## Contents

**Part I Genetic Algorithm for Problem Solving (GAPS)**

<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin Chart Prediction for Diabetic Patients Using Hidden Markov Model (HMM) and Simulated Annealing Method</td>
<td>3</td>
</tr>
<tr>
<td>Ravindra Nath and Renu Jain</td>
<td></td>
</tr>
<tr>
<td>A Single Curve Piecewise Fitting Method for Detecting Valve Stiction and Quantification in Oscillating Control Loops</td>
<td>13</td>
</tr>
<tr>
<td>S. Kalaivani, T. Aravind and D. Yuvaraj</td>
<td></td>
</tr>
<tr>
<td>Feed Point Optimization of Fractal Antenna Using GRNN-GA Hybrid Algorithm</td>
<td>25</td>
</tr>
<tr>
<td>Balwinder Singh Dahiwal and Shyam S. Pattnaik</td>
<td></td>
</tr>
<tr>
<td>Sunanda Gupta and M. L. Garg</td>
<td></td>
</tr>
<tr>
<td>Use of Ant Colony System in Solving Vehicle Routing Problem with Time Window Constraints</td>
<td>39</td>
</tr>
<tr>
<td>Sandhya Bansal, Rajeev Goel and C. Mohan</td>
<td></td>
</tr>
<tr>
<td>Energy Saving Model for Sensor Network Using Ant Colony Optimization Algorithm</td>
<td>51</td>
</tr>
<tr>
<td>Doreswamy and S. Narasegoudha</td>
<td></td>
</tr>
<tr>
<td>Multi-Objective Optimization of PID Controller for Coupled-Tank Liquid-Level Control System Using Genetic Algorithm</td>
<td>59</td>
</tr>
<tr>
<td>Sanjay Kr. Singh, Nitish Katal and S. G. Modani</td>
<td></td>
</tr>
<tr>
<td>Comparative Performance Analysis of Particle Swarm Optimization and Interval Type-2 Fuzzy Logic-based TCSC Controller Design</td>
<td>67</td>
</tr>
<tr>
<td>Manoj Kumar Panda, G. N. Pillai and Vijay Kumar</td>
<td></td>
</tr>
</tbody>
</table>
Improved Parallelization of an Image Segmentation Bio-inspired Algorithm .......................... 75
Javier Carnero, Hepzibah A. Christinal, Daniel Díaz-Pernil, Rául Reina-Molina and M. S. P. Subathra

A Novel Hardware/Software Partitioning Technique for System-on-Chip in Dynamic Partial Reconfiguration Using Genetic Algorithm .................................................. 83
N. Janakiraman and P. Nirmal Kumar

Solving School Bus Routing Problem Using Hybrid Genetic Algorithm: A Case Study .................. 93
Bhawna Minocha and Saswati Tripathi

Taguchi-Based Tuning of Rotation Angles and Population Size in Quantum-Inspired Evolutionary Algorithm for Solving MMDP ............................................................. 105
Nija Mani, S. Gursaran, A. K. Sinha and Ashish Mani

Part II Soft Computing for Mathematics and Optimization (SCMO)

Simultaneous Feature Selection and Extraction Using Fuzzy Rough Sets .................................. 115
Pradipta Maji and Partha Garai

A Fuzzy Programming Approach for Bilevel Stochastic Programming .................................... 125
Nilkanta Modak and Animesh Biswas

Implementation of Intelligent Water Drops Algorithm to Solve Graph-Based Travelling Salesman Problem ................................................................. 137
Roli Bansal, Hina Agrawal, Hifza Afaq and Sanjay Saini

Optimization of Complex Mathematical Functions Using a Novel Implementation of Intelligent Water Drops Algorithm ............................................................. 145
Maneet Singh and Sanjay Saini

A New Centroid Method of Ranking for Intuitionistic Fuzzy Numbers ........................................ 151
Anil Kumar Nishad, Shailendra Kumar Bharati and S. R. Singh

