

Editorial

Dear Colleague:

Welcome to Volume 5(2) of the journal *Intelligent Data Analysis*!

Volume 5(2) of IDA consists of five articles. Following is a short summary for each of these articles.

Zhou et al. in the first article discuss the drawback of some of the existing data mining techniques and propose a belief network method for rule mining from data bases. Since belief networks provide a natural representation for capturing causal relationship among a set of variables, their approach can mine more general rules which means it can capture the relationship of more than two attribute variables. The paper describes potential application of their work which is demonstrated through some detailed case studies. In the second article, Hong et al. focus on mining useful information from large databases and data warehouses. They propose the concept of pre-large itemsets and introduce an incremental mining algorithm. In this approach, itemsets are defined by lower and upper support thresholds which are defined by the user. They introduce an algorithm that does not require rescanning of the database unless a new transaction has occurred. The algorithm is highly efficient in applications where databases continuously grow. Wang et al. in the next article, introduce data mining techniques for discovering all minimal non-trivial coarsest functional dependencies based on equivalence classes from similarity based fuzzy relational databases. When the data is imprecise, similarity-based fuzzy models are the most suitable for describing data. The article also includes a data mining technique based on top-down level-wise search approach and contains results showing the behaviors of functional dependencies. The next two articles are applications of machine learning and statistical techniques for defect or fault detection. Cucchiara et al. present an application of machine learning and statistics to the problem of distinguishing between defective and non-defective industrial products. The data comes from work piece images from which a number of features are extracted. The authors evaluate several learning algorithms and three statistical techniques. Their results showed that one of the machine learning algorithms performed best and gave a fairly high accuracy. Last article of this issue by Fry explores fusion of uncertain sensory information into multivariate measurement systems. An on-line approach for detection, isolation and rectification of measurement anomalies within a class of redundant process measurement systems is introduced. Experimental results from a set of thermocouples are given.

And finally, we would like to thank our readers, subscribers and all researchers who have contributed to our journal by providing feedback and submitting quality papers, five of which are published in this issue.

Best wishes,

A. Famili
Editor-in-Chief