

ECML/PKDD-2002 Workshop

IDDM-2002

2nd International Workshop on Integration and Collaboration Aspects of Data Mining, Decision Support and Meta-Learning

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Overall Aim

This workshop is a follow up to the successful IDDM-2001 workshop, which was held in Freiburg in September 2001 (<http://www.cs.bris.ac.uk/~cgc/ECML-PKDD01/cfp.html>). It is aimed at researchers and practitioners in Data Mining, Decision Support, and Meta-Learning, especially those interested in the main European research Consortia whose work focuses on the above topics, e.g., METAL, Sol-Eu-Net, and KDNet. Participants will gain a better appreciation of the issues facing the application and deployment of Data Mining solutions in the real world, as well as the approaches to the integration and collaboration of the mentioned disciplines. New ways of working together and combining results will be discussed, fostering further collaboration between participants' organisations. It is hoped that, as a result of this workshop, more people will work together more often, more effectively and in more sensible ways.

Workshop Topics and Goals

IDDM-2002 addresses the integration and collaboration aspects of Data Mining (DM), Decision Support (DS) and Meta-Learning (ML). In particular, this workshop is aimed at trying to upgrade the corresponding approaches and methodologies, such as CRISP-DM, through contributions, addressing the following issues.

Combining Data Mining with Decision Support

DM has a potential for solving DS problems, for example when previous decisions have been recorded as data to be used for analysis with DM tools. On the other hand, DS methodology usually results in a decision model, reflecting expert knowledge of decision makers. How can such expert knowledge be incorporated into problem

solutions by DM? Can it be used as background knowledge in relational data mining? Can such expert knowledge be induced automatically? Are there any systematic methodological means of combining the two approaches to problem solving? How can DM benefit from DS models, especially in cases where the data available for DM is incomplete or of insufficient quality?

Collaborative Data Mining

Usually, DM tasks are solved by a single individual or group of individuals working together. However, with the Internet and advances of group support methodologies and tools, DM tasks could be solved through a collaboration of different groups of researchers at different sites. Novel ideas, reviews of existing approaches, or different modes of collaboration should be explored (e.g., competitive vs. collaborative), and issues addressed such as infrastructure and methods for supporting distant collaborative work (e.g., how to integrate new individuals/groups following the start/stop-any-time principle).

Combining Results of Classifiers and Meta-Learning

Here, the emphasis is on novel ideas and/or reviews of existing approaches to model selection, model combination, model representation and all issues relevant to learning to learn (e.g., landmarking, performance prediction, knowledge transfer, data characterisation, meta-data collection and exploitation, standardised experimental setups/methods, etc).

Relational Data Mining

Most data in standard DM has the form of a single relational table. What if data is stored in multiple relational tables? Thus, how to combine the results of mining separate relational tables? A standard approach in ILP is to consider one table as the master data table, and all others as tables providing background knowledge. What if this is not natural? Would the mining of individual tables and combining results be a better solution? Are there other approaches to this problem?

DM, DS, and ML Integration: Methodology, Tools, and Standardization

This theme includes, but is not limited to, the following topics:

- ML tools for classifier and model selection
- ROC methodology for DM, DS and ML
- Data pre-processing tools and methods for DM and DS
- Representation languages for DM and DS models
- Standards supporting the exchange of DM and DS models for different applications and visualization tools, such as PMML (Predictive Model Markup Language)
- DS shells that seamlessly integrate models developed by DM
- Shared ontology and methodology for solving DM and DS problems

Organisation

Workshop Chairs

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Program Committee

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Ricardo Vilalta, IBM T.J. Watson Research Center, USA

Takahira Yamaguchi, Shizuoka University, Japan

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Paper Acceptance

There were 25 papers submitted to this workshop. Each paper was reviewed by at least two reviewers. On this basis, 19 papers were selected for presentation at the workshop. Among these, 11 were accepted as *full* papers (text limited to 12 pages), and 8 as *short* papers (6 pages and shorter presentation).

Acknowledgements

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