Solution of Multi-Objective Linear Programming Problems in Intuitionistic Fuzzy Environment ........ 161
S. K. Bharati, A. K. Nishad and S. R. Singh
Analyzing Competitive Priorities for Machine Tool Manufacturing Industry: ANP Based Approach. ......................... 173
Deepika Joshi

A Modified Variant of RSA Algorithm for Gaussian Integers ....... 183
Sushma Pradhan and Birendra Kumar Sharma

Neural Network and Statistical Modeling of Software Development Effort ............................................. 189
Ruchi Shukla, Mukul Shukla and Tshilidzi Marwala

On $z$-Convex Multivalent Functions Defined by Generalized Ruscheweyh Derivatives Involving Fractional Differential Operator .. 199
Ritu Agarwal and J. Sokol

A New Expected Value Model for the Fuzzy Shortest Path Problem ....................................................... 209
Sk. Md. Abu Nayeem

Existence and Uniqueness of Fixed Point in Fuzzy Metric Spaces and its Applications .................................... 217
Vishal Gupta and Naveen Mani

Variable Selection and Fault Detection Using a Hybrid Intelligent Water Drop Algorithm ........................................... 225
Manish Kumar, Srikant Jayaraman, Shikha Bhat, Shameek Ghosh and V. K. Jayaraman

Air Conditioning System with Fuzzy Logic and Neuro-Fuzzy Algorithm ....................................................... 233
Rajani Kumari, Sandeep Kumar and Vivek Kumar Sharma

Improving the Performance of the Optimization Technique Using Chaotic Algorithm ................................. 243
R. Arunkumar and V. Jothiprakash

New Reliable Algorithm for Fractional Harry Dym Equation ........ 251
Devendra Kumar and Jagdev Singh

Floating Point-Based Universal Fused Add–Subtract Unit. ........ 259
Ishan A. Patil, Prasanna Palsodkar and Ajay Gurjar
New Analytical Approach for Fractional Cubic Nonlinear Schrödinger Equation Via Laplace Transform .......................... 271
Jagdev Singh and Devendra Kumar

An Investigation on the Structure of Super Strongly Perfect Graphs on Trees ......................................................... 279
R. Mary Jeya Jothi and A. Amutha

A Novel Approach for Thin Film Flow Problem Via Homotopy Analysis Sumudu Transform Method .............................................. 287
Sushila and Y. S. Shishodia

Buckling and Vibration of Non-Homogeneous Orthotropic Rectangular Plates with Variable Thickness Using DQM .......... 295
Renu Saini and Roshan Lal

A Dual SBM Model with Fuzzy Weights in Fuzzy DEA .............. 305
Jolly Puri and Shiv Prasad Yadav

Ball Bearing Fault Diagnosis Using Continuous Wavelet Transforms with Modern Algebraic Function ............................... 313
R. Sharma, A. Kumar and P. K. Kankar

Engineering Optimization Using SOMGA .............................................. 323
Kusum Deep and Dipti Singh

Goal Programming Approach to Trans-shipment Problem ........ 337
Om Prakash Dubey, Kusum Deep and Atulya K. Nagar

An Efficient Solution to a Multiple Non-Linear Regression Model with Interaction Effect using TORA and LINDO .................. 345
Umesh Gupta, Devender Singh Hada and Ankita Mathur

On the Fekete–Szegö Problem for Certain Subclass of Analytic Functions ................................................................. 353
Ritu Agarwal and G. S. Paliwal

Part III Soft Computing for Operations Management (SCOM)

Bi-Objective Scheduling on Parallel Machines in Fuzzy Environment ................................................................. 365
Sameer Sharma, Deepak Gupta and Seema Sharma
Inventory Model for Decaying Item with Continuously Variable Holding Cost and Partial Backlogging .................................. 373
Ankit Prakash Tyagi, Shivraj Singh and Rama Kant Pandey

The Value of Product Life-Cycle for Deteriorating Items in a Closed Loop Under the Reverse Logistics Operations ............. 383
S. R. Singh and Neha Saxena

