Quamara	189
Performance Analysis of the Regression and Time Series Predictive Models using Parallel Implementation for Agricultural Data Balaji Prabhu B V, and M Dakshayini	198
A Novel Fitness Computation Framework for Nature Inspired Classification Algorithms Saroj, Jyoti Vashishtha, Pooja Goyal, and Jyoti Ahuja	208
Intend to analyze Social Media feeds to detect behavioral trends of individuals to proactively act against Social Threats Srishty Jindal, and Kamlesh Sharma	218
An Enhanced Approach for Spot Segmentation of Microarray Images S.A. Karthik, and S.S. Manjunath	226
Evaluation of smartphones in Indian market using EDAS Ashish Aggarwal, Chetna Choudhary, and Deepti Mehrotra	236
A Feature Selection Algorithm Based on Qualitative Mutual Information for Cancer Microarray Data Arpita Nagpal, and Vijendra Singh	244
Network Intrusion Detection in Big Dataset Using Spark Priyanka Dahiya, and Devesh Kumar Srivastava	253
Large Scale Graph Evaluation for Find Communities in Big Data Chetna Dabas, Himanshu Nagar, and Gaurav Kumar Nigam	263
Impact of Destabilizing Factors in the Main Engine Shaft of the Adaptive Speed Controller Sergei Sokolov, Anton Zhilenkov, Sergei Chernyi, and Anatoliy Nyrkov	271
Feature Detection and Description in Remote Sensing Images using a Hybrid Feature Detector Anchal Kumawat, and Sucheta Panda	277
An Automated Approach to Public Distribution System Using Internet of Things Aaditva Verma, Avush Singh Rathore, and A Charan Kumari	288

Contents v

Reema Aswani, P. Vigneswara Ilavarasan, Arpan Kumar Kar, and Shrihari Vijayan	29
Textual Dissection of Live Twitter Reviews using Naive Bayes Sourav Kunal, Arijit Saha, Aman Varma, and Vivek Tiwari	30
Water Quality Management through Data Driven Intelligence System in Barmer Region, Rajasthan Kaustub Sinha, Devesh Kumar Srivastava, and Roheet Bhatnagar	31
Rank Allocation to J48 Group of Decision Tree Classifiers using Binary and Multiclass Intrusion Detection Datasets Ranjit Panigrahi, and Samarjeet Borah	32
An Efficient Hybrid Feature Selection model for Dimensionality Reduction Divya Jain, and Vijendra Singh	33
Head Gesture Controlled Wheelchair for Quadriplegic Patients Jigmee Wangchuk Machangpa, and Tejbanta Singh Chingtham	34
A Supervised Bug Report Classification with Incorporate and Textual field Knowledge Ashima Kukkar, and Rajni Mohana	35
Automatic Construction of Generic Stop Words List for Hindi Text Ruby Rani, and D.K. Lobiyal.	36
Breast Cancer Prediction system Madhu Kumari, and Vijendra Singh	37
An Analysis Of Convolutional Neural Networks For Image Classification Neha Sharma, Vibhor Jain, and Anju Mishra	37
Predictive Modelling For Credit Card Fraud Detection Using Data Analytics Suraj Patil, Varsha Nemade, and Piyush Kumar Soni	38
Effects of Histopathological Image Pre-processing on Convolutional Neural Networks Şaban Öztürk, and Bayram Akdemir	39
Paper Impact Effectiveness (PIE): A New Way to Measure the Impact of Research Papers Mohanad Halaweh	40
Lung Cancer Survivability Prediction based on Performance Using Classification Techniques of Support Vector Machines, C4.5 and Naive Bayes Algorithms for Healthcare Analytics Pradeep K R, and Naveen N C	41
Dynamic Contention Window based Safety-Application Model for Vehicular Ad-hoc Networks Poonam Verma, Neeta Singh, Riya Lamba, and Somendra Prakash Singh	42
An enhanced mechanism of spam and category detection using Neuro-SVM Sanjeev Dhawan, and Simran	42
Automated Classification Method for Early Diagnosis of Alopecia Using Machine Learning Ishita Kapoor, and Anju Mishra	43
An Analysis of IoT Congestion Control Policies Neelesh Mishra, Lal Pratap Verma, Prabhat Kumar Srivastava, and Ajay Gupta	44
Traffic Management using Logistic Regression with Fuzzy Logic Anurag Singh Tomar, Mridula Singh, Girish Sharma, and K.V. Arya	45
Image Steganography Using Mid Position Value Technique Srilekha Mukherjee, Subhajit Roy, and Goutam Sanyal	46
Managing Computation Load on a Blockchain – based Multi – Layered Internet – of – Things Network Rishi Broto Chakraborty, Manjusha Pandey, and Siddharth Swarup Rautaray	46

