Contents - Part I

Knowledge Engineering and Semantic Web

A Novel Approach to Multimedia Ontology Engineering for Automated Reasoning over Audiovisual LOD Datasets	3
Finding Similar Clothes Based on Semantic Description for the Purpose of Fashion Recommender System	13
An Influence Analysis of the Inconsistency Degree on the Quality of Collective Knowledge for Objective Case	23
Knowledge Base Refinement with Gamified Crowdsourcing Daiki Kurita, Boonsita Roengsamut, Kazuhiro Kuwabara, and Hung-Hsuan Huang	33
Argumentation Framework for Merging Stratified Belief Bases Trong Hieu Tran, Thi Hong Khanh Nguyen, Quang Thuy Ha, and Ngoc Trinh Vu	43
An Ontology-Based Knowledge Representation of MCDA Methods Jarosław Wątróbski and Jarosław Jankowski	54
Preliminary Evaluation of Multilevel Ontology Integration on the Concept Level	65
Temporal Ontology Representation and Reasoning Using Ordinals and Sets for Historical Events	75
Measuring Propagation Phenomena in Social Networks: Promising Directions and Open Issues	86
Social Networks and Recommender Systems	
Visualizing Learning Activities in Social Network Thi Hoang Yen Ho, Thanh Tam Nguyen, and Insu Song	97



XXVI Contents - Part I

A Mobility Prediction Model for Location-based Social Networks Nguyen Thanh Hai, Huu-Hoa Nguyen, and Nguyen Thai-Nghe	106
Empirical Analysis of the Relationship Between Trust and Ratings in Recommender Systems	116
Text Processing and Information Retrieval	
Integrated Feature Selection Methods Using Metaheuristic Algorithms for Sentiment Analysis	129
Big Data in Contemporary Linguistic Research. In Search of Optimum Methods for Language Chronologization	141
Improving Twitter Aspect-Based Sentiment Analysis Using Hybrid Approach	151
Design of a Yoruba Language Speech Corpus for the Purposes of Text-to-Speech (TTS) Synthesis	161
Named Entity Recognition for Vietnamese Spoken Texts and Its Application in Smart Mobile Voice Interaction	170
Explorations of Prosody in Vietnamese Language	181
Identifying User Intents in Vietnamese Spoken Language Commands and Its Application in Smart Mobile Voice Interaction	190
A Method for Determining Representative of Ontology-based User Profile in Personalized Document Retrieval Systems	202

Conte	ents – Part I	XXVII
Database Systems and Software Engineering		
Data Quality Scores for Pricing on Data Marketplaces Florian Stahl and Gottfried Vossen		215
Extraction of Structural Business Rules from C# Bogumila Hnatkowska and Marcin Ważeliński		. 225
Higher Order Mutation Testing to Drive Development of New An Empirical Comparison of Three Strategies		. 235
On the Relationship Between the Order of Mutation Testing a Properties of Generated Higher Order Mutants		. 245
Intelligent Information Systems		
Responsive Web Design: Testing Usability of Mobile Web A Jarosław Bernacki, Ida Błażejczyk, Agnieszka Indyka-Piase Marek Kopel, Elżbieta Kukla, and Bogdan Trawiński		. 257
Person Name Disambiguation for Building University Knowle Piotr Andruszkiewicz and Szymon Szepietowski	edge Base	. 270
Improving Behavior Prediction Accuracy by Using Machine for Agent-Based Simulation		. 280
A Model for Analysis and Design of Information Systems Ba Document Centric Approach		. 290
MobiCough: Real-Time Cough Detection and Monitoring Usi Mobile Devices	-	. 300
Database of Peptides Susceptible to Aggregation as a Tool for Mechanisms of Diseases of Civilization		. 310
Using a Cloud Computing Telemetry Service to Assess PaaS Francisco Anderson Freire Pereira, Jackson Soares, Adrianne Paula Vieira Andrade, Gilson Gomes Silva, and João Paulo Souza Medeiros	Setups	. 320

XXVIII Contents - Part I

and the User Experience with the Use of Eye Tracking	330
Using Cognitive Agents for Unstructured Knowledge Management in a Business Organization's Integrated Information System	344
A Norm Assimilation Approach for Multi-agent Systems in Heterogeneous Communities	354
Knowledge in Asynchronous Social Group Communication	364
Decision Support and Control Systems	
Interpreted Petri Nets in DES Control Synthesis	377
Enhanced Guided Ejection Search for the Pickup and Delivery Problem with Time Windows	388
How to Generate Benchmarks for Rich Routing Problems?	399
Formal a Priori Power Analysis of Elements of a Communication Graph Jacek Mercik	410
Angiogenic Switch - Mixed Spatial Evolutionary Game Approach Michal Krzeslak, Damian Borys, and Andrzej Swierniak	420
Model Kidney Function in Stabilizing of Blood Pressure	430
Dynamic Diversity Population Based Flower Pollination Algorithm for Multimodal Optimization	440
Hardware Implementation of Fuzzy Petri Nets with Lukasiewicz Norms for Modelling of Control Systems	449