A Fuzzified Production Model with Time Varying Demand Under Shortages and Inflation .................................................. 397
Shalini Jain and S. R. Singh

A Partial Backlogging Inventory Model for Decaying Items: Considering Stock and Price Dependent Consumption Rate in Fuzzy Environment .................................................. 407
S. R. Singh and Swati Sharma

Efficient Protocol Prediction Algorithm for MANET Multimedia Transmission Under JF Periodic Dropping Attack ...... 419
Avita Katal, Mohammad Wazid and R. H. Goudar

New Placement Strategy for Buffers in Critical Chain ............... 429
Vibha Saihjpal and S. B. Singh

Inducing Fuzzy Association Rules with Multiple Minimum Supports for Time Series Data ................................................. 437
Rakesh Rathi, Vinesh Jain and Anshuman Kumar Gautam

RGA Analysis of Dynamic Process Models Under Uncertainty ...... 447
Amit Jain and B. V. Babu

Part IV Applications of Soft Computing in Image Analysis and Pattern Recognition (SCIAPR)

Steps Towards Web Ubiquitous Computing .......................... 459
Manu Ram Pandit, Tushar Bhardwaj and Vikas Khatri

Estimation of Uncertainty Using Entropy on Noise Based Soft Classifiers ................................................................. 465
Rakesh Dwivedi, Anil Kumar and S. K. Ghosh

Location Management in Mobile Computing Using Swarm Intelligence Techniques ......................................................... 481
Nikhil Goel, J. Senthilnath, S. N. Omkar and V. Mani
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fingerprint and Minutiae Points Technique</td>
<td>491</td>
</tr>
<tr>
<td>Karun Verma and Ishdeep Singla</td>
<td></td>
</tr>
<tr>
<td>Optimization Problems in Pulp and Paper Industries</td>
<td>501</td>
</tr>
<tr>
<td>Mohar Singh, Ameya Patkar, Ankit Jain and Millie Pant</td>
<td></td>
</tr>
<tr>
<td>Integrating ERP with E-Commerce: A New Dimension Toward Growth for Micro, Small and Medium-Scale Enterprises in India</td>
<td>507</td>
</tr>
<tr>
<td>Vinamra Nayak and Nitin Jain</td>
<td></td>
</tr>
<tr>
<td>A New Heuristic for Disassembly Line Balancing Problems With AND/OR Precedence Relations</td>
<td>519</td>
</tr>
<tr>
<td>Shwetank Avikal, Rajeev Jain, Harish Yadav and P. K. Mishra</td>
<td></td>
</tr>
<tr>
<td>A New Approach to Rework in Merge Production Systems</td>
<td>527</td>
</tr>
<tr>
<td>S. Kannan and Sadia Samar Ali</td>
<td></td>
</tr>
<tr>
<td>Part V Applications of Soft Computing in Image Analysis and Pattern Recognition (SCIAPR)</td>
<td></td>
</tr>
<tr>
<td>An Iterative Marching with Correctness Criterion Algorithm for Shape from Shading under Oblique Light Source</td>
<td>535</td>
</tr>
<tr>
<td>Gaurav Gupta and Manoj Kumar</td>
<td></td>
</tr>
<tr>
<td>Enhancement of Mean Shift Tracking Through Joint Histogram of Color and Color Coherence Vector</td>
<td>547</td>
</tr>
<tr>
<td>M. H. Sidram and N. U. Bhajantri</td>
<td></td>
</tr>
<tr>
<td>A Rubric Based Assessment of Student Performance Using Fuzzy Logic</td>
<td>557</td>
</tr>
<tr>
<td>G. Meenakshi and V. Manisharma</td>
<td></td>
</tr>
<tr>
<td>Representation and Classification of Medicinal Plants: A Symbolic Approach Based on Fuzzy Inference Technique</td>
<td>565</td>
</tr>
<tr>
<td>H. S. Nagendraswamy and Y. G. Naresh</td>
<td></td>
</tr>
<tr>
<td>Fractal Image Compression Using Dynamically Pipelined GPU Clusters</td>
<td>575</td>
</tr>
<tr>
<td>Munesh Singh Chauhan, Ashish Negi and Prashant Singh Rana</td>
<td></td>
</tr>
<tr>
<td>Person Identification Using Components of Average Silhouette Image</td>
<td>583</td>
</tr>
<tr>
<td>Rohit Katiyar, K. V. Arya and Vinay Kumar Pathak</td>
<td></td>
</tr>
</tbody>
</table>
Modified LSB Method Using New Cryptographic Algorithm for Steganography ........................................ 591
R. Boopathy, M. Ramakrishnan and S. P. Victor

