Editorial

Dear Colleague:

Welcome to volume 10(1) of *Intelligent Data Analysis* – An International Journal.

With this issue we celebrate our tenth anniversary and proudly ten years of success. This editorial consists of two parts. In part one we give a brief history of our journal, how it was launched and the path that we have followed so far. In part two, we provide a short overview of this issue.

A new journal dedicated to this field was conceived in late 1994, where the idea was discussed with a number of colleagues and publishers. This resulted in preparing several versions of a proposal that was presented to four publishers that we approached between early 1995 to 1996. This process eventually resulted in Elsevier Science in New York (the last publisher that we approached) agreeing to launch a new on-line journal, called Intelligent Data Analysis – An International Journal. Our journal was officially announced be Elsevier in early 1996 and the first on-line issue came out in January 1997. Although the IDA journal was supposed to be available only on-line and four issues per year, the publisher changed its status to produce a paper copy as well. The production of the journal was transferred to the Elsevier office in Amsterdam, The Netherlands, and due to the volume of quality articles, we decided to extend the journal to 6 issues per year, starting 1999 (after only 2 years of publication). In 2000, the production of the IDA journal was officially transferred to a new publisher, the IOS Press, which is also headquartered in Amsterdam. We are extremely grateful to the continuous support of the IOS Press staff who have made the production of this journal possible. Our goal over the last ten years has been and it will remain to reach the highest esteem on the part of the readers and for sure from all indexing services that rate our journal. With this objective, we count on all readers and prospective authors to participate in this endeavour.

In this part, as we have always done, we give a short summary of the five articles that are included in this issue. In the first article, Richards et al. introduce a novel feature selection method that is based on the relative importance of individual features. They describe a method to estimate feature salience and apply their approach to a set of synthetic and real data sets. The evaluation includes building classifiers and comparing them with the original and selected subset of features. Their results show a significant improvement over using only the original features. Gama et al. in the second article investigate the problem of generating accurate decision trees from data streams. Data streams are incremental tasks that normally require incremental, on-line and any-time algorithms. The article discusses the extensions to a well-known algorithm to analyze data streams. They demonstrate that not only the new algorithm performs similar to a standard decision tree algorithm it can also deal with the problem of concept drift. As part of the evaluation in this article using medium and large data sets, is a study of the sensitivity of the algorithm with respect to drift, noise and the order of the examples. The third article, by Rooney et al., describes an approach to stacking for regression that prunes the ensemble set and is based on the training accuracy and diversity of the ensemble members. Two variants of their approach are included in the article and it is compared with standard stacking. They demonstrate that on average their method is robust and produces smaller and less complex ensembles.

Motivated by the need for modeling complex structures, such as hand written character recognition and computational biology, Bouchaffra and Tan in the next article introduce a generalized version of Hidden Markov Models. By assigning four basic problems of (i) probability evaluation, (ii) state decoding, (iii) structural decoding, and (iv) parameter re-estimation, their approach is evaluated for recognizing hand-written numerals. The results reported in this article show a highly noticeable improvement in error reduction. The last article of this issue by Fan and Sun discusses some of the complex tasks, such as assigning semantic classes and determining relations, involved in entity and relation recognition related to the domain of information extraction. They introduce a method which allows different tasks in information extraction can be linked closely. The results of their evaluation show significant improvements on both relation and entity recognition stages of knowledge representation and reasoning.

And finally, on this tenth anniversary of the IDA journal, I would like to thank a number of people who have made publication of this journal possible. First, our dedicated editorial board from all continents of the world who have not only evaluated submitted articles, they have given us advice on how to produce a high quality journal. From the IOS Press office in Amsterdam, a number of people including Dr. Einar Fredriksson and Ms. Marleen Berfelo and their production staff without their hard work and continuous support this journal would have not been available. I am really looking forward to the next 10 years of success of the IDA journal.

With our best wishes,

Dr. A. Famili
Editor-in-Chief