vi Contents

N. Prabakaran, and R. Kannadasan
RNNs-RT: Flood based Prediction of Human and Animal deaths in Bihar using Recurrent Neural Networks and Regression Techniques Ekaansh Khosla, Dharavath Ramesh, Rashmi Priya Sharma, and Samuel Nyakotey
Comparison and Analysis on Artificial Intelligence Based Data Aggregation Techniques in Wireless Sensor Networks Hradesh Kumar, and Pradeep Kumar Singh
Real Time Monitoring of Valeriana Jatamansi Plant for Growth Analysis Divyansh Thakur, Yugal Kumar, Arvind Kumar, Pradeep Kumar, and Vijendra Singh
High Performance Parallel Computing with Cloud Technologies R. Kannadasan, N. Prabakaran, P. Boominathan, A. Krishnamoorthy, K. Naresh, and G. Sivashanmugam
An Innovative Approach for Investigation and Diagnosis of Lung Cancer by Utilizing Average Information Parameters Kale Vaishnaw G., and Vandana B. Malode
An Improved Method for Image Segmentation Using K-Means Clustering with Neutrosophic Logic Mohammad Naved Qureshi, and Mohd Vasim Ahamad
Slot-frame Length Optimization using Hill Climbing for Energy Efficient TSCH Network Seema Kharb, and Anita Singhrova
Analysis of movement and gesture recognition using Leap Motion Controller Anshul Sharma, Aditya Yadav, Saksham Srivastava, and Ritu Gupta
Authentication and Tamper Detection in Tele-medicine using Zero Watermarking Samman Sinha, Abhilasha Singh, Ritu Gupta, and Shreyya Singh
Realization of class – A chopper using dSPACE Akshat Jain, and Dheeraj Joshi
Location Information Based Destination Converging Routing Method (LIBDCR) Prashant Dixit, Anuradha Pillai, and Rahul Rishi
A Nonlinear Manifold Detection based Model for Software Defect Prediction Soumi Ghosh, Ajay Rana, and Vineet Kansal
Direct Power Neuro-Fuzzy Controller Scheme of Three-Phase PWM Rectifiers for Power Quality Improvement Mustapha Jamma, Dheeraj Joshi, Mohammed Akherraz, and Abderrahim Bennassar
Ischemia and Arrhythmia Classification Using Time-Frequency Domain Features of QRS Complex Akash Kumar Bhoi, Karma Sonam Sherpa, and Bidita Khandelwal
Word Representations For Gender Classification Using Deep Learning Ritesh Chakravarthy Bhagvati
Performance Review of Fuzzy Logic Based Controllers Employed in Brushless DC Motor Rakesh Goswami, and Dheeraj Joshi
Crowdsourcing – A Step Towards Advanced Machine Learning Abhigna B.S., Nitasha Soni, and Shilpa Dixit
Performance Enhancement and Analysis of Filters in Ultrasound Image Denoising Manoi Gupta. Heena Taneia, and Laxmi Chand