TDAC: Co-Expressed Gene Pattern Finding Using Attribute Clustering .............................................. 601
Tahleen A. Rahman and Dhruba K. Bhattacharyya

An Introduction to Back Propagation Learning and its Application in Classification of Genome Data Sequence ............... 609
Medha J. Patel, Devarshi Mehta, Patrick Paterson and Rakesh Rawal

Sobel-Fuzzy Technique to Enhance the Detection of Edges in Grayscale Images Using Auto-Thresholding .................... 617
Jesal Vasavada and Shamik Tiwari

Part VI Soft Computing for Classification (SCC)

Hesitant k-Nearest Neighbor (HK-nn) Classifier for Document Classification and Numerical Result Analysis .................. 631
Neeraj Sahu, R. S. Thakur and G. S. Thakur

Lower Bound on Naïve Bayes Classifier Accuracy in Case of Noisy Data .................................................. 639
Karan Rawat, Abhishek Kumar and Anshuman Kumar Gautam

A Neuro-Fuzzy Approach to Diagnose and Classify Learning Disability ...................................................... 645
Kavita Jain, Pooja Manghirmalani Mishra and Sushil Kulkarni

A Review of Hybrid Machine Learning Approaches in Cognitive Classification ............................................. 659
Shantipriya Parida and Satchidananda Dehuri

“A Safer Cloud”, Data Isolation and Security by Tus-Man Protocol .......................................................... 667
Tushar Bhardwaj, Manu Ram Pandit and Tarun Kumar Sharma

Poem Classification Using Machine Learning Approach .................. 675
Vipin Kumar and Sonajharia Minz

Novel Class Detection in Data Streams ........................................ 683
Vahida Attar and Gargi Pingale
Analyzing Random Forest Classifier with Different Split Measures
Vrushali Y. Kulkarni, Manisha Petare and P. K. Sinha

Text Classification Using Machine Learning Methods-A Survey
Basant Agarwal and Namita Mittal

Weka-Based Classification Techniques for Offline Handwritten Gurmukhi Character Recognition
Munish Kumar, M. K. Jindal and R. K. Sharma

Part VII Soft Computing for Security (SCS)

An Efficient Fingerprint Indexing Scheme
Arjun Reddy, Umarani Jayaraman, Vandana Dixit Kaushik and P. Gupta

Gait Biometrics: An Approach to Speed Invariant Human Gait Analysis for Person Identification
Anup Nandy, Soumabha Bhowmick, Pavan Chakraborty and G. C. Nandi

XML-Based Authentication to Handle SQL Injection
Nitin Mishra, Saumya Chaturvedi, Anil Kumar Sharma and Shantanu Choudhary

Observation Probability in Hidden Markov Model for Credit Card Fraudulent Detection System
Ashphak Khan, Tejpal Singh and Amit Sinhal

Comparative Study of Feature Reduction and Machine Learning Methods for Spam Detection
Basant Agarwal and Namita Mittal

Generation of Key Bit-Streams Using Sparse Matrix-Vector Multiplication for Video Encryption
M. Sivasankar

Steganography-based Secure Communication
Manjot Bhatia, Sunil Kumar Muttoo and M. P. S. Bhatia

Part VIII Soft Computing and Web Technologies (SCWT)

