

Editorial

Dear Colleague:

Welcome to volume 13(4) of *Intelligent Data Analysis* – An international Journal.

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

In the first article of this issue, Wong et al. discuss the importance of automatic term recognition and propose a probabilistic framework for formalizing and combining qualitative evidence based on explicitly defined term characteristics to produce a new termhood measure. Their results based on qualitative and quantitative evaluations demonstrate a consistently better precision, recall and accuracy, compared with some existing ad-hoc measures. Kheradmandian and Rahmati, in the next article of this issue, propose a new clustering approach where clusters of objects are created based on their textual characteristics. Their newly proposed approach consists of two steps where sub-clusters are created first based on similarity of their structures followed by a hierarchical merging of sub-clusters based on similar textures and closeness. Their approach is evaluated with some real data and compared with some existing clustering methods. Del Razo Lopez et al. in the third article of this issue discuss the problem of tree mining and its efficiency where all possible trees are generated first and then pruned to the desired level. They propose a new approach that is based on equivalence relations and it targets decreasing number of candidates. Their experimental results involved evaluation of their approach using synthetic and real data sets where the efficiency of their method is demonstrated. The next article by Lai et al. is also about tree clustering where the authors propose a new approximate clustering method based on minimum spanning tree. The whole concept in this paper, which is based on approximation, is to extend the minimum spanning tree clustering so that the nearest points in a given space of objects can be more efficiently identified. The article includes evaluation results on some synthetic and real data sets where high-quality clusters are identified.

The next four articles are mostly on applied research. Olvera-López et al. propose and investigate the use of sequential search to solve prototype selection in a typical application domain. With the goal of reducing the training data to achieve better classification accuracy, the authors propose three prototype selection methods. Their experiments and results reported in the article show the effectiveness of the proposed methods and its comparison with some existing ones. Ben Yahia et al. motivated by the fact that a large number of un-necessary association rules are extracted from data sets, introduce a fairly novel and informative approach that generates association rules based two types of knowledge: factual and implicative. Results of their experiments on a number of real data sets show the usefulness of learned generic basis from its compactness point of view. In the next article of this issue, Chougali et al. introduce two algorithms applied to face recognition that are based on fuzzy logic and discriminant analysis. The two are fuzzy extensions of Linear Discriminant Analysis and Kernel Scattered-Difference Based Discriminant Analysis algorithms. These algorithms can deal with small samples and non-linear class of problems. Evaluation of both algorithms using face recognition data is reported in the paper where

better face recognition performance is shown. And finally in the last article of this issue, Alshalalfah and Alhajj discuss the issue of accuracy of class prediction in cancer using microarray data and introduce a two stage fuzzy clustering algorithm. Their approach is based on clustering original data first and then indentifying clusters of genes from preliminary results. Their results from the experiments conducted on three bench mark data sets demonstrate the applicability and effectiveness of their approach as compared to some existing ones.

In conclusion, we will have the IDA conference (<http://ida09.liris.cnrs.fr/>) that will be held this year in Lyon, France from August 31st to September 2nd. We encourage all colleagues to attend this high quality conference. We are expecting to publish a special issue of IDA journal that will contain the extended version of some of the best papers from this conference. We look forward to receiving 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