Fuzzy rule-based approach for design and analysis of a Trust-based Secure Routing Protocol for MANETs Mukesh Kumar Garg, Neeta Singh, and Poonam Verma	653
Face-based Document Image Retrieval System Umesh D. Dixit, and M.S. Shirdhonkar	659
A Novel approach of Sentiment Classification using Emoticons Shivani Bahri, Pranav Bahri, and Sangeeta Lal	669
Conceptual Understanding of Convolutional Neural Network- A Deep Learning Approach Sakshi Indolia, Anil Kumar Goswami, S.P. Mishra, and Pooja Asopa	679
Strengthening Clustering Through Relay Nodes in Sensor Networks Amit Chugh, and Supriya Panda	689
Crime Prediction & Monitoring Framework Based on Spatial Analysis Hitesh Kumar Reddy ToppiReddy, Bhavna Saini, and Ginika Mahajan	696
Pixel Based Supervised Classification of Hyperspectral Face Images for Face Recognition Shwetank, Neeraj, Jitendra, Vikesh, and Kamal Jain	706
Code Clones: Detection and Management Neha Saini, Sukhdip Singh, and Suman	718
Distance and Traffic Based Virtual Machine Migration for Scalability in Cloud Computing Nagamani H Shahapure, and P Jayarekha	728
Implementing ALPR for detection of traffic violations: a step towards sustainability Parul Agarwal, Kritika Chopra, Mohd Kashif, and Vinita Kumari	738
Dynamic Cost-Load Aware Service Broker Load Balancing in Virtualization Environment PM Rekha, and M Dakshayini	744
EEG Based Emotion Classification Mechanism in BCI Barjinder Kaur, Dinesh Singh, and Partha Pratim Roy	752
Improved Spatial Query Processing Framework for Spatial Data S Karthi, and S Prabu	759
Segmentation of MR Images using Hybrid kMean-Graph Cut Technique Jyotsna Dogra, Shruti Jain, and Meenakshi Sood	775
Deep Learning Approaches for Question Answering System Yashvardhan Sharma, and Sahil Gupta	785
Design of a Novel Pseudo Random Generator based on Walsh Hadamard Transform and Bi S-Boxes R. Girija, and Hukum Singh	795
Network Life Time Analysis of WSNs Using Particle Swarm Optimization Amita Yadav, Suresh Kumar, and Singh Vijendra	805
On the Design of Efficient Residue-to-Binary Converters Sheba Diamond Thabah, Mridupawan Sonowal, and Prabir Saha	816
Evolving Differential evolution method with random forest for prediction of Air Pollution Rubal, and Dinesh Kumar	824
Smart Education with artificial intelligence based determination of learning styles Richa Bajaj, and Vidushi Sharma	834
Resource Utilization Optimization with Design Alternatives in FPGA based Arithmetic Logic Unit Architectures Rakhi Nangia, and Neeraj Kr. Shukla	843

viii Contents

Optimization Based Performance Evaluation of CEIG for Rural Sites Shakuntla Boora, S.K. Agarwal, and K.S. Sandhu	84
Large Scale Dual Tree Complex Wavelet Transform based robust features in PCA and SVD subspace for digital image watermarking Jyotsna Yadav, and Khushwant Sehra	86
Data acquisition system: On the solar photovoltaic module and weather parameters monitoring Benlebna Soumia, Manoj Kumar Nallapaneni, and Tahri Ali	87
Discriminant Analysis using Ant Colony Optimization – An Intra-Algorithm Exploration Hasnain Ali, and Arpan Kumar Kar	88
Sparse Locally Adaptive Regression Kernel For Face Verification Vinay A, Vinayaka R Kamath, Varun M, K N Balasubramanya Murthy, and S Natarajan	89
An Ensemble Model for Detecting Phishing Attack with Proposed Remove-Replace Feature Selection Technique H.S. Hota, A.K. Shrivas, and Rahul Hota	90
On Detectors and Descriptors based Techniques for Face Recognition Vinay A, Nishant Aklecha, Meghana, K.N. Balasubramanya Murthy, and S Natarajan	90
P-FHM+: Parallel high utility itemset mining algorithm for big data processing Krishan Kumar Sethi, Dharavath Ramesh, and Damodar Reddy Edla	91
Intrusion Detection in Computer Networks using Lazy Learning Algorithm Aditya Chellam, Ramanathan L, and Ramani S	92
An Ensemble Classification System for Twitter Sentiment Analysis Ankit, and Nabizath Saleena	93
Hypothesis Test for Low-rate DDoS Attack Detection in Cloud Computing Environment Kriti Bhushan, and B.B. Gupta	94
Real-Time Sentiment Analysis of Twitter Streaming data for Stock Prediction Sushree Das, Ranjan Kumar Behera, Mukesh kumar, and Santanu Kumar Rath	95
Demographic variables and Online Customer Experience of Educational Websites users Ayush Trivedi, Pankaj Deshwal, Umang Soni, and Neel Mani	96
Real Time High Performance of Sliding Mode Controlled Induction Motor Drives Abderrahim Bennassar, Sandeep Banerjee, Mustapha Jamma, Adil Essalmi, and	97
Mohammed Akherraz	98
Taxonomy of machine learning algorithms in software fault prediction using object oriented metrics Ajmer Singh, Rajesh Bhatia, and Anita Sighrova	99
Biomedical Text Analytics for Characterizing Climate-Sensitive Disease Md. Aslam Parwez, Muhammad Abulaish, and Jahiruddin	100
Gray-scale image watermarking based on DE-KELM in DCT domain Virendra P. Vishwakarma, and Varsha Sisaudia	101
Using Ensemble StackingC Method and Base Classifiers to Ameliorate Prediction Accuracy of Pedagogical Data Mudasir Ashraf, Majid Zaman, and Muheet Ahmed	102
Encoder-Decoder Architectures for Generating Questions Jaspreet Singh, and Yashvardhan Sharma	104

