

# Contents

<b>Workshop on Data Mining a učení preferencí na webu (DMUPW 2014)</b>	<b>1</b>
Š. Bocko, T. Horváth: Web-Based Data Mining Assistant . . . . .	2
P. Gurský, J. Malčovský, M. Vaško: Prezentovateľný komplexný model používateľských preferencií v internetových obchodoch . . . . .	4
E. Lišivková, Š. Pero: Predikcia úspešnosti študentov pomocou multi-relacnej faktORIZÁCIE .	8
L. Maršík, J. Pokorný, M. Ilčík: Improving Music Classification Using Harmonic Complexity	13
T. Nguyen, Š. Pero: Odporúcanie s dozorom v inteligentnom systéme na výučbu programovania . . . . .	18
L. Peška: IPIget: The Component for Collecting Implicit User Preference Indicators . . . . .	22
P. Vojtáš: User Preference Learning – from Inductive Logic Programming to Data Mining . . . . .	27
<b>Workshop on Computational Intelligence and Data Mining (WCIDM 2014)</b>	<b>31</b>
L. Bajer, M. Holeňa: Towards Low-dimensional Gaussian Process Metamodels for CMA-ES	33
F. Hruška, J. Kubalík: Improving Clarke-Wright Heuristic by Genetic Programming . . . . .	38
A. Chotard, M. Holeňa: Important Markov-Chain Properties of $(1,\lambda)$ -ES Linear Optimization Models . . . . .	44
J. Kalina, J. Duintjer Tebbens, A. Schlenker: Robustness of High-Dimensional Data Mining	53
M. Kopp, T. Pevný, M. Holeňa: Interpreting and Clustering Outliers with Sapling Random Forests . . . . .	61
V. Kůrková: Representations of Boolean Functions by Perceptron Networks . . . . .	68
T. Pevný, M. Kopp: Explaining Anomalies with Sapling Random Forests . . . . .	71
P. Pulc, M. Holeňa: Case Study in Approaches to the Classification of Audiovisual Recordings of Lectures and Conferences . . . . .	79
O. Trunda: Automatic Creation of Pattern Databases in Planning . . . . .	85
M. Vejmelka, A. K. Kochanski, J. Mandel: Online System for Fire Danger Rating in Colorado	93
P. Vidnerová, R. Neruda: Meta-Parameters of Kernel Methods and Their Optimization . . . . .	99
J. Žegklitz, P. Pošík: Combining Subtree and Ripple Crossover in Grammatical Evolution .	106
<b>Workshop on Algorithmic Aspects of Complex Networks Analysis (WAACNA 2014)</b>	<b>113</b>
I. Jurisica: High-performance computing and “big data” in integrative cancer informatics . . . . .	114
D. Bernát: Measurement Based Analysis of the Internet Topology . . . . .	115
J. Coroničová Hurajová, T. Madaras: On Decay Centrality Thresholds in Complex Networks	120

<i>M. Čajági, J. Pukancová, D. Šuníková: Complex Networks in Text Analysis and Summarization</i>	125
<i>M. Markošová: Modeling Real World Phenomena by Complex Networks</i> . . . . .	131
<i>M. Nehéz, M. Lelovský, J. Bendžala, T. Blaho: On the k-center Problem in Social Networks</i>	139
<b>Poster Abstract</b>	<b>145</b>
<i>J. Jacková: Enhancing Engagement in Computer Science Courses through Student Created and Curated Question Banks - Abstract</i> . . . . .	146

# Contents

P. Barančíková, A. Tamchyna: Machine Translation within One Language as a Paraphrasing Technique . . . . .	1
D. Bednárek, M. Kruliš, J. Yaghob, F. Zavoral: Employing Evolutionary Algorithms for Classification of Astrophysical Spectra . . . . .	7
M. Brabec, D. Bednárek, P. Malý: Transformation of Pipeline Stage Algorithms to Event-Driven Code . . . . .	13
R. Brunetto, M. Vomlelová: Acting and Bayesian Reinforcement Structure Learning of Partially Observable Environment . . . . .	21
P. Fejfar, D. Obdržálek: Smart and Easy Object Tracking . . . . .	28
R. Gargalík, Z. Tomori: Control of Depth-Sensing Camera via Plane of Interaction . . . . .	34
P. Gurský, V. Chabal', R. Novotný, M. Vaško, M. Vereščák: Extracting Product Data from E-Shops . . . . .	40
A. Herencsár B. Brejová: An Improved Algorithm for Ancestral Gene Order Reconstruction . . . . .	46
Z. Jiráček, V. Martínek, M. Čermák: Deviations Prediction in Timetables Based on AVL Data . . . . .	54
M. Lopatková, J. Mirovský, V. Kuboř: Gramatické závislosti vs. koordinace z pohledu redukční analýzy . . . . .	61
M. Plátek: Analysis by Reduction of D-trees . . . . .	68
A. Ridzik, B. Brejová: Neuropeptide Recognition by Machine Learning Methods . . . . .	72
R. Rosa: Fairytale Child Chatbot . . . . .	79
D. Variš, O. Bojar: Japonsko-český strojový překlad . . . . .	85
O. Zamazal, V. Svátek: Towards Automation of Ontology Analysis Reporting . . . . .	93
F. Zavoral, J. Yaghob, D. Bednárek, M. Kruliš: Contemplating Efficiency of the ROOT File Format for Data Intensive Simulations in Particle Physics . . . . .	97