

Preface

It is our pleasure to present the proceedings of the 12th European Conference on Machine Learning (this volume) and the 5th European Conference on Principles and Practice of Knowledge Discovery in Databases (*Lecture Notes in Artificial Intelligence 2168*). These two conferences were held September 3–7, 2001 in Freiburg, Germany, marking the first time – world-wide – that a data mining conference has been co-located with a machine learning conference.

As Program Committee co-chairs of the two conferences, our goal was to co-ordinate the submission and reviewing process as much as possible. Here are some statistics: a total of 117 papers was submitted to ECML 2001, 78 papers were submitted to PKDD 2001, and 45 papers were submitted as joint papers. Each paper was carefully reviewed by 3 (in exceptional circumstances 2 or 4) members of the Program Committees. Out of the 240 submitted papers, 40 were accepted after the first reviewing round, and 54 were accepted on the condition that the final paper would meet the requirements of the reviewers. In the end, 90 papers were accepted for the proceedings (50 for ECML 2001 and 40 for PKDD 2001).

We were also aiming at putting together a 5-day program that would be attractive, in its entirety, to both communities. This would encourage participants to stay the whole week and thus foster interaction and cross-fertilization. The PKDD 2001 conference ran from Monday to Wednesday, and the ECML 2001 conference from Wednesday to Friday, with the Wednesday program carefully selected to be of interest to a mixed audience. On each day there was an invited talk by an internationally renowned scientist. Tom Dietterich spoke on *Support Vector Machines for Reinforcement Learning*; Heikki Mannila on *Combining Discrete Algorithmic and Probabilistic Approaches in Data Mining*; Antony Unwin on *Statistification or Mystification, the Need for Statistical Thought in Visual Data Mining*; Gerhard Widmer on *The Musical Expression Project: A Challenge for Machine Learning and Knowledge Discovery*; and Stefan Wrobel on *Scalability, Search, and Sampling: From Smart Algorithms to Active Discovery*. In addition, there was an extensive parallel program of 11 workshops and 8 tutorials. Two workshops were devoted to results achieved by the participants in the two learning and mining challenges that were set prior to the conferences.

It has been a great pleasure for us to prepare and organize such a prestigious event, but of course we could not have done it without the help of many colleagues. We would like to thank all the authors who submitted papers to ECML 2001 and PKDD 2001, the program committee members of both conferences, the other reviewers, the invited speakers, the workshop organizers, and the tutorial speakers. We are particularly grateful to the workshop chairs Johannes Fürnkranz and Stefan Wrobel; the tutorial chairs Michèle Sebag and Hannu Toivonen; and the challenge chairs Petr Berka and Christoph Helma for their assistance in putting together an exciting scientific program. Many thanks to Michael Kaser for his technical support in setting up the CyberChair website, to Richard van de Stadt for developing CyberChair, and to the local team at Freiburg for the organizational support provided. We would also like to thank Alfred

Hofmann of Springer-Verlag for his co-operation in publishing these proceedings. Finally, we gratefully acknowledge the financial support provided by the sponsors; EU Network of Excellence MLnet II, National Institute of Environmental Health Sciences (US), SICK AG, the city of Freiburg, and the Albert-Ludwigs University Freiburg and its Lab for Machine Learning.

Although at the time of writing the event is yet to take place, we are confident that history will cast a favourable eye, and we are looking forward to continued and intensified integration of the European machine learning and data mining communities that we hope has been set in motion with this event.

July 2001

Luc De Raedt
Peter Flach
Arno Siebes

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Tutorials

Development and Applications of Ontologies

Alexander Maedche

Bayesian Intelligent Decision Support

Kevin Korb

Support Vector Machines

Thorsten Joachims

Co-training and Learning from Labeled Data and Unlabeled Data

Francois Denis and Rémi Gilleron

KDD for Personalization

Bamshad Mobasher, Bettina Berendt, and Myra Spiliopoulou

Web Mining for E-Commerce: Concepts and Case Studies

Jaideep Srivastava and Robert Cooley

Text Mining: What If Your Data Is Made of Words?

Dunja Mladenić and Marko Grobelnik

Visual Data Mining and Exploration of Large Databases

Daniel A. Keim and Mihael Ankerst

Workshops

Semantic Web Mining

Gerd Stumme, Andreas Hotho, and Bettina Berendt

Machine Learning as Experimental Philosophy of Science

Kevin Korb and Hilan Bensusan

Visual Data Mining

Simeon J. Simoff, Monique Noirhomme-Fraiture, and Michael H. Böhlen

Integrating Aspects of Data Mining, Decision Support, and Meta-Learning

Christophe Giraud-Carrier, Nada Lavrač, and Stephen Moyle

Active Learning, Database Sampling, Experiment Design: Views on Instance Selection

Tobias Scheffer and Stefan Wrobel

Multi-relational Data Mining

Arno Knobbe and Daniël van der Wallen

The Discovery Challenge on Thrombosis Data

Petr Berka, Shusaku Tsumoto, Katsuhiko Takabayashi, and Shishir Gupta

The Predictive Toxicology Challenge for 2000-2001

Christoph Helma, Ross D. King, Stefan Kramer, and Ashwin Srinivasan

Database Support for KDD

Gunter Saake, Daniel Keim, Kai-Uwe Sattler, and Alexander Hinneburg

Data Mining for Marketing Applications

Wendy Gersten and Koen Vanhoof

Ubiquitous Data Mining: Technology for Mobile and Distributed KDD

Hillol Kargupta, Krishnamoorthy Sivakumar, and Ruediger Wirth