Contents ix

Prableen Kaur, Manik Sharma, and Mamta Mittal	1049
Image Specific Cross Cohort Normalization for Face Pair matching Jogendra Garain, Ravi Kant Kumar, Dipak Kumar, Dakshina Ranjan Kisku, and Goutam Sanyal	1060
PRMT: Predicting Risk Factor of Obesity among Middle-Aged People Using Data Mining Techniques Rifat Hossain, S.M. Hasan Mahmud, Md Altab Hossin, Sheak Rashed Haider Noori, and Hosney Jahan	1068
Forecasting air pollution load in Delhi using data analysis tools Nidhi Sharma, Shweta Taneja, Vaishali Sagar, and Arshita Bhatt	1077
Author Identification using Sequential Minimal Optimization with rule-based Decision Tree on Indian Literature in Marathi Kale Sunil Digamberrao, and Rajesh S. Prasad	1086
An Empirical Analysis of Geospatial Classification for Agriculture Monitoring Hemlata Goyal, Nisheeth Joshi, and Chilka Sharma	1102
Neural Based QoS aware Mobile Cloud Service and Its Application to Preeminent Service Selection using Back Propagation Rajeshkannan Regunathan, Aramudhan Murugaiyan, and K. Lavanya	1113
Visualizing and Understanding Customized Convolutional Neural Network for Recognition of Handwritten Marathi Numerals D.T. Mane, and U.V. Kulkarni	1123
Analysis and Visualisation of Geo-Referenced Tweets for Real-Time Information Diffusion Akhil Puri, Pallavi Arora, and Neetu Sardana	1138
Sentiment classification of online consumer reviews using word vector representations Barkha Bansal, and Sangeet Srivastava	1147
M-Tesla-Based Security Assessment in Wireless Sensor Network Sudeep Tanwar, Kenny Thakkar, Ruchi Thakor, and Pradeep Kr Singh	1154
Intelligent System for Active Dielectrics Parameters Research E.A. Pecherskaya, P.E. Golubkov, A.V. Fimin, T.O. Zinchenko, A.V. Pechersky, and J.V. Shepeleva	1163
Mining authentic student feedback for faculty using Naïve Bayes classifier Sandhya Maitra, Sushila Madan, Rekha Kandwal, and Prerna Mahajan	1171
An automated Psychometric Analyzer based on Sentiment Analysis and Emotion Recognition for healthcare	
Anneketh Vij, and Jyotika Pruthi	1184
Automated detection of cardiac arrhythmia using deep learning techniques Swapna G, Soman K P, and Vinayakumar R	1192
A Novel Approach to Web-Based Review Analysis Using Opinion Mining Monica Malik, Sharib Habib, and Parul Agarwal	1202
Data Redundancy Implications in Wireless Sensor Networks Neetu Verma, and Dinesh Singh	1210
Clustering West Nile Virus Spatio-temporal data using ST-DBSCAN K.B. Chimwayi, and J. Anuradha	1218
Hybrid Approach To Abstractive Summarization Deepak Sahoo, Ashutosh Bhoi, and Rakesh Chandra Balabantaray	1228

