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	Nota di contenuto	Homage to Enrique Ruspini -- Invited Talks -- Foundations and Mathematics -- Decision Making, Preferences and Votes -- Optimization and Uncertainty. –Games -- Real World Applications -- Knowledge Processing and Creation -- Machine Learning I -- Machine Learning II. – XAI -- Image Processing -- Temporal Data Processing -- Text Analysis and Processing -- Fuzzy Interval Analysis -- Theoretical and Applied Aspects of Imprecise Probabilities -- Similarities in Artifcial Intelligence -- Belief Function Theory and its Applications --

Aggregation: Theory and Practice -- Aggregation: Pre-aggregation Functions and other Generalizations of Monotonicity -- Aggregation: Aggregation of Di erent Data Structures -- Fuzzy methods in Data Mining and Knowledge Discovery -- Computational Intelligence for Logistics and Transportation Problems -- Fuzzy Implication Functions -- Soft Methods in Statistics and Data Analysis -- Image Understanding and Explainable AI -- Fuzzy and Generalized Quantifer Theory -- Mathematical Methods Towards Dealing with Uncertainty in Applied Sciences -- Statistical Image Processing and Analysis, with Applications in Neuroimaging -- Interval Uncertainty -- Discrete Models and Computational Intelligence -- Current Techniques to Model, Process and Describe Time Series -- Mathematical Fuzzy Logic and Graded Reasoning Models -- Formal Concept Analysis, Rough Sets, General Operators and Related Topics -- Computational Intelligence Methods in Information Modelling, Representation and Processing.

Sommario/riassunto

This three volume set (CCIS 1237-1239) constitutes the proceedings of the 18th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2020, in June 2020. The conference was scheduled to take place in Lisbon, Portugal, at University of Lisbon, but due to COVID-19 pandemic it was held virtually. The 173 papers were carefully reviewed and selected from 213 submissions. The papers are organized in topical sections: homage to Enrique Ruspini; invited talks; foundations and mathematics; decision making, preferences and votes; optimization and uncertainty; games; real world applications; knowledge processing and creation; machine learning I; machine learning II; XAI; image processing; temporal data processing; text analysis and processing; fuzzy interval analysis; theoretical and applied aspects of imprecise probabilities; similarities in artificial intelligence; belief function theory and its applications; aggregation: theory and practice; aggregation: pre-aggregation functions and other generalizations of monotonicity; aggregation: aggregation of different data structures; fuzzy methods in data mining and knowledge discovery; computational intelligence for logistics and transportation problems; fuzzy implication functions; soft methods in statistics and data analysis; image understanding and explainable AI; fuzzy and generalized quantifier theory; mathematical methods towards dealing with uncertainty in applied sciences; statistical image processing and analysis, with applications in neuroimaging; interval uncertainty; discrete models and computational intelligence; current techniques to model, process and describe time series; mathematical fuzzy logic and graded reasoning models; formal concept analysis, rough sets, general operators and related topics; computational intelligence methods in information modelling, representation and processing.