Dragi Kocev

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Work experience

2014 - : visiting research fellow, Dept. of Informatics, Universita degli studi di Bari, Italy

2011-2014: post-doctoral researcher, Dept. of Knowledge Technologies, Jožef Stefan Institute, Slovenia

2008-2011: research assistant, Dept. of Knowledge Technologies, Jožef Stefan Institute, Slovenia

Education

PhD in Computer Science, IPS Jožef Stefan, Ljubljana, Slovenia, 2011.
Dissertation: Ensembles for predicting structured outputs.

BSc in Enginnering, Faculty of Electrical Engineering, Skopje, Macedonia, 2005.
Thesis: Inductive querying environment for learning predictive clustering trees.

Projects

2014-2017: **MAESTRA** - Learning from Massive, Incompletely annotated, and Structured Data, FP7 FET Open Xtrack, grant no. ICT-2013-612944; *co-coordinator*

2014-2016: **HBP** - Human Brain Project, FET Flagship, grant no. 604102

2008-2012: **PHAGOSYS** - Systems biology of phagosome formation and maturation - modulation by intracellular pathogens, FP7 STREP, grant no. HEALTH-F4-2008-223451

2005-2008: **IQ** - Inductive Queries for Mining Patterns and Models, FP6 STREP, grant no. IST-2004-516169

2009-2012: Data mining for integrative data analysis in systemic biology, basic research project, ARRS, grant no. J2-2285

2013-2013: Structured annotation, storage and retrieval of images and videos, bilateral research project between Slovenia and Macedonia

2009-2010: **GardenTox** - A decision support system for ensuring safe cultivation of vegetables in urban gardens, bilateral research project between Slovenia and France

2007-2008: **WAS** - Waste application and soil functioning: identification and classification of soil physico-chemical and biological parameters affecting plant nutrition, bilateral research project between Slovenia and France

2007-2008: Inductive Databases for Genomics and Proteomics, bilateral research project between Slovenia and Croatia

2007-2008: Knowledge Discovery for Ecological Modeling of Lake Ecosystems, bilateral research project between Slovenia and Macedonia

Scholarships and awards

Scholarships

2007-2008: Scholarship for doctoral students from the Department of Knowledge Technologies, Jožef Stefan Institute, Ljubljana, Slovenia.

2005-2009: Scholarship for doctoral studies from the Slovene Human Resources and Scholarship Fund *Ad Futura*, Ljubljana, Slovenia.

2000-2005: Scholarship for talented university students from the Ministry of Education of Macedonia, Skopje, Macedonia.

1997-2000: Scholarship for talented high school students from the Ministry of Education of Macedonia, Skopje, Macedonia.

Awards

2005: Diploma for graduation *summa cum laude* from the Faculty of Electrical Engineering, Skopje, Macedonia.

2001 - 2005: Diploma for finishing each study year with high grade-point average at the Faculty of Electrical engineering, Skopje, Macedonia.

Certificates and diplomas for participation in state competitions in chemistry, mathematics and physics for high school students in Macedonia.

Competitions

ImageCLEF 1013: Automatic modality classification of medical images - ranked 2^{nd}
`http://www.imageclef.org/2013/medical`.

ImageCLEF 2013: Ad-hoc medical image retrieval - ranked 3^{rd} -
`http://www.imageclef.org/2013/medical`.

ImageCLEF@ICPR 2010: Automatic image annotaion - ranked 2^{nd} and 3^{rd} according to the two evaluation measures -
`http://www.imageclef.org/2010/ICPR/`.

ImageCLEF 2009: Automatic annotaion of medical images - ranked 3^{rd} -
`http://www.imageclef.org/2009/medanno`.

Community service

Program committee co-chair

DS2014: 17^{th} International Conference on Discovery Science, Bled, Slovenia, October 8-10, 2014.

Program committee member

IJCAI 2015: International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina, July 25-31, 2015. (Senior PC member)

ECML PKDD 2015: European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, Porto, Portugal, September 7-11, 2015.

NFMCP2015: Workshop on New Frontiers on Mining Complext Patterns held at ECML/PKDD 2015, Porto, Portugal, September 7, 2015.

NFMCP2014: Workshop on New Frontiers on Mining Complext Patterns held at ECML/PKDD 2014, Nancy, France, September 19, 2014.

MLD09: First Workshop on Learning from Multi-Label Data held at ECML/PKDD 2009, Bled, Slovenia, September 7, 2009.

Organizing committee

MLSB10: Fourth International Workshop on Machine Learning in Systems Biology, Edinburgh, Scotland, October 15-16, 2010.

MLSB09: Third International Workshop on Machine Learning in Systems Biology, Ljubljana, Slovenia, September 5-6, 2009.