Heirarchy of Communities in Dynamic Social Network
S. Mishra and G. C. Nandi
SLAOCMS: A Layered Architecture of SLA Oriented Cloud Management System for Achieving Agreement During Resource Failure ........................................ 801
Rajkumar Rajavel and Mala T

Semantic Search in E-Tourism Services: Making Data Compilation Easier .......................................................... 811
Juhi Agarwal, Nishkarsh Sharma, Pratik Kumar, Vishesh Parshav, Anubhav Srivastava, Rohit Rathore and R. H. Goudar

Deep Questions in the “Deep or Hidden” Web ......................... 821
Sonali Gupta and Komal Kumar Bhatia

Combined and Improved Framework of Infrastructure as a Service and Platform as a Service in Cloud Computing ........ 831
Poonam Rana, P. K. Gupta and Rajesh Siddavatam

Web Site Reorganization Based on Topology and Usage Patterns . . . 841

Web Search Personalization Using Ontological User Profiles ........ 849
Kretika Gupta and Anuja Arora

Autonomous Computation Offloading Application for Android Phones Using Cloud .................................................. 857
Mayank Arora and Mala Kalra

Optimizing Battery Utilization and Reducing Time Consumption in Smartphones Exploiting the Power of Cloud Computing ........ 865
Variza Negi and Mala Kalra

Part IX Algorithms and Applications (AA)

On Clustering of DNA Sequence of Olfactory Receptors Using Scaled Fuzzy Graph Model ........................................... 875
Satya Ranjan Dash, Satchidananda Dehuri, Uma Kant Sahoo and Gi Nam Wang

Linear Hopfield Based Optimization for Combined Economic Emission Load Dispatch Problem ............................... 885
J. P. Sharma and H. R. Kamath
Soft Computing Approach for VLSI Mincut Partitioning:
The State of the Arts ........................................ 895
Debasree Maity, Indrajit Saha, Ujjwal Maulik and Dariusz Plewczynski

Multimedia Classification Using ANN Approach ................. 905
Maiya Din, Ram Ratan, Ashok K. Bhateja and Aditi Bhateja

Live Traffic English Text Monitoring Using Fuzzy Approach ....... 911
Renu, Ravi and Ram Ratan

Digital Mammogram and Tumour Detection Using Fractal-Based
Texture Analysis: A Box-Counting Algorithm .................. 919
K. C. Latha, S. Valarmathi, Ayesha Sulthana, Ramya Rathan,
R. Sridhar and S. Balasubramanian

Approaches of Computing Traffic Load for Automated
Traffic Signal Control: A Survey ............................. 931
Pratishtha Gupta, G. N. Purohit and Adhyana Gupta

Comparative Analysis of Neural Model and Statistical
Model for Abnormal Retinal Image Segmentation ............... 947
D. Jude Hemanth and J. Anitha

An Efficient Training Dataset Generation Method for Extractive
Text Summarization ........................................ 955
Esther Hannah and Saswati Mukherjee

Online Identification of English Plain Text Using Artificial Neural
Network ....................................................... 965
Aditi Bhateja, Ashok K. Bhateja and Maiya Din

Novel Approach to Predict Promoter Region Based on Short
Range Interaction Between DNA Sequences ...................... 973
Arul Mugilan and Abraham Nartey

“Eco-Computation”: A Step Towards More Friendly
Green Computing ................................................... 983
Ashish Joshi, Kanak Tewari, Bhaskar Pant and R. H. Goudar

