Dragi Kocev

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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.

Work experience

2011 -   : post-doctoral researcher, Department of Knowledge Technologies, Jožef Stefan Institute

2008-2011: research assistant, Department of Knowledge Technologies, Jožef Stefan Institute

Project participation

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

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@ICPR 2010: Automatic image annotaion - ranked2^{nd} and 3rd according to the two evaluation measures -
http://www.imageclef.org/2010/ICPR/.

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

Community service

Organization of events

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

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

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

Reviewing

Journals: Machine Learning Journal, Information Sciences, Ecological Informatics, Acta geographica Slovenica (slo. Geografski Zbornik).

Conferences: ECML/PKDD07,ECML/PKDD08,ECML/PKDD11, Discovery Science DS08, DS09, AAAI08, SDM08, SDM09, ILP09, ECAI10, ICML10, KDD11, IDA11.

Citations

The number of citations are calculated on 25.12.2011.

WebOfScience: 34.

GoogleScholar: 75.

Publications

Journal Articles

The numbers after the reference denote the impact factor (IF) and/or the number of citations on Google scholar (accessed on 05.12.2011)

Gjorgji Madjarov, Dragi Kocev, Dejan Gjorgjevikj, and Sašo Džeroski. An extensive experimental comparison of methods for multi-label learning, *Pattern Recognition*, accepted, 2011, (IF 2.607)

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Hierarchical classification of diatom images using ensembles of predictive clustering trees, *Ecological Informatics*, in press, 2011, (IF 1.351)

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, (IF 2.236)

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, (IF 2.607, 3)

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, (IF 4.248)

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, (IF 1.769, 3)

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, (IF 3.028, 15)

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, (IF 1.769, 5)

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, (IF 1.871, 8)

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, (IF 2.027, 5)

Conferences, book chapters and workshops

Valentin Gjorgjioski, Dragi Kocev, and Sašo Džeroski. Comparison of distances for multi-label classification with PCTs, Proceedings of the 14th International Multiconference - Information Society IS 2011, pp.121-124, 2011

Celine Vens, Leander Schietgat, Jan Struyf, Hendrik Blockeel, Dragi Kocev, and Sašo Džeroski. Predicting Gene Function using Predictive Clustering Trees , Inductive Databases and Constraint-Based Data Mining, p. 365-387, 2011

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Detection of visual concepts and annotation of images using ensembles of trees for hierarchical multi-label classification, Recognizing patterns in signals, speech, images and videos : ICPR 2010 Contests, LNCS vol. 6388, pp. 152-162, 2010

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. ImageCLEF 2009 medical image annotation task : PCTs for hierarchical multi-label classification, Proceedings of the 10th Workshop of the Cross-language Evaluation Forum, LNCS vol. 6242, pp. 231-238, 2010

Dragi Kocev, Bernard Ženko, Petra Paul, Coenraad Kuijl, Jacques Neefjes,and Sašo Džeroski. Predictive clustering relates gene annotations to phenotype properties extracted from images, Proceedings of the 4th Workshop on Machine learning in system biology , pp. 137-139, 2010

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Detection of visual concepts and annotation of image using predictive clustering trees, Proceedings of the Abstracts of the notebook papers, CLEF 2010 Labs and Workshops, pp. 50, 2010, (1)

Nataša Atanasova, Gideon Gal, Mateja Škerjanec, Dragi Kocev, Sašo Džeroski, and Boris Kompare. Investigation of the control mechanisms of the food web in lake Kinneret using multi-target regression trees, Proceedings of the Ecological modelling for enhanced sustainability in management : conference ISEM 2009 pp.45, 2009

Marko Debeljak, Geoff R. Squire, Dragi Kocev, Cathy Hawes, Marc W. Young, and Sašo Džeroski. Analysis of time series data on the economic and ecological components of vegetation by using predictive clustering trees, Proceedings of the Ecological modelling for enhanced sustainability in management : conference ISEM 2009 pp.75, 2009

