Editorial

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Data mining is one of the most innovatory expansions towards the automatic detection of knowledge from information by pertaining sophisticated intellectual techniques to assist and develop difficult decision making processes. Such advances are supportive for enterprise control and business intelligence, and in various application areas together with accounting, logistic, marketing, services, finance and public management along with the systematic disciplines. It is a procedure of choosing, discovering and modelling huge amounts of information in order to determine unidentified patterns or relationships. Data mining is concerned with the algorithmic means by which structures or prototypes are specified from the facts under suitable computational efficiency. Soft computing tools, independently or in incorporated way, are passing out to be strong candidates for performing data mining tasks efficiently. Soft computing is the use of fairly accurate calculations to present inaccurate but exploitable solutions to difficult computational problems. The broadmindedness of soft computing permits researchers to move toward some problems that conventional computing cannot process. The inspiration for soft computing was the mind of a human's ability to form solutions of real world problems through estimation. It is a wide area containing an assortment of techniques includes fuzzy logic, support vector machines, probabilistic reasoning, neural computation, swarm intelligence and metaheuristic and many more. Nowadays, researchers are showing more interest in the areas of neural computation, swarm intelligence, metaheuristics and fuzzy logic, etc. All these methods are progressively used in a range of data mining problems. The grouping of soft computing tools such as ANN, GA, FL, etc. can significantly develop the competence of data mining techniques, and it has been widely used. The use of soft computing techniques in data mining is a promising domain of research particularly given the ready accessibility of huge mass of datasets. The main intent of this special issue is to cover both the theory and applications of various soft computing techniques embedded to the diversified spanning fields of neural networks, connectionist system, artificial intelligence, fuzzy systems, etc. The issue will be helpful to promote original research articles on theoretical, experimental, and practical aspects of soft computing and data mining approaches.

This special issue comprises of some interesting and important articles such as: developing a framework for ensemble classification and sensitivity analysis in privacy preserving data mining, a novel technique using feed forwarded CT image registration for the detection of tumour and cyst using rigid transformation with HSV colour segmentation, a novel relaying approach of combined discrete wavelet transform and artificial neural network-based relaying scheme in an unified power flow controller integrated wind fed transmission line, empirical validation of object-oriented metrics on cross-projects with different severity levels, inverse kinematic solution of 6-DOF industrial robot using neuro-fuzzy technology, a phase entropy-based novel machine learning structure conditioned for classifying ictal and non-ictal signal aimed at proper clinical diagnosis. The above soft computing techniques are the solutions for so many real life problems such as data privacy, medical image segmentation, power flow problem, software engineering, clinical diagnosis, etc. The articles are selected collections of some of the recently developed soft computing techniques applied to solve the aforementioned problems. This special issue covers both the theory and applications of the above mentioned techniques which may play a major role in applying the developed methods in some future applications. The wider use and successful applications in various diversified problem domains discussed in this special issue show the efficiency of these developed methods. As guest editors, we hope that spectrum of research works covered under this special issue will be of value for all researchers working in the domain of data mining, soft computing, image analysis and related areas. We are grateful to our authors who have contributed their valued research to this special issue and always supported us during the reviewing of the articles. The technical standards and quality of published articles in this special issue is based on the strength and expertise of the

reviewer board members who have been grossly involved in providing high quality reviews for the submitted papers. Our special thanks go to the Editor-in-Chief of the *International Journal of Computational System Engineering* (*IJCSysE*), Professor Valentina E. Balas for all her continued guidance and input on the policies of the journal as well as for her volunteered significant time despite of his busy schedules. Also, we are thankful to the editorial support members and teams for their constant effort for the successful publication of the issue.