x Contents

Realtime monitoring on the HTT photovoltaic module characteristic parameters at STC, high and low irradiance conditions in Algeria Soumia Benlebna, Nallapaneni Manoj Kumar, and Ali Tahri	1238
Privacy Preservation in WSN for Healthcare Application Nidhi Sharma, and Ravindara Bhatt.	1243
Automated detection of diabetes using CNN and CNN-LSTM network and heart rate signals Swapna G, Soman Kp, and Vinayakumar R	1253
Internet of Things: Vision, Applications and Challenges Rishika Mehta, Jyoti Sahni, and Kavita Khanna	1263
A Novel Framework to optimize I/O Cost in MapReduce: An Index based Solution N.K. Seera, and S. Taruna	1270
Inspection of Trust Based Cloud Using Security and Capacity Management at an IaaS Level Vivek Kumar Prasad, Mrugesh Shah, Namrata Patel, and Madhuri Bhavsar	1280
Classification of ECG Arrhythmia using Recurrent Neural Networks Shraddha Singh, Saroj Kumar Pandey, Urja Pawar, and Rekh Ram Janghel	1290
A FUZZY EDGE BASED MULTIFOCUS FUSION Nitin Sharma, and Om Prakash Verma	1298
Analysis of Fuzzification Process in Fuzzy Expert System Shaily Thaker, and Viral Nagori	1308
Human Detection and Tracking using HOG for Action Recognition Seemanthini K, and Manjunath S.S.	1317
NOVEL APPROACH FOR DENOISING USING HADOOP IMAGE PROCESSING INTERFACE Nidhi Sharma, Sachin Bagga, and Akshay Girdhar	1327
NSE Stock Market Prediction Using Deep-Learning Models Hiransha M, Gopalakrishnan E.A., Vijay Krishna Menon, and Soman K.P	1351
Indian Tourism Information Retrieval System: An Onto-Semantic Approach Shilpa S. Laddha, Nitin A. Koli, and Pradip M. Jawandhiya	1363
Fuzzy Logic in Natural Language Processing – A Closer View Charu Gupta, Amita Jain, and Nisheeth Joshi	1375
Block Energy Based Visual Features Using Histogram Of Oriented Gradient For Bimodal Hindi Speech Recognition	1205
Prashant Upadhyaya, Omar Farooq, and M.R. Abidi DeepAirNet: Applying Recurrent Networks for Air Quality Prediction Athira V, Geetha P, Vinayakumar R, and Soman K P	1385 1394
Speech Compression using Multi-Resolution Hybrid Wavelet using DCT and Walsh Transforms Rekha Vig, and Sachin Singh Chauhan	1404
Software Bug Prediction Prototype Using Bayesian Network Classifier: A Comprehensive Model Sushant Kumar Pandey, Ravi Bhushan Mishra, and Anil Kumar Triphathi	1412
A framework of keyword based image retrieval using proposed Hog_Sift feature extraction method from Twitter Dataset M. Vadivukarassi, N. Puviarasan, and P. Aruna	1422
Diabetic Retinopathy: Present and Past Ankita Gupta, and Rita Chhikara	1432

Contents xi

Poonam, and Shaifali M. Arora
Multi-Authority Attribute Based Data Access Control in Fog Computing Kunal Vohra, and Mayank Dave
A New Labeled Flow-based DNS Dataset for Anomaly Detection: PUF Dataset Rohini Sharma, R.K. Singla, and Ajay Guleria
Classification of Facial Expressions from EEG signals using Wavelet Packet Transform and SVM for Wheelchair Control Operations Damodar Reddy Edla, Md Fahim Ansari, Nikhil Chaudhary, and Shubham Dodia
Feature Selection Optimization in SPL using Genetic Algorithm Hitesh, and A. Charan Kumari
Hybrid Motion Estimation Algorithm Based on PSO with Dynamic Threshold on Static Block Detection P. Palaniraj, and G. Sakthivel
Comparative Analysis of Various Machine Learning Algorithms for Detecting Dementia Deepika Bansal, Rita Chhikara, Kavita Khanna, and Poonam Gupta
Meta-cognitive Neural Network based Sequential Learning Framework for Text Categorization M B Revanasiddappa, B S Harish, and S V Aruna Kumar
Geo Map Visualization for Frequent Purchaser in Online Shopping Database Using an Algorithm LP-Growth for Mining Closed Frequent Itemsets M. Sinthuja, N. Puviarasan, and P. Aruna
Classification of EEG data for human mental state analysis using Random Forest Classifier Damodar Reddy Edla, Kunal Mangalorekar, Gauri Dhavalikar, and Shubham Dodia
Deep Learning for Retrieval of Natural Flower Videos Jyothi V K, D S Guru, and Sharath Kumar Y H
Speckle Noise Reduction of Ultrasound Images Using BFO Cascaded with Wiener Filter and Discrete Wavelet Transform in Homomorphic Region Rajeshwar Dass
Comparative Study of Machine Learning Approaches for Amazon Reviews Abhilasha Singh Rathor, Amit Agarwal, and Preeti Dimri
Particle Swarm Optimization based Automatic Generation Control of Interconnected Power System incorporating Battery Energy Storage System Nidhi Gupta, and Narendra Kumar
Asymmetric Cryptosystem for Phase Images in Fractional Fourier Domain Using LU-Decomposition and Arnold Transform Jaideep Kumar, Phool Singh, A.K. Yadav, and Anoop Kumar
Prediction of Diabetes using Classification Algorithms Deepti Sisodia, and Dilip Singh Sisodia
BYOD Supported Crowd Interaction System Suman Deba, Himanshu Singha, Behara Lakshmi Rohinia, Dheeraj Mishraa, Rohit Kumar Meenaa, and Paritosh Bhattacharya
Semantic Predictive Model of Student Dynamic Profile Using Fuzzy Concept T. Sheeba, and Reshmy Krishnan
Extraction of Professional Details from Web-URLs using DeepDive Aditya Vyas, Urmil Kadakia, and Pokhar Mal Jat

