

# Table of Contents

## Ontology Engineering

Adoption of the Classical Theory of Definition to Ontology Modeling . . . . .	1
<i>Patryk Burek</i>	
An Approach to Evaluate Existing Ontologies for Indexing a Document Corpus . . . . .	11
<i>Nathalie Hernandez, Josiane Mothe</i>	
Capturing Semantics Towards Automatic Coordination of Domain Ontologies . . . . .	22
<i>Konstantinos Kotis, George A. Vouros, Kostas Stergiou</i>	
Towards a Semantic Representation of Documents by Ontology-Document Mapping . . . . .	33
<i>Mustapha Baziz</i>	
Using an Aligned Ontology to Process User Queries . . . . .	44
<i>Kleber Xavier Sampaio de Souza, Joseph Davis</i>	

## Semantic Web Services

An Experiment on Modelling Agents and Knowledge for the Semantic Web . . . . .	54
<i>Alvaro E. Arenas, Brian M. Matthews</i>	
Automatic Creation and Monitoring of Semantic Metadata in a Dynamic Knowledge Portal . . . . .	65
<i>Diana Maynard, Milena Yankova, Niraj Aswani, Hamish Cunningham</i>	
Coordinating Semantic Peers . . . . .	75
<i>P. Bouquet, L. Serafini, S. Zanobini</i>	
Identification of Communities of Peers by Trust and Reputation . . . . .	85
<i>Alessandro Agostini, Gianluca Moro</i>	
Integration of B2B Logistics Using Semantic Web Services . . . . .	96
<i>Javier Esplugas Cuadrado, Chris Preist, Stuart Williams</i>	
Planning and Monitoring Web Service Composition . . . . .	106
<i>M. Pistore, F. Barbon, P. Bertoli, D. Shaparau, P. Traverso</i>	

## Knowledge Presentation and Processing

A Logic of Inequalities . . . . .	116
<i>Nikolai G. Nikolov</i>	
Exploiting the Constrainedness in Constraint Satisfaction Problems . . . . .	126
<i>Miguel A. Salido, Federico Barber</i>	
Orthogonal Operators for User-Defined Symbolic Periodicities . . . . .	137
<i>Lavinia Egidi, Paolo Terenziani</i>	
Solving Constraints Between Lines in Euclidean Geometry . . . . .	148
<i>Philippe Balbiani, Khalil Challita</i>	

## Machine Learning and Data Mining

An Oracle Based Meta-learner for Function Decomposition . . . . .	158
<i>R. Shyam Sundar Yadav, Deepak Khemani</i>	
Bagged Voting Ensembles . . . . .	168
<i>S.B. Kotsiantis, Panayiotis E. Pintelas</i>	
Cluster Validation for High-Dimensional Datasets . . . . .	178
<i>Minho Kim, Hyunjin Yoo, R.S. Ramakrishna</i>	
Emergent Behaviours Based on Episodic Encoding and Familiarity Driven Retrieval . . . . .	188
<i>Emilia I. Barakova</i>	
Increasing the Classification Accuracy of Simple Bayesian Classifier . . . . .	198
<i>S.B. Kotsiantis, Panayiotis E. Pintelas</i>	
Outlier Detecting in Fuzzy Switching Regression Models . . . . .	208
<i>Hong-bin Shen, Jie Yang, Shi-tong Wang</i>	
PubMiner: Machine Learning-Based Text Mining System for Biomedical Information Mining . . . . .	216
<i>Jae-Hong Eom, Byoung-Tak Zhang</i>	

## Natural Language Processing

Advances in Profile Assisted Voicemail Management . . . . .	226
<i>Konstantinos Koumpis</i>	
Computing Speech Acts . . . . .	236
<i>Gemma Bel Enguix, M. Dolores Jimenez Lopez</i>	
High Performance Part-of-Speech Tagging of Bulgarian . . . . .	246
<i>Veselka Doychinova, Stoyan Mihov</i>	

The Definite Article of Bulgarian Adjectives and Numerals in DATR . . . . .	256
<i>Velislava Stoykova</i>	

Towards a Better Understanding of the Language Content in the Semantic Web . . . . .	267
<i>Pavlin Dobrev, Albena Strupchanska, Galia Angelova</i>	

## **Soft Computing**

A Study on Neural Networks and Fuzzy Inference Systems for Transient Data . . . . .	277
<i>Fevzullah Temurtas</i>	

Automatic Design of Hierarchical TS-FS Model Using Ant Programming and PSO Algorithm . . . . .	285
<i>Yuehui Chen, Jiwen Dong, Bo Yang</i>	

