

Editorial

Dear Colleague:

Welcome to volume 6(2) of the journal *Intelligent Data Analysis*!

Volume 6(2) of IDA consists of 5 articles that are a combination of applied and joint research. These are mainly related to two areas. The first three articles are about classification and the last two are in the area of forecasting.

In the first article, Allaoui and Sbihi discuss some of the weaknesses of the existing mode detection procedures that are used in clustering and introduce a new approach based on global convexity analysis. The approach proposed in this research was evaluated in a multi-dimensional space where models were extracted to represent particular clusters and cases were used to be assigned to clusters. The second article of this issue by Last is also about classification and is based on the problem of concept drift, the degrading factor in the predictive performance of classification models. The article introduces an on-line classification system which dynamically adjusts the size of training window and the number of new examples between model re-construction and concept drift. The article contains the results of evaluating the performance of this approach on sample segments from two real-world streams of non-stationary data. Lodhi, Karakoulas and Shawe-Taylor, in the next article, introduce a strategy for training ensemble of classifiers by analyzing boosting within margin theory. The proposed algorithm, presented in the article, is adaptive and robust and its loss function is not sensitive to points having a large margin. The efficiency of the approach is evaluated on a text categorization application where interesting results are obtained.

In the fourth article of this issue, JooOh and Kim propose a piecewise non-linear model based on the segmentation of financial time-series data. Their approach consists of two stages which are: (i) detection of successive change points based on either a parametric method, non-parametric method or a model based approach, and (ii) forecasting and generating the final output. The results presented in this article show that their approach outperforms conventional models. In the last article of this issue, Chitroub, Houacine and Sansal introduce a new PCA method for optimal representation of data from multi-frequency radar images. The approach is based on exploiting the simultaneous diagonalization of signal and noise data matrices via one orthogonal matrix. The results given in the paper demonstrate the data compression ability of the approach.

And finally we are expecting that our 3rd or 4th issue of this year, to be dedicated to a special issue that will include some of the best papers from the IDA-2001 conference that was held in Lisbon, Portugal, from September 13–15, 2001. We are also working with some of our colleagues who are interested to submit the extended version of their papers presented in an IDA related conference. These are some of the best papers in the most recent conferences. Once again thanks for your continuing interest in our journal.

Best wishes,

A. Famili
Editor-in-Chief