# Editorial

Dear Colleague:

Welcome to volume 7(5) of the journal *Intelligent Data Analysis!*

This issue of the IDA journal contains a collection of five articles, that represent some of the best papers in applied and theoretical research related to the field of Intelligent Data Analysis. The articles vary from clustering and classifications to user identifications.

In the first article, Fürnkranz investigates the performance of pair-wise classifications to find out how the performance of decision tree learners can be increased. This article demonstrates that the advantages of pair-wise classifications over direct multi-class classifications and one-against-all binarization increases with the number of classes. In addition, it demonstrates that round robin ensembles form an interesting alternative for problems with ordered class values. Karayiannis and Randolph-Gips introduce non-Euclidean c-means clustering algorithms that are based on weighted norms to measure the distance between the feature vectors and the prototypes that represent the clusters. The results include a series of experiments on three different data sets where they demonstrate that non-Euclidean c-means algorithms are a suitable alternative to applications in which true clusters are of different shape and size. In the third article of this issue, Zhang, Coenen and Leng introduce a new attribute weight setting method for k-NN based classifiers using quadratic programming which is mostly suitable for binary classification problems. The approach is evaluated using six data sets and it is demonstrated that a stable increase in accuracy is achieved over a standard k-NN method.

Stejic, Takama and Hirota, in the fourth article of this issue, propose a new image similarity model which is based on the human visual system. Their approach is based on a genetic algorithm feedback mechanism to automa- tically infer the optimal assignment of different saliencies based on a query image and a set of relevant images. The proposed method results in 6%–30% increase in retrieval precision. In the last article of this issue, Bergadano, Gunetti and Picardi analyze typing keystroke data that can be collected from the interactions between users and computers with the objective of identifying personal identity and user authentication throughout a work session. Their data is collected from 130 volunteers and the results show the best outcome listed in the literature. Their method can be easily tuned to reach an acceptable trade-off between identifying true and false alarms and does not require any from of tailoring.

And finally, the fifth Intelligent Data Analysis symposium was held in Berlin, Germany from August 28–30, 2003. This was another successful IDA symposium that brought together researchers and practitioners from various parts of the world. Like previous events, there will be a special issue of IDA journal in 2004 that will be dedicated to 5–6 of the best papers from this symposium. This is in addition to another special issue, on the topic of Incremental Learning Systems Capable of Dealing with Concept Drift, that we will publish in 2004.

With best wishes,
*Dr. A. Famili*
Editor-in-Chief