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## Editorial

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**Biographical notes:** Zbigniew W. Raś received his PhD from the University of Warsaw (Poland) and DSc (Habilitation) from the Polish Academy of Sciences. Since 1987, he is a Professor of Computer Science at the University of North Carolina, Charlotte. Also, he is a Professor in the Institute of Computer Science at the Warsaw University of Technology in Poland. He is the Editor-in-Chief of the *Journal of Intelligent Information Systems* (Springer) and *International Journal of Social Network Mining* (InderScience Publishers). Since 1994, he is a member of the Senate of the Polish-Japanese Institute of Information Technology. He is an Affiliate Professor in the Institute of Computer Science at the Polish Academy of Sciences. He authored more than 200 research papers and edited 30 books in intelligent systems area. His research interest includes knowledge discovery in databases, flexible query answering, medical informatics, music information retrieval, multimedia, intelligent agents and decision support systems.

Li-Shiang Tsay received her PhD from the University of North Carolina at Charlotte in 2005. Since 2007, she is an Assistant Professor and IT Graduate Coordinator at the North Carolina A&T State University. She authored about 20 research papers and edited one book in intelligent systems area. Her research interest includes knowledge discovery and data mining, multimedia databases, intelligent web search, agent-based modelling and complex adaptive systems.

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Knowledge discovery in databases (KDD) is the process which identifies and exploits useful and understandable knowledge buried in large volumes of data. The products of KDD have been proven very effective in many fields, such as business, science, government, etc. While most of the KDD algorithms generate predictions and describe behaviours, a focus on interestingness of discovered rules and understanding changes

in object behaviours normally improves the quality of the decision making process. There are two aspects of interestingness of rules that have been studied in data mining literature, objective and subjective measures. Objective measures are data-driven and domain-independent. Generally, they evaluate the rules based on their quality and similarity between them. Subjective measures, including unexpectedness, novelty and actionability, are user-driven and domain dependent.

This special issue contains five contributions which together represent a variety of KDD topics and focus on interesting knowledge mining.

The paper 'Discovering (frequent) constant conditional functional dependencies' by T. Diallo, N. Novelli and J-M. Petit studies the discovery of constant conditional functional dependencies in an existing relation. Authors mainly focus on two types of approaches: one which extends the notion of agree sets and the second extending the notion of non-redundant sets closure, and quasi closure.

The paper 'EverMiner: consideration on knowledge driven permanent data mining process' by J. Rauch presents data mining as a permanent knowledge driven process which is based on the application of GUHA data mining procedures. GUHA is a method for suggesting interesting observational statements. The EverMiner system consists of several parts and uses both theoretical principles and software modules that are known and there is enough experience concerning their separate applications. Its initial implementation starts with the 4th-EverMiner procedure that is based on the 4th-Miner GUHA method which also assumes that analysed data are represented by suitable strings of bits.

The paper 'Rule schemas and interesting association action rules mining' by A.A. Tzacheva concerns action rules defined as rules extracted from a decision system that describe possible transitions of objects from one state to another with respect to a distinguished attribute called decision attribute. Author presents a new approach that allows user to explore action rules space locally, without the need to extract and post-process all action rules from a database.

The paper 'Detection of research trends from bibliographical data' by H. Abe and S. Tsumoto presents a method for detecting temporal linear trends of technical terms based on importance indices. In order to detect temporal changes, authors combine an automatic term extraction method, importance indices of the extracted terms, and trend identification based on linear regression analysis.

The last paper 'Dimensionality reduction framework for blog mining and visualisation' by F.S. Tsai evaluates the applicability of dimensionality reduction techniques for blog mining and visualisation. The presented analysis focuses on the multiple dimensions of blog data. The author creates a unified dimensionality reduction framework to visualise five main dimensions present in blogs: content, tags, authors, links and time.