xii Contents

Taking MQTT and NodeMcu to IOT: Communication in Internet of Things Monika Kashyap, Vidushi Sharma, and Neeti Gupta	1611
Feature Selection of Micro-array expression data (FSM) - A Review Monika Lamba, Geetika Munjal, and Yogita Gigras	1619
Dynamic Merging based Small File Storage (DM-SFS) Architecture for Efficiently Storing Small Size Files in Hadoop Mohd Abdul Ahad, and Ranjit Biswas	1626
Data Computation and Secure Encryption Based on Gyrator Transform using Singular Value Decomposition and Randomization Mehak Khurana, and Hukum Singh	1636
Stance-In-Depth Deep Neural Approach to Stance Classification Gayathri Rajendran, Bhadrachalam Chitturi, and Prabaharan Poornachandran	1646
Predicting the protein structure using random forest approach Charu Kathuria, Deepti Mehrotra, and Navnit Kumar Misra	1654
Industrial Practices of Evaluation of Projects In Global Environments: An Empirical study Varun Gupta, Sanchit Bhasin, and Sri Devi Ravana	1663
Botnet Detection via mining of network traffic flow Lakshya Mathur, Mayank Raheja, and Prachi Ahlawat	1668
Generating Top-N Items Recommendation Set Using Collaborative, Content Based Filtering and Rating Variance	1770
Anand Shanker Tewari, Jyoti Prakash Singh, and Asim Gopal Barman	1678 1685
Splicing Detection for Combined DCT, DWT and Spatial Markov-Features Using Ensemble Classifier Rachna Mehta, and Navneet Agarwal	1695
Application of Deep Learning for Object Detection Ajeet Ram Pathak, Manjusha Pandey, and Siddharth Rautaray	1706
Hybridization of Adaptive Wavelet Shrinkage with Guided Filter for Speckle Reduction in Ultrasound Images Palwinder Singh, and Leena Jain	1718
Analysis of shopping trends employing E-Commerce Applications: A Comparative Case Study Varun Gupta, Vaibhav Khanna, and Biswa Mohan Sahoo	1728
Color Image Retrieval Using Compacted Feature Vector with Mean-Count Tree Sushila Aghav-Palwe, and Dhirendra Mishra	1739
On the Dynamic Behaviour of Polygon Geometrically by Using Webic Representation Vineet Kumar	1747
A Lightning fast approach to classify Bangla Handwritten Characters and Numerals using newly structured Deep Neural Network Sourajit Saha, and Nisha Saha	1760
A Dynamic Replica Factor Calculator for Weighted Dynamic Replication Management in Cloud Storage Systems Suji Gopinath, and Elizabeth Sherly	1771

Contents xiii

ECOC Framework Alpa Choudhary, and Rekha Vig	1781
Predicting Severity Of Parkinson's Disease Using Deep Learning Srishti Grover, Saloni Bhartia, Akshama, Abhilasha Yadav, and Seeja K.R	1788
An Improved Collaborative Filtering Based Recommender System using Bat Algorithm Sambhav Yadav, Vikesh, Shreyam, and Sushama Nagpal	1795
Optimization of Software Testing Mundita Awotar, and Roopesh Kevin Sungkur	1804
Blockchain technology for security issues and challenges in IoT Nallapaneni Manoj Kumar, and Pradeep Kumar Mallick	1815
Evaluation of suspended sediment concentration using descent neural networks Sandeep Samantaray, and Dillip K Ghose	1824
Effective Short-Term Forecasting for Daily Time Series with Complex Seasonal Patterns Iram Naim, Tripti Mahara, and Ashraf Rahman Idrisi	1832
Taxonomy of Machine Leaning Based Anomaly Detection and its suitability Ruchi Makani, and B.V.R. Reddy	1842
Study of Globus Pallidus External and Sub Thalamic Neuron for various currents Shruti Gupta, Ram Kinkar Pandey, and Jyotsna Singh	1850
Effect of Aerosols on Ocean Parameters in India by Using Satellite Data S.N. Palve, P.D. Nemade, and S.D. Ghude	1857