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Nota di contenuto	Handbook of granular computing; Contents; Preface; Foreword; Biographies; Part One Fundamentals and Methodology of Granular Computing Based on Interval Analysis, Fuzzy Sets and Rough Sets; 1 Interval Computation as an Important Part of Granular Computing: An Introduction; 2 Stochastic Arithmetic as a Model of Granular Computing; 3 Fundamentals of Interval Analysis and Linkages to Fuzzy Set Theory; 4 Interval Methods for Non-Linear Equation Solving Applications; 5 Fuzzy Sets as a User-Centric Processing Framework of Granular Computing; 6 Measurement and Elicitation of Membership Functions 7 Fuzzy Clustering as a Data-Driven Development Environment for Information Granules8 Encoding and Decoding of Fuzzy Granules; 9 Systems of Information Granules; 10 Logical Connectives for Granular Computing; 11 Calculi of Information Granules. Fuzzy Relational Equations; 12 Fuzzy Numbers and Fuzzy Arithmetic; 13 Rough-Granular Computing; 14 Wisdom Granular Computing; 15 Granular Computing for Reasoning about Ordered Data: The Dominance-Based Rough Set Approach; 16 A Unified Approach to Granulation of

Knowledge and Granular Computing Based on Rough Mereology: A Survey

17 A Unified Framework of Granular Computing
18 Quotient Spaces and Granular Computing;
19 Rough Sets and Granular Computing: Toward Rough-Granular Computing;
20 Construction of Rough Information Granules;
21 Spatiotemporal Reasoning in Rough Sets and Granular Computing;
Part Two Hybrid Methods and Models of Granular Computing;
22 A Survey of Interval-Valued Fuzzy Sets;
23 Measurement Theory and Uncertainty in Measurements: Application of Interval Analysis and Fuzzy Sets Methods;
24 Fuzzy Rough Sets: From Theory into Practice;
25 On Type 2 Fuzzy Sets as Granular Models for Words
26 Design of Intelligent Systems with Interval Type-2 Fuzzy Logic
27 Theoretical Aspects of Shadowed Sets;
28 Fuzzy Representations of Spatial Relations for Spatial Reasoning;
29 Rough-Neural Methodologies in Granular Computing;
30 Approximation and Perception in Ethology-Based Reinforcement Learning;
31 Fuzzy Linear Programming;
32 A Fuzzy Regression Approach to Acquisition of Linguistic Rules;
33 Fuzzy Associative Memories and Their Relationship to Mathematical Morphology;
34 Fuzzy Cognitive Maps; Part Three Applications and Case Studies
35 Rough Sets and Granular Computing in Behavioral Pattern Identification and Planning
36 Rough Sets and Granular Computing in Hierarchical Learning;
37 Outlier and Exception Analysis in Rough Sets and Granular Computing;
38 Information Access and Retrieval;
39 Granular Computing in Medical Informatics;
40 Eigen Fuzzy Sets and Image Information Retrieval;
41 Rough Sets and Granular Computing in Dealing with Missing Attribute Values;
42 Granular Computing in Machine Learning and Data Mining
43 On Group Decision Making, Consensus Reaching, Voting, and Voting Paradoxes under Fuzzy Preferences and a Fuzzy Majority: A Survey and a Granulation Perspective

Sommario/riassunto

Although the notion is a relatively recent one, the notions and principles of Granular Computing (GrC) have appeared in a different guise in many related fields including granularity in Artificial Intelligence, interval computing, cluster analysis, quotient space theory and many others. Recent years have witnessed a renewed and expanding interest in the topic as it begins to play a key role in bioinformatics, e-commerce, machine learning, security, data mining and wireless mobile computing when it comes to the issues of effectiveness, robustness and uncertainty. The Handbook of Granular C
