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Knowledge Discovery in Databases: PKDD 2007

11th European Conference on Principles and Practice of Knowledge Discovery in Databases
Warsaw, Poland, September 2007, Proceedings

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Lecture Notes in Artificial Intelligence 4702

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Subseries of Lecture Notes in Computer Science

Preface

The two premier annual European conferences in the areas of machine learning and data mining have been collocated ever since the first joint conference in Freiburg, 2001. The European Conference on Machine Learning (ECML) traces its origins to 1986, when the first European Working Session on Learning was held in Orsay, France. The European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD) was first held in 1997 in Trondheim, Norway. Over the years, the ECML/PKDD series has evolved into one of the largest and most selective international conferences in machine learning and data mining. In 2007, the seventh collocated ECML/PKDD took place during September 17–21 on the central campus of Warsaw University and in the nearby Staszic Palace of the Polish Academy of Sciences.

The conference for the third time used a hierarchical reviewing process. We nominated 30 Area Chairs, each of them responsible for one sub-field or several closely related research topics. Suitable areas were selected on the basis of the submission statistics for ECML/PKDD 2006 and for last year's International Conference on Machine Learning (ICML 2006) to ensure a proper load balance among the Area Chairs. A joint Program Committee (PC) was nominated for the two conferences, consisting of some 300 renowned researchers, mostly proposed by the Area Chairs. This joint PC, the largest of the series to date, allowed us to exploit synergies and deal competently with topic overlaps between ECML and PKDD.

ECML/PKDD 2007 received 592 abstract submissions. As in previous years, to assist the reviewers and the Area Chairs in their final recommendation authors had the opportunity to communicate their feedback after the reviewing phase. For a small number of conditionally accepted papers, authors were asked to carry out minor revisions subject to the final acceptance by the Area Chair responsible for their submission. With very few exceptions, every full submission was reviewed by three PC members. Based on these reviews, on feedback from the authors, and on discussions among the reviewers, the Area Chairs provided a recommendation for each paper. The four Program Chairs made the final program decisions following a 2-day meeting in Warsaw in June 2007. Continuing the tradition of previous events in the series, we accepted full papers with an oral presentation and short papers with a poster presentation. We selected 41 full papers and 37 short papers for ECML, and 28 full papers and 35 short papers for PKDD. The acceptance rate for full papers is 11.6% and the overall acceptance rate is 23.8%, in accordance with the high-quality standards of the conference series. Besides the paper and poster sessions, ECML/PKDD 2007 also featured 12 workshops, seven tutorials, the ECML/PKDD Discovery Challenge, and the Industrial Track.

An excellent slate of Invited Speakers is another strong point of the conference program. We are grateful to Ricardo Bazea-Yates (Yahoo! Research Barcelona), Peter Flach (University of Bristol), Tom Mitchell (Carnegie Mellon University), and Barry Smyth (University College Dublin) for their participation in ECML/PKDD 2007. The abstracts of their presentations are included in this volume.

We distinguished four outstanding contributions; the awards were generously sponsored by the *Machine Learning Journal* and the *KD-Ubiq network*.

ECML Best Paper: Angela Kimming, Luc De Raedt and Hannu Toivonen: "Probabilistic Explanation-Based Learning"

PKDD Best Paper: Toon Calders and Szymon Jaroszewicz: "Efficient AUC-Optimization for Classification"

ECML Best Student Paper: Daria Sorokina, Rich Caruana, and Mirek Riedewald: "Additive Groves of Regression Trees"

PKDD Best Student Paper: Dikan Xing, Wenyuan Dai, Gui-Rong Xue, and Yong Yu: "Bridged Refinement for Transfer Learning"

This year we introduced the Industrial Track chaired by Florence d'Alché-Buc (Université d'Evry-Val d'Essonne) and Marko Grobelnik (Jožef Stefan Institute, Slovenia) consisting of selected talks with a strong industrial component presenting research from the area covered by the ECML/PKDD conference.

For the first time in the history of ECML/PKDD, the conference proceedings were available on-line to conference participants during the conference. We are grateful to Springer for accommodating this new access channel for the proceedings. Inspired by some related conferences (ICML, KDD, ISWC) we introduced videorecording, as we would like to save at least the invited talks and presentations of award papers for the community and make them accessible at **http://videolectures.net/**.

This year's Discovery Challenge was devoted to three problems: user behavior prediction from Web traffic logs, HTTP traffic classification, and Sumerian literature understanding. The Challenge was co-organized by Piotr Ejdys (Gemius SA), Hung Son Nguyen (Warsaw University), Pascal Poncelet (EMA-LGI2P) and Jerzy Tyszkiewicz (Warsaw University); 122 teams participated. For the first task, the three finalists were:

Malik Tahir Hassan, Khurum Nazir Junejo and Asim Karim from Lahore University, Pakistan

Krzysztof Dembczyński and Wojciech Kotłowski from Poznań University of Technology, Poland and Marcin Sydow from Polish-Japanese Institute of Information Technology, Poland

Tung-Ying Lee from National Tsing Hua University, Taiwan

Results for the other Discovery Challenge tasks were not available at the time the proceedings were finalized, but were announced at the conference.

We are all indebted to the Area Chairs, Program Committee members and external reviewers for their commitment and hard work that resulted in a rich

but selective scientific program for ECML/PKDD. We are particularly grateful to those reviewers who helped with additional reviews at very short notice to assist us in a small number of difficult decisions. We further thank our Workshop and Tutorial Chairs Marzena Kryszkiewicz (Warsaw Technical University) and Jan Rauch (University of Economics, Prague) for selecting and coordinating the 12 workshops and seven tutorial events that accompanied the conference; the workshop organizers, tutorial presenters, and the organizers of the Discovery Challenge and the Industrial track; Richard van de Stadt and CyberChairPRO for competent and flexible support; Warsaw University and the Polish Academy of Sciences (Institute of Computer Science) for their local and organizational support. Special thanks are due to the Local Chair, Marcin Szczuka, Warsaw University (assisted by Michal Ciesiołka from the Polish Academy of Sciences) for the many hours spent making sure that all the details came together to ensure the success of the conference. Finally, we are grateful to the Steering Committee and the ECML/PKDD community that entrusted us with the organization of the ECML/PKDD 2007.

Most of all, however, we would like to thank all the authors who trusted us with their submissions, thereby contributing to the one of the main yearly events in the life of our vibrant research community.

September 2007

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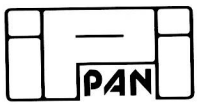

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