Intelligent Data Analysis 13 (2009) 859–860
DOI 10.3233/IDA-2009-0396
IOS Press

Editorial

Dear Colleague:

Welcome to volume 13(6) of *Intelligent Data Analysis* – An international Journal.

This is the last issue of volume 13 that consists of eight articles that are mainly divided into two groups of theoretical and applied research.

In the first article of this issue, Kuncheva and Žliobaite discuss the issue of concept drift in classification and propose a moving window on the data steam where an abrupt change scenario is included. They derive a generic relationship between the size of the moving window and the classification error rate. As part of their studies the authors derive expressions for the error in the transition period and for the optimal window size. A simple window resize strategy is also proposed and evaluated using some real data sets. Markos et al. in the second article of this issue explain the challenges in correspondence analysis where the size of the coded matrix affects the computational performance. They propose an alternative scheme and evaluate it using a set of Monte-Carlo simulations and some real data sets. Their results showed the higher efficiency of their approach over the standard methods, in particular in tall data sets. Baghshah and Shouraki, in the third article of this issue introduce a metric learning method for semi-supervised clustering that combines both pairwise constraints and geometrical structure of data. Based on their results using some well known real data sets, their proposed approach is capable of considering both positive and negative constraints and can improve the performance of semi-supervised clustering in a learning task. Similarly in the next article by Smirnov et al., which is about classification, propose a meta-conformity approach to solve the problem of reliable classification. Here in using a conformity-based classifier the approach trains the classifier as a meta-classifier where the p-values of a classification process are automatically generated for all classified instances. The approach is extensively evaluated using some real data sets.

In the fifth article of this issue, by Loslever et al. which is also about correspondence analysis, the authors consider a typical data analysis process as triplet chronological actions where human beings are involved at the beginning and the end. Since transitional matrices are needed in each step of data analysis, they suggest using correspondence analysis to solve the need for multiple transitional matrices. Their approach is evaluated using simulated and real data sets and results are presented in the article. Marhasev et al., in the sixth article of this issue, investigate the use of hidden semi-Markov models (HSMM) in analyzing human activities data for tasks such as activity recognition. They introduce an extension to HSMM and compare its performance with other forms of hidden Markov models in recognizing normal and abnormal activities in data sets. The superiority of the extended version of HSMM in complex tasks that require accurate recognition is presented in this article.

Marroquin et al. in the seventh article, which is an application paper, propose a simple time series characterization method that allows training a series of artificial neural networks to predict the forecasting performance of statistical techniques. The paper includes a case study that shows the efficiency of the proposed method. Similarly in another application paper, Son et al., propose a stock market stability index which monitors market stability through a statistical model. This index is based on the idea that proper statistical models that were suitable for past stable periods would fail when markets are not stable and need to be properly updated. The proposed index is evaluated using Korean stock market data.

In conclusion, we are now at the end of Volume 13 of the IDA journal where the submission rate has grown rapidly. That is the main reason that the number of articles included in each issue has also increased. Next year, for Volume 14, we already know that we will have three special issues related to three events that were held over the last 1.5 years. We look forward to receiving your feedback along with more and more quality articles in both applied and theoretical research in the field of Intelligent Data Analysis.

With our best wishes,

Dr. A. Famili
Editor-in-Chief