

Editorial

Dear Colleague:

Welcome to volume 9(3) of *Intelligent Data Analysis* – An International Journal!

This issue of IDA journal contains five articles covering various aspects of feature selection, classification and supervised/unsupervised methods which included association mining. These articles represent a number of domains and to a large degree contain some of the best applied research work on Intelligent Data Analysis.

In the first article of this issue, Chen et al. emphasize on the importance of feature selection and propose a “nearly” optimal feature selection method which applies discernibility matrix to keep track of important features during the construction of the cleansing tree. A number of experiments and comparisons reported in the paper demonstrate the efficiency and accuracy of their approach. He and Chen, in the second article, discuss the problem of effective clustering when algorithms encounter arbitrary shaped clusters. To deal with this problem, they propose a threshold criterion for the single linkage cluster analysis which can be combined with Minimum Spanning Tree clustering methods. The main advantage of this threshold is that it can be automatically decided based on data distribution. The paper contains some very interesting results from their experiments.

The next three articles of this issue are on association mining and classification. Rozsypal and Kubat stress on time-varying issues in association mining and propose ideas to solve this problem. Their investigation consists of two parts, (i) developing heuristics to detect time varying changes and (ii) introducing techniques that provide updates related to the information used by the association algorithms. Richards and Rayward-Smith also emphasize on the issue of complexities in association mining from large data bases. Similar to previous article, they present an algorithm targeting discovery of optimal rule sets. Their algorithm addresses the problems of combinatorial explosion, is capable of finding rules from data sets consisting of nominal and ordinal attributes and results show a high degree of efficiency for discovering rules from many databases. The last article of this issue by Khoshgoftaar et al. is the application of indirect classification techniques to analyse network traffic instances. Indirect classification decomposes the original multi-category problem into multiple binary classification problems. The article introduces two binarization and three combining strategies with a total of six indirect classification methods along with five direct classification methods. The proposed approach is evaluated in a case study that is from a large network detection data set and shows that certain indirect classification techniques yield better models.

And finally, the 6th International Symposium of Intelligent Data Analysis (IDA-2005) will be held in Madrid from September 8–10. Conference information are available at the IDA society home page at: <http://www.ida-society.org> or at the conference home page at: <http://www.ida-2005.org>. We will have a special issue of the IDA journal, in 2006. This special issue would be dedicated to 5 or 6 extended versions

of the best papers presented at this symposium. We look forward to the participation of researchers and practitioners of the IDA field in this important bi-annual event.

With our best wishes,

Dr. A. Famili
Editor-in-Chief