Darko Aleksovski, Dragi Kocev, and Sašo Džeroski. Evaluation of Distance Measures for Hierarchical MultiLabel Classification in Functional Genomics, Proceedings of the Workshop on Learning from Multi-Label Data (MLD09) held in conjunction with ECML/PKDD2009, pp.5-16, 2009, (3)

Andreja Naumoski, Dragi Kocev, Nataša Atanasova, Kosta Mitreski, Svetislav Krstić, and Sašo Džeroski. Predicting chemical parameters of the water from diatom abudance in lake Prespa and its tributaries, Proceedings of the 4th International ICSC Symposium: Part 2, Information technologies in environmental engineering (I. N. Athanasiadis et al., eds) (Environmental science and engineering series), pp. 264-277, 2009, (5)

Ivica Dimitrovski, Dragi Kocev, Suzana Loskovska, and Sašo Džeroski. Hierchical annotation of medical images, Proceedings of the 11th International Multiconference - Information Society IS 2008, pp.174-181, 2008

Dragi Kocev, Ivica Slavkov, and Sašo Džeroski. More is better: ranking with multiple targets for biomarker discovery, MLSB 08, Proceedings of the 2nd International Workshop on Machine Learning in Systems Biology, 13-14 September 2008

Dragi Kocev, Jan Struyf, and Sašo Džeroski. Beam Search Induction and Similarity Constraints for Predictive Clustering Trees, Proceedings of the 5th International Workshop on Knowledge Discovery in Inductive Databases, KDID'06, Revised, Selected and Invited Papers (Dzeroski, S. and Struyf, J., eds.), LNCS vol. 4747, pp. 134-151, 2007, (6)

Dragi Kocev, Celine Vens, Jan Struyf, and Sašo Džeroski. Ensembles of multi-objective decision trees, Proceedings of 18th European Conference on Machine Learning (J.N. Kok et al., eds), LNAI vol.4701, pp. 624-631, 2007, (18)

Marko Debeljak, Aneta Ivanovska, Dragi Kocev, Sašo Džeroski, and Katja Rostohar. Application of Regression Models and Polynomial Equations to Predict Out-Crossing Rate of Maize, Proceedings of the International Conference on Applied Statistics 2007, AS07, Bled, Slovenia, 2007, (3)

Dragi Kocev, Sašo Džeroski, Matt D. White, Greame R. Newell, and Peter Griffioen. Ensembles of Multi-Objective Regression Trees: A Case Study for Predicting the Condition of Remnant Indigenous Vegetation, Proceedings of the 10th International Multiconference - Information Society IS 2007, pp.210-213, 2007

Marko Debeljak, Bryan Griffiths, Paul Hallett, Dragi Kocev, William Towers, and Sašo Džeroski. Mapping The Resilience Characteristics Of Soil By Using Multi-Objective Regression Models, The 6th European Conference on Ecological Modelling, ECEM'07, Trieste, Italy, 2007

Dragi Kocev, Sašo Džeroski, and Jan Struyf. Similarity constraints in beam-search induction of Predictive Clustering Trees, Proceedings of the 9th International Multiconference - Information Society IS 2006, p. 267-270, 2006

Darija Gibičar, Dragi Kocev, Bernard Ženko, Milena Horvat, Sašo Džeroski, Vesna Fajon, and Barbara Mazzola. Evaluation of biomarkers of exposure and effects of mercury using machine-learning methods, EUROTOX 2006/6 CTDC Congress, Toxicology Letters, vol. 164 S1, pp. S13-S14, 2006

Dragi Kocev, Sašo Džeroski, Jan Struyf, and Suzana Loskovska. (Inductive) Querying environment for predictive clustering trees, Proceedings of the 2nd Balkan Conference in Informatics (Kon-Popovska, M. and Zdravkova, K. and Gusev, M., eds.), pp. 193-200, 2005