Forecasting Stock Price by SVMs Regression . . . . .	295
<i>Yukun Bao, Yansheng Lu, Jinlong Zhang</i>	

Harmonic Detection Using Neural Networks with Conjugate Gradient Algorithm . . . . .	304
<i>Nejat Yumusak, Fevzullah Temurtas, Rustu Gunturkun</i>	

## **Neural Networks**

Neural Model of Osmotic Dehydration Kinetics of Fruits Cubes . . . . .	312
<i>Ieroham Baruch, Próspero Genina-Soto, Boyka Nenkova, Josefina Barrera-Cortés</i>	

Robust and Adaptive Load Frequency Control of Multi-area Power Networks with System Parametric Uncertainties Using Temporal Difference Based MLP Neural Networks . . . . .	321
<i>Farzan Rashidi, Mehran Rashidi</i>	

Rule Based Neural Networks Construction for Handwritten Arabic City-Names Recognition . . . . .	331
<i>Labiba Souici, Nadir Farah, Toufik Sari, Mokhtar Sellami</i>	

## **E-learning Systems**

A generic E-learning Engineering Framework Embracing the Semantic Web . . . . .	341
<i>Johannes Lischka, Dimitris Karagiannis</i>	

An Integrated Environment for Building Distributed Multi-agent Educational Applications . . . . .	351
<i>Tasos Triantis, Panayiotis E. Pintelas</i>	

A Tutoring System Supporting Experimentation with Virtual Macroeconomic Environments . . . . .	361
<i>Manuel Núñez, Ismael Rodríguez, Fernando Rubio</i>	

## Multi-agent Systems

An Agent Based Approach for Migrating Web Services to Semantic Web Services . . . . .	371
<i>László Zsolt Varga, Ákos Hajnal, Zsolt Werner</i>	
Constructing a BDI Agent to Deploy in an Interactive Computer Game Environment . . . . .	381
<i>In-Cheol Kim</i>	
Learning Obstacle Avoidance Behavior Using Multi-agent Learning with Fuzzy States . . . . .	389
<i>Ming Lin, Jihong Zhu, Zengqi Sun</i>	
Towards Well-Defined Multi-agent Reinforcement Learning . . . . .	399
<i>Rinat Khoussainov</i>	
Variant Extensions to Prove MAS Behaviours . . . . .	409
<i>Bruno Mermet, Dominique Fournier</i>	

## Pattern Recognition

Arabic Words Recognition with Classifiers Combination: An Application to Literal Amounts . . . . .	420
<i>Nadir Farah, Labiba Souici, Lotfi Farah, Mokhtar Sellami</i>	
Curved Segmentation Path Construction for Unconstrained Handwritten Hangul Segmentation . . . . .	430
<i>Sungho Park, Wontaek Seo, Beom-joon Cho</i>	
Efficient Segmentation Path Generation for Unconstrained Handwritten Hangul Character . . . . .	438
<i>Wontaek Seo, Beom-joon Cho</i>	

## Intelligent Decisionmaking

Designing Hybrid Cooperations with a Component Language for Solving Optimization Problems . . . . .	447
<i>Carlos Castro, Eric Monfroy</i>	
Multicriteria Optimization in CSPs : Foundations and Distributed Solving Approach . . . . .	459
<i>Inès Ben Jaâfar, Naoufel Khayati, Khaled Ghédira</i>	
Nonlinear $H_\infty$ State Feedback Control of Rigid Robot Manipulators . . . . .	469
<i>Mahdi Jalili-Kharaajoo</i>	

Qualitative Model of Decision Making .....	480
<i>Rafał Graboś</i>	

## **Information Retrieval**

Information Retrieval Model Based on User Profile .....	490
<i>Rachid Arezki, Pascal Poncelet, Gérard Dray, David William Pearson</i>	

Schema Matching in GIS .....	500
<i>Snezhana Manoah, Omar Boucelma, Yassine Lassoued</i>	

The Web as an Autobiographical Agent .....	510
<i>Maya Dimitrova, Emilia I. Barakova, Tino Lourens, Petia Radeva</i>	

<b>Author Index</b> .....	521
---------------------------	-----

Artificial Intelligence: Methodology, Systems, and  
Applications

11th International Conference, AIMS 2004, Varna,  
Bulgaria, September 2-4, 2004, Proceedings  
Bussler, C. (Ed.)

2004, XIII, 522 p., Softcover

ISBN: 978-3-540-22959-9