

Editorial

Dear Colleague:

Welcome to volume 15(6) of Intelligent Data Analysis Journal.

This issue of the IDA journal consists of nine articles, that represent a variety of topics, all related to the applied and theoretical research in the field of Intelligent Data Analysis.

The first three articles are about classification aspects of learning. In the first article, Lee and Giraud-Carrier discuss the topic of unsupervised meta learning and argue the notion of diversity among learners used in ensemble learning. This is the prime motivation for their efforts in designing a distance function for clustering of learning algorithms. They use classifier output difference to cluster 21 learning algorithms and show how this clustering differs from clustering based on accuracy. Dendamrongvit *et al.* in the second article of this issue discuss the problem of multi-label classification problem and focus on text categorization problem. Two problems that they address are: characterization of each class by a different set of attributes and the induction of individual classes from imbalanced training sets. They propose an induction system to solve these two problems and evaluate this system using some synthetic data. Cerri *et al.* in the next article discuss the problem of assigning classes to instances in the case of multi-label classification problems and propose two new hierarchical multilabel classification methods that are aimed at hierarchical classification. They compare their methods with two global approaches and a well known local library approach and present their results with some bioinformatics data sets.

In the fourth article of this issue, Gao *et al.* discuss the need for integration of data mining tasks with knowledge representation and propose a set based approach that is suitable for mining frequent sequential patterns. Their approach improves the performance of Apriori based algorithms, takes advantage of an incremental mining method and provides a rich knowledge representation environment. Their article includes comparison of the performance of their approach to a number of sequential patterns mining algorithms. Alizadeh *et al.* in the next article propose two exploration strategies targeting applications in n-person general-sum multiagent reinforcement learning and introduce an estimated value for taking actions in games with respect to other agents' preferences. Their simulation results demonstrate the effectiveness of their approach. Darcey *et al.* in the sixth article of this issue discuss the extensive usage of radio frequency identification in wireless communications and emphasize the need for proper detection of anomalies. They propose a methodology which incorporates a highly intelligent feature set definition. Their experimental evaluation shows that their approach cleans highly ambiguous false positive observation data.

The next two articles are mostly on applied research. Tabia and Leray's article is on alert correlation where they address three important issues related to predicting severe attacks by analyzing inoffensive and preparatory attacks. The main advantages of their approach is its integration and its effectiveness on prediction of false alarm rates with minimum expert intervention. Silla and Freitas discuss the complex task of protein function prediction and argue that there are several ways to extract features from a protein. They address this problem by employing three alternative selective hierarchical classification problems. The analysis of their results have shown that their selective representation approach is almost always ranked as number 1 when compared against fixed representations.

The last article of this issue is a report of a data mining and business analytics conference that was held last year, a session of which was a panel discussion. This is a report related to a number of topics discussed during this event, issues raised and also trends indicating what is the future of business analytics and intelligent optimizations.

In conclusion, with this last issue (number 6) of Volume 15 of the IDA journal, we continue our efforts on organizing and publishing one of the best journals in this community. Currently, there are a few special issues under development that are at different stages of completion. The IDA conference, that is usually held every two years in Europe, was held in Porto, Portugal from October 29–31, 2011. As usual, this was a successful event. We look forward to receiving your feedback along with more and more quality articles in both applied and theoretical research related to the field of IDA.

With our best wishes,

Dr. A. Famili
Editor-in-Chief