A Comparative Study of Performance of Different Window
Functions for Speech Enhancement .............................. 993
A. R. Verma, R. K. Singh and A. Kumar
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods for Estimation of Structural State of Alkali Feldspars</td>
<td>1003</td>
</tr>
<tr>
<td>T. N. Jowhar</td>
<td></td>
</tr>
<tr>
<td>Iris Recognition System Using Local Features Matching Technique</td>
<td>1015</td>
</tr>
<tr>
<td>Alamdeep Singh and Amandeep Kaur</td>
<td></td>
</tr>
<tr>
<td>Part X Soft Computing for Image Analysis (SCIA)</td>
<td></td>
</tr>
<tr>
<td>Fast and Accurate Face Recognition Using SVM and DCT</td>
<td>1027</td>
</tr>
<tr>
<td>Deepti Sisodia, Lokesh Singh and Sheetal Sisodia</td>
<td></td>
</tr>
<tr>
<td>Multi-Temporal Satellite Image Analysis Using Gene Expression Program</td>
<td>1039</td>
</tr>
<tr>
<td>J. Senthilnath, S. N. Omkar, V. Mani, Ashoka Vanjare, P. G. Diwakar</td>
<td></td>
</tr>
<tr>
<td>An Advanced Approach of Face Alignment for Gender Recognition</td>
<td>1047</td>
</tr>
<tr>
<td>Using PCA</td>
<td></td>
</tr>
<tr>
<td>Abhishek Kumar, Deepak Gupta and Karan Rawat</td>
<td></td>
</tr>
<tr>
<td>Analysis of Pattern Storage Network with Simulated Annealing for</td>
<td>1059</td>
</tr>
<tr>
<td>Storage and Recalling of Compressed Image Using SOM</td>
<td></td>
</tr>
<tr>
<td>Manu Pratap Singh and Rinku Sharma Dixit</td>
<td></td>
</tr>
<tr>
<td>Nonrigid Image Registration of Brain MR Images</td>
<td>1069</td>
</tr>
<tr>
<td>Using Normalized Mutual Information</td>
<td></td>
</tr>
<tr>
<td>Smita Pradhan and Dipti Patra</td>
<td></td>
</tr>
<tr>
<td>Part XI Soft Computing for Communication, Signals and Networks (CSN)</td>
<td></td>
</tr>
<tr>
<td>A Proposal for Deployment of Wireless Sensor Network in Day-to-Day</td>
<td>1081</td>
</tr>
<tr>
<td>Home and Industrial Appliances for a Greener Environment</td>
<td></td>
</tr>
<tr>
<td>Rajat Arora, Sukhdeep Singh Sandhu and Paridhi Agarwal</td>
<td></td>
</tr>
<tr>
<td>Energy-Aware Mathematical Modeling of Packet Transmission Through</td>
<td>1087</td>
</tr>
<tr>
<td>Cluster Head from Unequal Clusters in WSN</td>
<td></td>
</tr>
<tr>
<td>Raju Dutta, Shishir Gupta and Mukul Kumar Das</td>
<td></td>
</tr>
</tbody>
</table>
Evaluation of Various Battery Models for Bellman Ford Ad hoc Routing Protocol in VANET Using Qualnet .......................... 1101
Manish Sharma

A Comparative Analysis of Emotion Recognition from Stimulated EEG Signals ................................................................. 1109
Garima Singh, Arindam Jati, Anwesha Khasnobish, Saugat Bhattacharyya, Amit Konar, D. N. Tibarewala and R Janarthanan

Propagation Delay Analysis for Bundled Multi-Walled CNT in Global VLSI Interconnects .......................................................... 1117
Pankaj Kumar Das, Manoj Kumar Majumder, B. K. Kaushik and S. K. Manhas

Improvement in Radiation Parameters Using Single Slot Circular Microstrip Patch Antenna .......................................................... 1127
Monika Kiroriwal and Sanyog Rawat

A Π-Slot Microstrip Antenna with Band Rejection Characteristics for Ultra Wideband Applications .................................................. 1135
Mukesh Arora, Abha Sharma and Kanad Ray

A Technique to Minimize the Effect On Resonance Frequency Due to Fabrication Errors of MS Antenna by Operating Dielectric Constant .......................................................... 1145
Sandeep Kumar Toshniwal and Kanad Ray

Part XII Soft Computing for Industrial Applications (SCI)

Artificial Neural Network Model for Forecasting the Stock Price of Indian IT Company .......................................................... 1153
Joydeep Sen and Arup K. Das

