## **Table of Contents**

Mining Video Data: Learning about Activities	1
Ontology Languages and Engineering	2
Theory of Belief Functions for Data Analysis and Machine Learning Applications: Review and Prospects	3
Modeling Ontological Concepts of Locations with a Heterogeneous Cardinal Direction Model	4
Finding Minimal Rare Itemsets and Rare Association Rules Laszlo Szathmary, Petko Valtchev, and Amedeo Napoli	16
Background Knowledge Integration in Clustering Using Purity Indexes	28
A Comparison of Merging Operators in Possibilistic Logic	39
Modelling and Reasoning in Metamodelling Enabled Ontologies Nophadol Jekjantuk, Gerd Gröner, and Jeff. Z. Pan	51
Towards Encoding Background Knowledge with Temporal Extent into Neural Networks	63
A Fuzzy Description Logic with Automatic Object Membership Measurement	76
Decomposition-Based Optimization for Debugging of Inconsistent OWL DL Ontologies	88
A Concept Hierarchy Based Ontology Mapping Approach Ying Wang, Weiru Liu, and David Bell	101
Composing Cardinal Direction Relations Basing on Interval Algebra Juan Chen, Haiyang Jia, Dayou Liu, and Changhai Zhang	114



Retrieval Result Presentation and Evaluation	125
Autonomy: Life and Being	137
A Method of Social Collaboration and Knowledge Sharing Acceleration for e-Learning System: The Distance Learning Network Scenario	148
A Comparative Study of Target-Based Evaluation of Traditional Craft Patterns Using Kansei Data	160
Optimization of Multiple Related Negotiation through Multi-Negotiation Network	174
Reasoning Activity for Smart Homes Using a Lattice-Based Evidential Structure	186
Knowledge Modelling to Support Inquiry Learning Tasks	198
Building the Knowledge Base to Support the Automatic Animation Generation of Chinese Traditional Architecture	210
Discovery of Relation Axioms from the Web	222
An Improved Piecewise Aggregate Approximation Based on Statistical Features for Time Series Mining	234
Incorporating Duration Information in Activity Recognition	245
A Graphical Model for Risk Analysis and Management	256
Towards Awareness Services Usage Characterization: Clustering Sessions in a Knowledge Building Environment	270

Based on Evolutionary Computation	282
Probabilistic Declarative Process Mining	292
Making Ontology-Based Knowledge and Decision Trees Interact: An Approach to Enrich Knowledge and Increase Expert Confidence in Data-Driven Models	304
A Novel Initialization Method for Semi-supervised Clustering	317
Constructing and Mapping Fuzzy Thematic Clusters to Higher Ranks in a Taxonomy	329
Anticipation as a Strategy: A Design Paradigm for Robotics	341
Modular Logic Programming for Web Data, Inheritance and Agents	354
Automatic Collecting Technique of Low Frequency Electromagnetic Signals and Its Application in Earthquake Study	366
Improving Search in Tag-Based Systems with Automatically Extracted Keywords	378
Towards a Framework for Trusting the Automated Learning of Social Ontologies	388
PlayPhysics: An Emotional Games Learning Environment for Teaching Physics	400

A SOM-Based Technique for a User-Centric Content Extraction and Classification of Web 2.0 with a Special Consideration of Security	412
Aspects	412
Modularizing Spatial Ontologies for Assisted Living Systems	424
Towards Scalable Instance Retrieval over Ontologies	436
MindDigger: Feature Identification and Opinion Association for Chinese Movie Reviews	449
The Impact of Latency on Online Classification Learning with Concept Drift	459
Efficient Reasoning with RCC-3D	470
Automated Ontology Generation Using Spatial Reasoning	482
Facilitating Experience Reuse: Towards a Task-Based Approach  Ying Du, Liming Chen, Bo Hu, David Patterson, and Hui Wang	494
Behavioural Rule Discovery from Swarm Systems	506
Knowledge Discovery Using Bayesian Network Framework for Intelligent Telecommunication Network Management	518
Combining Logic and Probabilities for Discovering Mappings between  Taxonomies	530
Rémi Tournaire, Jean-Marc Petit, Marie-Christine Rousset, and Alexandre Termier	
An Ontology-Based Semantic Web Service Space Organization and Management Model	543

617