	Contents - Part I	XXIX
ALMM Solver for Combinatorial and Discrete Optimizat Problems – Idea of Problem Model Library Ewa Dudek-Dyduch and Sławomir Korzonek		459
Integration of Collective Knowledge in Financial Decision Marcin Hernes and Andrzej Bytniewski	1 Support System	470
Framework for Product Innovation Using SOEKS and Do Mohammad Maqbool Waris, Cesar Sanin, and Edward		480
Common-Knowledge and KP-Model		490
Controllability of Semilinear Fractional Discrete Systems Jerzy Klamka		500
Machine Learning and Data Mining		
On Fast Randomly Generation of Population of Minimal Biquad Sections for Evolutionary Digital Filters Design I Adam Slowik		511
Recursive Ensemble Land Cover Classification with Littl and Many Classes	e Training Data	521
Treap Mining - A Comparison with Traditional Algorith H.S. Anand and S.S. Vinodchandra	m	532
SVM Based Lung Cancer Prediction Using microRNA E Profiling from NGS Data		544
Forecasting the Magnitude of Dengue in Southern Vietna Tuan Q. Dinh, Hiep V. Le, Tru H. Cao, Quang C. Luand Hai T. Diep		554
Self-paced Learning for Imbalanced Data		564
A New Similarity Measure for Intuitionistic Fuzzy Sets. Hoang Nguyen		574
Multiple Kernel Based Collaborative Fuzzy Clustering A Trong Hop Dang, Long Thanh Ngo, and Wiltold Pedr		585

XXX Contents - Part I

Credit Risk Evaluation Using Cycle Reservoir Neural Networks with Support Vector Machines Readout	595
Fuzzy-Based Feature and Instance Recovery	605
An Enhanced Support Vector Machine for Faster Time Series Classification Thapanan Janyalikit, Phongsakorn Sathianwiriyakhun, Haemwaan Sivaraks, and Chotirat Ann Ratanamahatana	616
Parallel Implementations of the Ant Colony Optimization Metaheuristic Andrzej Siemiński	626
A Segmented Artificial Bee Colony Algorithm Based on Synchronous Learning Factors	636
A Method for Query Top-K Rules from Class Association Rule Set Loan T.T. Nguyen, Hai T. Nguyen, Bay Vo, and Ngoc-Thanh Nguyen	644
Hierarchy of Groups Evaluation Using Different F-Score Variants Michał Spytkowski, Łukasz P. Olech, and Halina Kwaśnicka	654
Hierarchical Evolutionary Multi-biclustering: Hierarchical Structures of Biclusters Generation	665
Computer Vision Techniques	
Feature Selection Based on Synchronization Analysis for Multiple fMRI Data	679
Exploiting GPU for Large Scale Fingerprint Identification	688
Extraction of Myocardial Fibrosis Using Iterative Active Shape Method Jan Kubicek, Iveta Bryjova, Marek Penhaker, Michal Kodaj, and Martin Augustynek	698
Increasing the Efficiency of GPU-Based HOG Algorithms Through Tile-Images	708

Contents – Part I	XXXI
Gradient Depth Map Based Ground Plane Detection for Mobile Robot Applications	721
Multiscale Car Detection Using Oriented Gradient Feature and Boosting Machine	731
Probabilistic Approach to Content-Based Indexing and Categorization of Temporally Aggregated Shots in News Videos	741
A Method of Data Registration for 3D Point Clouds Combining with Motion Capture Technologies	751
Detection and Recognition of Speed Limit Sign from Video Lei Zhu, Chun-Sheng Yang, and Jeng-Shyang Pan	760
FARTHEST: FormAl distRibuTed scHema to dEtect Suspicious arTefacts Pablo C. Cañizares, Mercedes G. Merayo, and Alberto Núñez	770
A Fast and Robust Image Watermarking Scheme Using Improved Singular Value Decomposition	780
Accelerative Object Classification Using Cascade Structure for Vision Based Security Monitoring Systems	7 90
Selections of Suitable UAV Imagery's Configurations for Regions Classification	801
Author Index	811