V/f-Based Speed Controllers for an Induction Motor Using AI Techniques: A Comparative Analysis ................................................. 1161
Awadhesh Gupta, Lini Mathew and S. Chatterji

Part XIII Soft Computing for Information Management (SCIM)

Enhanced Technique to Identify Higher Level Clones in Software .... 1175
S. Mythili and S. Sarala
Privacy Protected Mining Using Heuristic Based Inherent Voting Spatial Cluster Ensembles ................................. 1183
R. J. Anandhi and S. Natarajan

Smart Relay-Based Online Estimation of Process Model Parameters ......................................................... 1195
Bajarangbali and Somanath Majhi

Software Cost Estimation Using Similarity Difference Between Software Attributes ........................................ 1205
Divya Kashyap and A. K. Misra

Mining Knowledge from Engineering Materials Database for Data Analysis .................................................... 1217
Doreswamy and K. S. Hemanth

Rule Based Architecture for Medical Question Answering System ......................................................... 1225
Sonal Jain and Tripti Dodiya

Part XIV  Soft Computing for Clustering (SCCL)

Adaptive Mutation-Driven Search for Global Minima in 3D Coulomb Clusters: A New Method with Preliminary Applications ................................................................. 1237
S. P. Bhattacharyya and Kanchan Sarkar

A New Rough-Fuzzy Clustering Algorithm and its Applications ......................................................... 1245
Sushmita Paul and Pradipta Maji

A Novel Rough Set Based Clustering Approach for Streaming Data ......................................................... 1253
Yogita and Durga Toshniwal

Optimizing Number of Cluster Heads in Wireless Sensor Networks for Clustering Algorithms ................................. 1267
Vipin Pal, Girdhari Singh and R. P Yadav

Data Clustering Using Cuckoo Search Algorithm (CSA) .......................................................... 1275
P. Manikandan and S. Selvarajan
Search Result Clustering Through Expectation Maximization Based Pruning of Terms .................................................. 1285
K. Hima Bindu and C. Raghavendra Rao

Intensity-Based Detection of Microcalcification Clusters in Digital Mammograms using Fractal Dimension .................. 1293
P. Shanmugavadivu and V. Sivakumar

Part XV  General Soft Computing Approaches and Applications

Palmprint Recognition Using Geometrical and Statistical Constraints ................................................................. 1303
Aditya Nigam and Phalguni Gupta

A Diversity-Based Comparative Study for Advance Variants of Differential Evolution ............................................. 1317
Prashant Singh Rana, Kavita Sharma, Mahua Bhattacharya, Anupam Shukla and Harish Sharma

Computing Vectors Based Document Clustering and Numerical Result Analysis ....................................................... 1333
Neeraj Sahu and G. S. Thakur

Altered Fingerprint Identification and Classification Using SP Detection and Fuzzy Classification ............................. 1343
Ram Kumar, Jasvinder Pal Singh and Gaurav Srivastava

Optimal Advertisement Planning for Multi Products Incorporating Segment Specific and Spectrum Effect of Different Medias .... 1351
Sugandha Aggarwal, Remica Aggarwal and P. C. Jha

Two Storage Inventory Model for Perishable Items with Trapezoidal Type Demand Under Conditionally Permissible Delay in Payment ................................................................. 1369
S R Singh and Monika Vishnoi

Development of an EOQ Model for Multi Source and Destinations, Deteriorating Products Under Fuzzy Environment ................................................................. 1387
Kanika Gandhi and P. C. Jha

