

Introduction

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Welcome to this special issue of *Intelligent Data Analysis* – an International Journal. This issue contains a selection of the papers presented at IDA 2005, the sixth International Conference on Intelligent Data Analysis held in Madrid, Spain in September 2005. The IDA 2005 conference was a special event, not only in terms of the quality of the presented papers, but it also marked 10 years of IDA conferences. The first conference was held in 1995 in Baden-Baden in Germany and was initiated by Xiaohui Liu. The IDA conferences have become the important event in the field of Intelligent Data Analysis.

Making a selection of papers for this special issue was not a simple task. There were 184 papers submitted to the IDA 2005 conference and 46 papers were selected for the conference. For the special issue we tried to make a selection among these 46 papers that gives a good feeling for the type of papers that were presented at the conference, covering different techniques and approaches, including more theoretical and also more applied papers. Finally, we selected five papers and asked the authors to submit an extended version to this special issue. We next discuss the resulting five articles briefly.

The article *Backward Chaining Rule Induction* by Fisher et al. introduces mechanisms based on backward chaining rule induction to bias the search of complex variable interactions. The authors use the model to search for gene-to-gene causal interactions.

The article *Learning from Ambiguously Labeled Examples* by Hüllermeier and Beringer contributes to supervised classification techniques. It considers ambiguous label classification. The approach disambiguates the label information and yields interesting experimental results.

In the article *Temporal Bayesian Classifiers for Modeling Muscular Dystrophy Expression Data* by Tucker et al. apply et al. applies Bayesian methods to time series of micro-array data. It shown that it is useful to take the time aspect into account. Experimental evaluation has been done on data concerning Muscular Dystrophy.

In *Supporting bi-cluster interpretation in 0/1 data by means of local patterns* Pensa et al introduce a new method to bi-cluster large Boolean data sets, including the introduction of new formal concepts. Experimental results are on two real-world gene expression data sets.

The article *Detecting Groups of Anomalously Similar Objects in Large Data Sets* by Zhang and Hand introduces a new algorithm to detect patterns in an unsupervised way. The algorithm identifies points that have a higher pdf estimate than their surrounding points and verifies the reality of these peaks. The original version of this article obtained the best paper award at the IDA conference.

We like to thank a number of people involved in the conference. Fazel Famili for chairing the conference in Madrid, for his encouragement and for providing space in the IDA journal. Michael Berthold and Xiaohui Liu for their useful comments and suggestions. Víctor Robles and Ad Feelders for their work in the organization of the conference.

We hope that you like our selection!