Table of Contents

| Plenary Papers and Reports | |
|--|-----|
| Affordance Relations | 1 |
| Discovering Concurrent Process Models in Data: A Rough Set Approach | 12 |
| Intelligent Science | 20 |
| Pattern Structures for Analyzing Complex Data | 33 |
| Fuzzy Sets and Rough Sets for Scenario Modelling and Analysis $Qiang\ Shen$ | 45 |
| Innovation Game as a Tool of Chance Discovery | 59 |
| Rough Set Year in India 2009 | 67 |
| Foundations of Rough Sets and Beyond | |
| An Algebraic Semantics for the Logic of Multiple-Source Approximation Systems | 69 |
| Towards an Algebraic Approach for Cover Based Rough Semantics and Combinations of Approximation Spaces | 77 |
| New Approach in Defining Rough Approximations $E.K.R.$ Nagarajan and $D.$ Umadevi | 85 |
| Rough Set Approximations Based on Granular Labels | 93 |
| On a Criterion of Similarity between Partitions Based on Rough Set Theory | 101 |



| On Rough Sets with Structures and Properties | 109 |
|--|-----|
| A Formal Concept Analysis Approach to Rough Data Tables | 117 |
| Covering Based Approaches to Rough Sets and Implication Lattices Pulak Samanta and Mihir Kumar Chakraborty | 127 |
| A Logical Reasoning System of Before-after Relation Based on Bf-EVALPSN | 135 |
| Some Proof Theoretic Results Depending on Context from the Perspective of Graded Consequence | 144 |
| Rough Set Algorithms and Applications | |
| IQuickReduct: An Improvement to Quick Reduct Algorithm | 152 |
| Dynamic Reduct from Partially Uncertain Data Using Rough Sets Salsabil Trabelsi, Zied Elouedi, and Pawan Lingras | 160 |
| Approximation of Loss and Risk in Selected Granular Systems | 168 |
| An Efficient Gene Selection Algorithm Based on Tolerance Rough Set Theory | 176 |
| Rough Set Based Social Networking Framework to Retrieve User-Centric Information | 184 |
| Use of Fuzzy Rough Set Attribute Reduction in High Scent Web Page Recommendations | 192 |
| A Rough Sets Approach for Personalized Support of Face Recognition | 201 |
| Taking Fuzzy-Rough Application to Mars: Fuzzy-Rough Feature Selection for Mars Terrain Image Classification | 209 |

Hiroshi Sakai, Kohei Hayashi, Michinori Nakata, and

Dominik Ślezak

| Learning Player Behaviors in Real Time Strategy Games from Real Data | 32 |
|---|----|
| Peter H.F. Ng, Simon C.K. Shiu, and Haibo Wang | _ |
| An Efficient Prediction Model for Diabetic Database Using Soft Computing Techniques | 32 |
| Veena H. Bhat, Prasanth G. Rao, P. Deepa Shenoy, K.R. Venugopal, and L.M. Patnaik | |
| A Decision Making Model for Vendor-Buyer Inventory Systems | 33 |
| Software Reliability Prediction Using Group Method of Data | |
| Handling | 34 |
| Mining Temporal Patterns for Humanoid Robot Using Pattern Growth | 35 |
| Method | |
| Multiscale Comparison of Three-Dimensional Trajectories: A Preliminary Step | 36 |
| Time Series Forecasting Using Hybrid Neuro-Fuzzy Regression Model $ Arindam\ Chaudhuri\ and\ Kajal\ De $ | 36 |
| A Fast Support Vector Machine Classification Algorithm Based on Karush-Kuhn-Tucker Conditions | 38 |
| Data Mining Using Rules Extracted from SVM: An Application to Churn Prediction in Bank Credit Cards | 39 |
| Clustering and Current Trends in Computing | |
| Interval Set Cluster Analysis: A Re-formulation | 39 |
| Rough Entropy Based k-Means Clustering | 40 |
| Fast Single-Link Clustering Method Based on Tolerance Rough Set Model | 41 |
| Bidyut Kr. Patra and Sukumar Nandi | |

| Table of Contents | XIII |
|---|------|
| A Novel Possibilistic Fuzzy Leader Clustering Algorithm | 423 |
| Projected Gustafson Kessel Clustering | 431 |
| Improved Visual Clustering through Unsupervised Dimensionality Reduction | 439 |
| An Improved Cluster Oriented Fuzzy Decision Trees | 447 |
| Combining Naive-Bayesian Classifier and Genetic Clustering for Effective Anomaly Based Intrusion Detection | 455 |
| Ant Colony Optimisation Classification for Gene Expression Data Analysis | 463 |
| A Comparative Performance Analysis of Multiple Trial Vectors Differential Evolution and Classical Differential Evolution Variants | 470 |
| Information Retrieval and Text Mining | |
| Granular Computing for Text Mining: New Research Challenges and Opportunities | 478 |
| Polarity Classification of Subjective Words Using Common-Sense Knowledge-Base | 486 |
| A Weighted Hybrid Fuzzy Result Merging Model for Metasearch Arijit De and Elizabeth D. Diaz | 494 |
| Comparing Temporal Behavior of Phrases on Multiple Indexes with a Burst Word Detection Method | 502 |
| A Comparative Study of Pattern Matching Algorithms on Sequences \dots Fan Min and Xindong Wu | 510 |
| BPBM: An Algorithm for String Matching with Wildcards and Length Constraints | 518 |
| Author Index | 527 |
| | |