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Intelligent Data Analysis 3 (1999) iii–iv

IDA
INTELLIGENT DATA ANALYSIS

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Editorial

Welcome to Volume 3 of *Intelligent Data Analysis*!

We are glad to celebrate our third year of publication, which has been accompanied with a lot of success. Our journal was officially announced in May 1996. We now have a hard copy of the journal along with the electronic version. Thanks to your support.

In today's global economy, having access to large amounts of data in the workplace and remaining up-to-date on what is happening at different levels of an enterprise is not a luxury. It has become quite common for all managers and staff to access and view data from all departments. It is indeed a competitive necessity. All large, medium, and small enterprises spend a considerable percent of their budget in obtaining this data and properly warehousing it. Furthermore all these enterprises are interested to know:

- what they can do with this data,
- what the real contents of this data is,
- what meaningful information they can extract from it,
- and how they can be more efficient, profitable, and advance their business through intelligently analyzing their data.

Intelligent Data Analysis (IDA) provides a forum and support for researchers and practitioners who are interested in all of the above topics.

Volume 3(1) of IDA consists of five articles.

The first article by Gama and Brazdil introduces a method for supervised learning which is primarily aimed at constructing multivariate decision trees. This method has two important features: (i) it uses constructive induction to generate new attributes, and (ii) it generates a probabilistic decision tree that contains a class distribution. The system built based on this method (Ltree), has been tested against several decision tree systems.

The second article by Stärk and Pfeiffer is an application paper that demonstrates how classification tree algorithms and neural networks can be used as non-parametric approaches to classification. The application domain is veterinary medicine.

Berthold and Huber's article on fuzzy graphs not only contains a new approach in constructing fuzzy graphs from example data, the presentation (in the electronic version of the article; please refer to our homepage: http://www.elsevier.com/locate/ida) includes several JAVA applets. An important feature of their approach is that the resulting fuzzy graphs are based on locally independent fuzzy rules that operate solely on selected, important attributes.

The fourth article by Yang, Parekh and Honavar introduces a constructive neural network learning algorithm that is based on inter-pattern distance. Their approach offers a significant advantage over other constructive learning algorithms that use an iterative weight modification strategy. The results provided in this article demonstrate that this approach compares favorably with other learning algorithms for pattern classification.

And finally, in the last article, Li and Yu introduce an optimization method to estimate a piecewise polynomial function with unknown change-points. The approach involves expressing a piecewise function by the addition of some absolute terms. Properties of this function are then used to formulate a regression model that is solved by a goal programming technique which is computationally very efficient. Several numercial examples are given by the authors.

We always appreciate your feedback. We also welcome short articles, conference overviews, workshop summaries and lessons learned from real world applications of data analysis techniques.

A. Famili
Editor-in-Chief