A Goal Programming Model for Advertisement Selection on Online News Media .................................................. 1401
Prerna Manik, Anshu Gupta and P. C. Jha
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Integrated Approach and Framework for Document Clustering Using</td>
<td>1421</td>
</tr>
<tr>
<td>Graph Based Association Rule Mining</td>
<td></td>
</tr>
<tr>
<td>D. S. Rajput, R. S. Thakur and G. S. Thakur</td>
<td></td>
</tr>
<tr>
<td>Desktop Virtualization and Green Computing Solutions</td>
<td>1439</td>
</tr>
<tr>
<td>Shalabh Agarwal and Asoke Nath</td>
<td></td>
</tr>
<tr>
<td>Noise Reduction from the Microarray Images to Identify the Intensity</td>
<td>1451</td>
</tr>
<tr>
<td>of the Expression</td>
<td></td>
</tr>
<tr>
<td>S. Valarmathth, Ayesha Sulthana, K. C. Latha, Ramya Rathan, R. Sridhar</td>
<td></td>
</tr>
<tr>
<td>and S. Balasubramanian</td>
<td></td>
</tr>
<tr>
<td>A Comparative Study on Machine Learning Algorithms in Emotion</td>
<td>1467</td>
</tr>
<tr>
<td>State Recognition Using ECG</td>
<td></td>
</tr>
<tr>
<td>Abhishek Vaish and Pinki Kumari</td>
<td></td>
</tr>
<tr>
<td>Fault Diagnosis of Ball Bearings Using Support Vector Machine and</td>
<td>1477</td>
</tr>
<tr>
<td>Adaptive Neuro Fuzzy Classifier</td>
<td></td>
</tr>
<tr>
<td>Rohit Tiwari, Pavan Kumar Kankar and Vijay Kumar Gupta</td>
<td></td>
</tr>
<tr>
<td>Designing a Closed-Loop Logistic Network in Supply Chain by</td>
<td>1483</td>
</tr>
<tr>
<td>Reducing its Unfriendly Consequences on Environment</td>
<td></td>
</tr>
<tr>
<td>Kiran Garg, Sanjam, Aman Jain and P. C. Jha</td>
<td></td>
</tr>
<tr>
<td>Optimal Component Selection Based on Cohesion and Coupling for</td>
<td>1499</td>
</tr>
<tr>
<td>Component-Based Software System</td>
<td></td>
</tr>
<tr>
<td>P. C. Jha, Vikram Bali, Sonam Narula and Mala Kalra</td>
<td></td>
</tr>
<tr>
<td>Some Issues on Choices of Modalities for Multimodal Biometric</td>
<td>1513</td>
</tr>
<tr>
<td>Systems</td>
<td></td>
</tr>
<tr>
<td>Mohammad Imran, Ashok Rao, S. Noushath and G. Hemantha Kumar</td>
<td></td>
</tr>
<tr>
<td>An Adaptive Iterative PCA-SVM Based Technique for Dimensionality</td>
<td>1525</td>
</tr>
<tr>
<td>Reduction to Support Fast Mining of Leukemia Data</td>
<td></td>
</tr>
<tr>
<td>Vikrant Sabnis and Neelu Khare</td>
<td></td>
</tr>
<tr>
<td>Social Evolution: An Evolutionary Algorithm Inspired by Human</td>
<td>1537</td>
</tr>
<tr>
<td>Interactions</td>
<td></td>
</tr>
<tr>
<td>R. S. Pavithr and Gursaran</td>
<td></td>
</tr>
<tr>
<td>A Survey on Filter Techniques for Feature Selection in Text Mining</td>
<td>1545</td>
</tr>
<tr>
<td>Kusum Kumari Bharti and Pramod Kumar Singh</td>
<td></td>
</tr>
</tbody>
</table>
An Effective Hybrid Method Based on DE, GA, and K-means for Data Clustering .......................... 1561
Jay Prakash and Pramod Kumar Singh

Studies and Evaluation of EIT Image Reconstruction in EIDORS with Simulated Boundary Data ...................... 1573
Tushar Kanti Bera and J. Nagaraju

Coverage of Indoor WLAN in Obstructed Environment Using Particle Swarm Optimization .................. 1583
Leena Arya and S. C. Sharma

Stereovision for 3D Information ....................................................... 1595
Mary Ann George and Anna Merine George

About the Editors ................................................................. 1603
2014, XXX, 1604 p. 557 illus. In 2 volumes, not available separately. Softcover
ISBN: 978-81-322-1601-8