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Editorial

Dear Colleague:

Welcome to volume 7(4) of the journal *Intelligent Data Analysis*!

This issue of the IDA journal has five articles that represent some very interesting research related to the field of Intelligent Data Analysis. The articles vary from taxonomy to data pre-processing, hybrid systems and evaluating discovered knowledge.

In the first article, Guiamrães, Lobo and Moura-Pires, present a detailed taxonomy of self-organizing maps and identify four application areas. They introduce three main techniques that are used for modeling SOM in temporal relations. A number of related research papers are also introduced in this article. The second article, by Rozsypal and Kubat introduces a method to improve the accuracy of nearest neighbor classifiers. This is performed through use of a genetic algorithm for removing redundant and noisy examples as well as irrelevant attributes. Their results show considerable improvements in terms of reduction of examples and eliminating irrelevant attributes without loss of accuracy.

Li, Zhu and Ogihara, in the third article, discuss the problem of clustering high dimensional data. They propose an algorithm which is non-distance based, suitable for high dimensional data and is based on Maximum Likelihood Principle. Evaluation results reported in this article show the efficiency and effectiveness of the algorithm. The next article by Papadimitriou and Terzidis introduces a new architecture for hybrid neuro fuzzy systems which is based on deriving a statistically extracted distance measure for learning. The distance measure is obtained from the information provided from the training set. The results included demonstrate that the performance of their hybrid system is significantly better than the traditional nearest neighbour schemes. This is in addition to an enhancement in the explanation ability for generated rules. The last paper, by Hilderman and Hamilton, is about measuring discovered knowledge from data bases. This is a desired method for knowledge discovery when the new information needs to be presented to the human being for interpretation and validation. The paper evaluated 12 diversity measures used as heuristic measures of interestingness for ranking summaries generated from databases. The paper describes 5 principles that any measures must satisfy. The evaluation results provide some insight into the evaluation process of discovered knowledge.

And finally, we would like to inform our readers that the fifth Intelligent Data Analysis Symposium was held with a great success in Berlin, Germany. This was from August 28–30, 2003. Like previous events, efforts are underway to prepare a special issue of IDA journal in early 2004. This issue will be dedicated to IDA-2003 and will contain 5–6 of the best papers from this symposium.

With best wishes,

Dr. A. Famili
Editor-in-Chief