

Editorial

Dear Colleague:

Welcome to volume 14(1) of *Intelligent Data Analysis* – An international Journal.

This is the first issue of volume 14 that consists of seven articles. These articles are mainly divided into 3 groups of theoretical and applied research. These are data analysis problems, ensemble classification and data analysis for customer support.

In the first article of this issue, Sannen *et al.* justify the need for better ensemble classifiers due to large amounts of industrial data where machine learning can make a contribution in better predictive accuracy. They propose a novel incremental variant of some well-known classifier fusion methods. In addition, they introduce a flexible and interactive framework for on-line learning in which the ensemble methods are adapted incrementally. The performance of this framework and their proposed incremental classifier fusion are presented in this article using some real-world applications. Li *et al.* in the second article of this issue address the importance of sentiment classification in text documents and propose a general framework for determining unexpected sentences. Using this framework, they evaluate the relevance of extracted unexpected sentences in the context of text classification. The paper also includes results of some experiments where they show the effectiveness of their approach.

Discussing the importance of privacy preserving in data mining, Wang *et al.* in the third article of this issue, propose a framework to hide collaborative recommendation association rules where data sets are from several sources. They introduce a number of algorithms in this article that are able to hide discovered rules and further analyze various side effects of the proposed approach. A number of comparisons are also given in this article. Khoshgoftaar *et al.* in the fourth article of this issue, discuss the well known problem of class imbalance and present a unique evolutionary computing-based data sampling approach as an effective solution for the class imbalance problem. They introduce a research prototype that contains a genetic algorithm based optimization of modeling parameters. They also present the results of their evaluation where their proposed approach has performed better than other data sampling techniques. The article by Ledezma *et al.* is also another contribution in this issue that discusses stacking and the importance of combining classifiers. Their approach is based on using genetic classifiers to identify the best strategy for combining classifiers. They compare their stacking approach with the best known methods and demonstrate that their approach, among many advantages, does not require manual selection of stacking parameters.

The last two articles of this issue are more on applied research. Wang and Huang address the issue of insufficient training data and propose new methods to understand data problems so that unavailability of sufficient data does not affect the learning performance. Their approach is based on building a multi-dimensional data space and incorporating it into a neural network learning process where they show much improved learning is achieved. And in the last article of this issue, Albadvi and Shahbazi discuss recommender systems that use collaborative filtering and present a product recommendation technique that uses customer historical data to generate the most beneficial recommendations. They also use product taxonomy to segment products according to their categories and also to reduce the attribute dimensions. Their results show that their approach outperforms several existing methods.

In conclusion, we now start Volume 14 of the IDA journal where the submission rate has grown very rapidly. That is the main reason that the number of articles included in each issue has increased over the last year. This demonstrates IDA researcher's believe in our journal. 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.

With our best wishes,

Dr. A. Famili
Editor-in-Chief