

Editorial

Dear Colleague:

Welcome to volume 6(4) of the journal *Intelligent Data Analysis*!

Volume 6(4) of IDA consists of 5 articles that are a combination of applied and joint research. The articles in this issue cover a variety of topics related to the field of *Intelligent Data Analysis*. The topics include dimension control, rough sets, association rules, sampling and data visualization.

In the first article, Laurikkala introduces new data reduction method that results in improvements in identification of small classes. The method, called neighborhood cleaning, performs much better than random sampling and the results suggest that it is useful for improving modeling of data sets that contain small classes. In the second article, Intan and Mukaidono, use the notion of weak fuzzy similarity relations to describe the relationships between elements in which properties of symmetry and transitivity are no longer valid. They redefine the rough membership functions into three values of minimum, maximum and average. The paper also contains new approaches (i) to reduce decision rules in applications where decision tables are generated and (ii) for dependency of domain attributes in the concept of fuzzy functional dependency. In the third paper, Jeudy and Boulicaut, investigate new methods to efficiently search for user defined queries in association rule mining. They show how their approaches can be combined into a levelwise algorithm that is usually effective for association rule mining. Their results include discovery of association rules with negations.

Makawita, Tan and Liu, in the fourth article, investigate sampling techniques for B+ trees. They propose a new technique that alters the inclusion probabilities of cases during the sampling process from databases. Their results showed improvements over existing schemes in terms of quality of the samples obtained and the efficiency of the sampling process. The last article of this issue by Beygelzimer, Perng and Ma is about efficient construction of categorical orderings without compromising their visual quality. Their approach, that overcomes the problem of algebraic method using a similarity matrix, involves a new multi-level scheme based on an approximate representation of a matrix. They show that their approach is sufficient to compute only a small probability of approximation error, using only a small portion of a linear matrix, as opposed to quadratic.

And finally, the field of Intelligent Data Analysis has had an enormous growth over the last 5 years. We are glad that we have a journal dedicated to this field and overwhelmed by the research from so many distinctive researchers and submission of excellent quality papers in this field. We thank all colleagues for their continuing interest in our journal.

Best wishes,

A. Famili
Editor-in-Chief