

## Contents

Chapter 1	Symmetrization Of Fuzzy Operators: Notes On Data Aggregation <i>Wladyslaw Homenda and Witold Pedrycz</i>	1
Chapter 2	An Integrity Estimation Using Fuzzy Logic <i>P. Mariño, C. A. Sigüenza, V. Pastoriza, M. Santamaría, E. Martínez and F. Machado</i>	19
Chapter 3	Connectionist Fuzzy Relational Systems <i>Rafa Scherer and Leszek Rutkowski</i>	35
Chapter 4	Semantic Indexing and Fuzzy Relevance Model in Information Retrieval <i>Bo-Yeong Kang, Dae-Won Kim and Sang-Jo Lee</i>	49
Chapter 5	Backward Reasoning on Rule-Based Systems Modeled by Fuzzy Petri Nets Through Backward Tree <i>Rong Yang, Pheng-Ann Heng and Kwong-Sak Leung</i>	61
Chapter 6	On The Generalization of Fuzzy Rough Approximation Based on Asymmetric Relation <i>Rolly Intan and Masao Mukaidono</i>	73
Chapter 7	A new approach for the fuzzy shortest path problem <i>Tzung-Nan Chuang and Jung-Yuan Kung</i>	89
Chapter 8	Distances Between Intuitionistic Fuzzy Sets and their Applications in Reasoning <i>Eulalia Szmidt and Janusz Kacprzyk</i>	101
Chapter 9	Efficient Reasoning With Fuzzy Words <i>Martin Spott</i>	117
Chapter 10	Intuitionistic Fuzzy Relational Images <i>Martine De Cock, Chris Cornelis and Etienne E. Kerre</i>	129
Chapter 11	Thematic Fuzzy Prediction of Weed Dispersal Using Spatial Dataset <i>Andrew Chiou and Xinghuo Yu</i>	147
Chapter 12	Optimization of Image Compression Method Based on Fuzzy Relational Equations by Overlap Level of Fuzzy Sets <i>Hajime Nobuhara, Eduardo Masato Iyoda, Kaoru Hirota and Witold Pedrycz</i>	163

VIII Contents

Chapter 13	Multi-layer Image Transmission with Inverse Pyramidal Decomposition <i>Roumen Kountchev, Mariofanna Milanova, Charles Ford and Roumiana Kountcheva</i>	179
Chapter 14	Multiple Feature Relevance Feedback in Content-Based Image Retrieval using Probabilistic Inference Networks <i>Campbell Wilson and Bala Srinivasan</i>	197
Chapter 15	Non-Iterative ICA for Detecting Motion in Image Sequences <i>Yu Wei and Charayaphan Charoensak</i>	209
Chapter 16	A Practical Approach to the Chord Analysis in the Acoustical Recognition Process <i>Marcin Szlenk and Wladyslaw Homenda</i>	221
Chapter 17	Audio Fingerprinting Concepts And Applications <i>Pedro Cano, Eloi Batlle, Emilia Gómez, Leandro de C.T.Gomes and Madeleine Bonnet</i>	233
Chapter 18	Mining Technical Patterns in The U. S. Stock Market through Soft Computing <i>Ming Dong and Xu-Shen Zhou</i>	247
Chapter 19	A Fuzzy Rule-Based Trading Agent: Analysis and Knowledge Extraction <i>Tomoharu Nakashima, Takanobu Ariyama, Hiroko Kitano and Hisao Ishibuchi</i>	265
Chapter 20	An Algorithm for Determining the Controllers of Supervised Entities: A Case Study with the Brazilian Central Bank <i>Vinicius Guilherme Fracari Branco, Li Weigang and Maria Pilar Estrela Abad</i>	279
Chapter 21	Fuzzy Congestion Control In Packet Networks <i>Tapio Frantti</i>	291
Chapter 22	Fuzzy Logic Strategy of Prognosticating TCP's Timeout and Retransmission <i>Zhongwei Zhang, Zhi Li and Shan Suthaharan</i>	309
Chapter 23	Measuring User Satisfaction in Web Searching <i>M. M. Sufyan Beg and Nesar Ahmad</i>	321

Chapter 24	Long-Range Prediction of Population by Sex, Age and District Based on Fuzzy Theories <i>Pyong Sik Pak and Gwan Kim</i>	337
Chapter 25	An Efficient Information Retrieval Method for Brownfield Assessment with Sparse Data <i>Linet Ozdamar and Melek Basak Demirhan</i>	355
Chapter 26	A Fuzzy Method for Learning Simple Boolean Formulas from Examples <i>Bruno Apolloni, Andrea Brega, Dario Malchiodi, Christos Orovos and Anna Maria Zanaboni</i>	367
Chapter 27	Fuzzy Linear Programming: A Modern Tool For Decision Making <i>Pandian Vasant, R. Nagarajan and Sazali Yaacob</i>	383
Chapter 28	Fuzzy Logic Control in Hybrid Power Systems <i>Josiah Munda, Sadao Asato and Hayao Miyagi</i>	403