Guest editor

Machine Learning Journal
Special issue on Discovery Science

Reviewing

Journals: Machine Learning, Information Sciences, Engineering Applications of Artificial Intelligence, Pattern Recognition, Bioinformatics, Data Mining and Knowledge Discovery, Knowledge and Information Systems, Neurocomputing, Remote Sensing, Journal of Computer Systems and Sciences, Expert Systems With Applications, Journal of Bioinformatics, Ecological Informatics, Journal of Pattern Recognition Research, Integrated Computer-Aided Engineering, International Journal of Electrical Power and Energy Systems, Protein and Peptide Letters, International Journal of Information Technology & Decision Making, Acta geographica Slovenica (slo. Geografski Zbornik), Informatica (Ljub.), Organizacija

Conferences:European Conference on Machine Learning / Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD) 2007, 2008, 2011, 2012, 2013, 2014, 2015; Discovery Science (DS) 2008, 2009, 2013; National Conference on Artificial Intelligence (AAAI) 2008; SIAM International conference on Data Mining (SDM) 2008, 2009, 2013, 2014, 2015; International Conference on Inductive Logic Programming (ILP) 2009; European Conference on Artificial Intelligence (ECAI) 2010; International Conference on Knowledge Discovery in Databases (SIGKDD) 2011, 2012, 2013, 2014; International Conference on Intelligent Data Analysis (IDA) 2011; IEEE International Conference on Data Mining 2014; IEEE International Conference on Big Data 2014.

Citations

The number of citations are calculated on 25.04.2015.

WebOfScience/Scopus: 222.

GoogleScholar: 521 (h-index: 10)

Selected publications

This is a list of journal publications. For an exhaustive list of publications, please visit my `homepage`.

Jurica Levatić, Dragi Kocev, and Sašo Džeroski. The importance of the label hierarchy in hierarchical multi-label classification, *Journal of Intelligent Information Systems*, in press, 2014

Janja Zajc, Sašo Džeroski, Dragi Kocev, Aharon Oren, Silva Sonjak, Rok Tkavc, and Nina Gunde-Cimerman. Chaophilic or chaotolerant fungi: a new category of extremophiles?, *Frontiers in Microbiology*, vol. 5, art. 708, 2014

Ivica Dimitrovski, Dragi Kocev, Ivan Kitanovski, Suzana Loskovska, and Sašo Džeroski. Improved medical image modality classification using a combination of visual and textual features, *Computerized Medical Imaging and Graphics*, in press, 2014

Jurica Levatić, Dragi Kocev, Marko Debeljak, and Sašo Džeroski. Community structure models are improved by exploiting taxonomic rank with predictive clustering trees, *Ecological Modelling*, in press, 2014

Dragi Kocev, Celine Vens, Jan Struyf, and Sašo Džeroski. Tree ensembles for predicting structured outputs, *Pattern Recognition*, vol. 46, no. 3, pp. 817-833, 2013

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Fast and efficient visual codebook construction for multi-label annotation using predictive clustering trees, *Pattern Recognition Letters*, vol. 38, pp. 38-45, 2013

Dragi Kocev, and Sašo Džeroski. Habitat modelling with single- and multi-target trees and ensembles, *Ecological Informatics*, vol. 18, pp. 79-92, 2013

Gjorgji Madjarov, Dragi Kocev, Dejan Gjorgjevikj, and Sašo Džeroski. An extensive experimental comparison of methods for multi-label learning, *Pattern Recognition*, vol. 45, no. 9, pp. 3084-3104, 2012

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Hierarchical classification of diatom images using ensembles of predictive clustering trees, *Ecological Informatics*, vol. 7, no. 1, pp. 19-29, 2012

Jérôme Cortet, Dragi Kocev, Caroline Ducobu, Sašo Džeroski, Marko Debeljak, and Christophe Schwartz. Using data mining to predict soil quality after application of biosolids in agriculture, *Journal of Environmental Quality*, vol. 40, no.6, pp.1972-82, 2011

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Hierarchical annotation of medical images, *Pattern Recognition*, vol. 44, no. 10-11, pp. 2436-2449, 2011

Reuben Keller, Dragi Kocev, and Sašo Džeroski. Trait-based risk assessment for invasive species: high performance across diverse taxonomic groups, geographic ranges and machine learning/statistical tools, *Diversity and Distributions*, vol. 17, no. 3, pp. 451-461, 2011

Marko Debeljak, Geoff R. Squire, Dragi Kocev, Cathy Hawes, Marc W. Young, and Sašo Džeroski. Analysis of time series data on agroecosystem vegetation using predictive clustering trees, *Ecological Modelling*, vol. 222, no. 14, pp. 2524-2529, 2011

Leander Schietgat, Celine Vens, Jan Struyf, Hendrik Blockeel, Dragi Kocev, and Sašo Džeroski. Predicting gene function using hierarchical multi-label decision tree ensembles, *BMC bioinformatics*, vol. 11, no. 2, str. 1-14, 2010

Dragi Kocev, Andreja Naumoski, Kosta Mitreski, Svetislav Krstić, and Sašo Džeroski. Learning Habitat Models for the Diatom Community in Lake Prespa, *Ecological Modelling*, vol. 221, no. 2, pp. 330-337, 2010

Dragi Kocev, Sašo Džeroski, Matt D. White, Graeme R. Newell, Peter Griffioen. Using single- and multi-target regression trees and ensembles to model a compound index of vegetation condition, *Ecological Modelling*, vol. 220, no. 8, pp. 1159-1168, 2009

Marko Debeljak, Dragi Kocev, William Towers, Mark Jones, Bryan Griffiths, and Paul Hallett. Potential of multi-objective models for risk-based mapping of the resilience characteristics of soils: demonstration at a national level, *Soil Use and Management*, vol. 25, no. 1, pp. 66-77, 2009