



# Rough Sets and Current Trends in Computing [ Third International Conference, RSCTC 2002 Malvern, PA, USA, October 14{u2013}16, 2002 Proceedings /

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Monografía

This volume contains the papers selected for presentation at the Third International Conference on Rough Sets and Current Trends in Computing (RSCTC 2002) held at Penn State Great Valley, Malvern, Pennsylvania, U.S. A., 14{u2013}16 October 2002. Rough set theory and its applications constitute a branch of soft computing that has exhibited a significant growth rate during recent years. RSCTC 2002 provided a forum for exchanging ideas among many researchers in the rough set community and in various areas of soft computing and served as a stimulus for mutual understanding and cooperation. In recent years, there have been a number of advances in rough set theory and applications. Hence, we have witnessed a growing number of international workshops on rough sets and their applications. In addition, it should be observed that one of the beauties of rough sets and the rough set philosophy is that it tends to complement and reinforce research in many traditional research areas and applications. This is the main reason that many international conferences are now including rough sets into the list of topics

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**Contenido:** Keynote Papers -- In Pursuit of Patterns in Data Reasoning from Data - The Rough Set Way -- Toward a Theory of Hierarchical Definability (THD) -- Plenary Papers -- Modelling Biological Phenomena with Rough Sets -- Database Mining on Derived Attributes Granular and Rough Computing Approach -- A Proposed Evolutionary, Self-Organizing Automaton for the Control of Dynamic Systems -- Rough Set Analysis of Preference-Ordered Data -- Fuzzy Sets, Multi-valued Mappings, and Rough Sets -- Foundations and Methods I -- Investigating the Choice of  $l$  and  $u$  Values in the Extended Variable Precision Rough Sets Model -- A Quantitative Analysis of Preclusivity vs. Similarity Based Rough Approximations -- Heyting Wajsberg Algebras as an Abstract Environment Linking Fuzzy and Rough Sets -- Dominance-Based Rough Set Approach Using Possibility and Necessity Measures -- Generalized Decision Algorithms, Rough Inference Rules, and Flow Graphs -- Generalized Rough Sets and Rule Extraction -- Towards a Mereological System for Direct Products and Relations -- On the Structure of Rough Approximations -- Modification of Weights of Conflict Profile's Elements and Dependencies of Attributes in Consensus Model -- Reasoning about Information Granules Based on Rough Logic -- Foundations and Methods II -- A Rough Set Framework for Learning in a Directed Acyclic Graph -- On Compressible Information Systems -- Functional Dependencies in Relational Expressions Based on Or-Sets -- On Asymptotic Properties of Rough Set Theoretic Approximations. Fractal Dimension, Exact Sets, and Rough Inclusion in Potentially Infinite Information Systems -- About Tolerance and Similarity Relations in Information Systems -- Rough Sets, Guarded Command Language, and Decision Rules -- Collaborative Query Processing in DKS Controlled by Reducts -- A New Method for Determining of Extensions and Restrictions of Information Systems -- A Logic Programming Framework for Rough Sets -- Attribute Core of Decision Table -- Foundations and Methods III -- Signal Analysis Using Rough Integrals -- How Much Privacy? A System to Safe Guard Personal Privacy while Releasing Databases -- Rough Clustering: An Alternative to Find Meaningful Clusters by Using the Reducts from a Dataset -- Concept Learning with Approximation: Rough Version Spaces -- Variable Consistency Monotonic Decision Trees -- Importance and Interaction of Conditions in Decision Rules -- Time Complexity of Rough Clustering: GAs versus K-Means -- Induction of Decision Rules and Classification in the Valued Tolerance Approach -- Time Series Model Mining with Similarity-Based Neuro-fuzzy Networks and Genetic Algorithms: A Parallel Implementation -- Granular and Neuro Computing -- Closeness of Performance Map Information Granules: A Rough Set Approach -- Granular Computing on Binary Relations Analysis of Conflict and Chinese Wall Security Policy -- Measures of Inclusion and Closeness of Information Granules: A Rough Set Approach -- Rough Neurocomputing: A Survey of Basic Models of Neurocomputation -- Rough Neurocomputing Based on Hierarchical Classifiers -- Using Granular Objects in Multi-source Data Fusion -- Induction of Classification Rules by Granular Computing -- Probabilistic Reasoning -- Acquisition Methods for Contextual Weak Independence -- A Method for Detecting Context-Specific Independence in Conditional Probability Tables -- Properties of Weak Conditional Independence -- A Proposal of Probability of Rough Event Based on Probability of Fuzzy Event -- Approximate Bayesian Network Classifiers -- Accuracy and Coverage in Rough Set Rule Induction -- Statistical Test for Rough Set Approximation Based on Fisher's Exact Test -- Triangulation of Bayesian Networks: A Relational Database Perspective -- Data Mining, Machine Learning, and Pattern Recognition -- A New Version of Rough Set Exploration System -- Local Attribute Value Grouping for Lazy Rule Induction -- Incomplete Data Decomposition for Classification -- Extension of Relational Management Systems with Data Mining Capabilities -- Reducing Number of Decision Rules by Joining -- Scalable Classification Method Based on Rough Sets -- Parallel Data Mining Experimentation Using Flexible Configurations -- An Optimization of Apriori Algorithm through the Usage of Parallel I/O and Hints -- Patterns in Information Maps -- Discernibility Matrix Approach to Exception Analysis -- Gastric Cancer Data Mining with Ordered Information -- Web Mining -- A Granular Approach for Analyzing the Degree of Affability of a Web Site -- Comparison of Classification Methods for Customer Attrition Analysis -- User Profile Model: A View from Artificial Intelligence -- Mining the Client's Life Cycle Behaviour in the Web -- PagePrompter: An Intelligent Web Agent Created Using Data Mining Techniques -- VPRSM Approach to WEB Searching -- Applications I -- Rough Set Approach to the Survival Analysis -- The Identification of Low-Paying Workplaces: An Analysis Using the Variable Precision Rough Sets Model -- A Search for the Best Data Mining Method to Predict Melanoma -- Towards the Classification of Musical Works: A Rough Set Approach -- Segmentation of Medical Images Based on Approximations in Rough Set Theory -- Adaptive Robust Estimation for Filtering Motion Vectors -- Rough Set Feature Selection and Diagnostic Rule Generation for Industrial Applications -- Applications II --  $\gamma$ -Connected Approximations for Rough Sets -- Adaptive Classifier Construction: An Approach to Handwritten Digit Recognition -- The Application of Support Diagnose in Mitochondrial

Encephalomyopathies -- Obstacle Classification by a Line-Crawling Robot: A Rough Neurocomputing Approach --  
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