

Special Issue: Selected Best Papers of
International Workshop on Knowledge Discovery and Data Mining 2008 (WKDD 2008)
Track on Intelligent Computing

Editorial

Knowledge discovery and data mining (KDD) have become areas of growing significance because of the recent increasing demand for KDD techniques, including those used in machine learning, databases, statistics, knowledge acquisition, data visualization, and high performance computing. Knowledge discovery and data mining can be extremely beneficial for the field of Artificial Intelligence in many areas, such as industry, commerce, government, education and so forth.

The First International Workshop on Knowledge Discovery and Data Mining (WKDD 2008) are sponsored by Institute of Computer Science, Social Informatics and Telecommunications Engineering (ICST), in cooperation with Ningbo University, China, Wuhan University of Science and Technology Zhongnan Branch, China, and Association for Computing Machinery (ACM). The workshop is hosted by the University of Adelaide, Australia on 23-24 January 2008. Out of more than 400 papers submitted to WKDD 2008 workshop, we have chosen 15 outstanding papers to be published in this special issue, track on Intelligent Computing. All these papers have been reviewed in the second round and were recommended to contain 30% more new material to be accepted and published in this Special Issue.

To have a quick look at some papers in this special issue, in the first paper, in order to implement both the efficiency and security in the Peer-to-Peer (P2P) network, Yingjie Xia et al. have designed a trusted small world overlay P2P network with the role based and reputation based access control policies, denoted as SW-R2P. The SW-R2P system integrates the small world topology with zero knowledge identification and Bayesian trust model. The zero knowledge identification is utilized to securely cluster all the peers into several groups without transferring any related information. Zhou Qihai et al. have proposed an isomorphic new algorithm for finding convex hull with a maximum pitch of the dynamical base line guided by apexes distributing characteristics. Wu Jian and Li Xing ming implement a fast and stable algorithm to mining weighted association rules based on Item Sequence Sets (ISS).

To tackle the Supply chain risk evaluation problem, Peide Liu and Tongjuan Wang firstly identify and discuss some of the important and critical decision criteria and construct the evaluation indicator framework. Then a modified grey relational analysis method based on the concepts of ideal and anti-ideal points are presented. Dehuai Zeng et al. have proposed a novel data fusion method for traffic incident detection using D-S evidence theory with probabilistic SVMs. Jia Xiaoliang et al. provides an overview CAPP database of the field, clarifying how PPKD in CAPP database are related both to each other and to related fields. The technology architecture of process planning knowledge discovery is founded based on object-oriented model-driven technology, and the process planning knowledge discovery script is designed.

Next, Kai Du et al. present a new object-based-repairing Markov model. Bo Jiang et al. have proposed a novel intelligent cooperative efficiency evaluation mechanism via mining the reaction information. By visualizing cooperative efficiency, cooperators are enabled to concentrate on the most of controversial part of the cooperative work. Related algorithm that includes two key concepts: expectation and convergence is proposed. Finally, Jia Wu and Ling Chen proposed a fast algorithm for mining frequent subgraphs in large database of labeled graphs.

We hope that the readers of this Special Issue enjoy reading and finding it useful in their future research. We first would like to thank the authors who worked hard to add substantial materials to the conference versions. Also, we would like to thank the Editor In Chief, George J. Sun for his patience throughout this process.

Guest Editors:

Qi Luo

Chair, IEEE SMC Technical Committee on Education Technology and Training, USA

Wuhan Institute of Technology, China

Chair, Intelligent Information Technology Application Research Association, Hong Kong

Editors-in-Chief, International Journal of Intelligent Information Technology Application

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Associate Editor, IEEE Transactions on Systems, Man & Cybernetics, Part C

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Dr. Qi Luo, Senior Lecturer, Chair of Intelligent Information Technology Application Research Association, Hong Kong, Chair of IEEE SMC Technical Committee on Education Technology and Training, USA. With the highest honor, He joined the School of Electrical and Information Engineering, Wuhan Institute of Technology. He has wide research interests, mainly including intelligent computing, data mining, learning technology, distant education. In these areas he has published over 40 papers in international journals or conference proceedings. He has won various awards in the past.

He served as workshop chair of ICCS 2007, IPC 2007, session chair of ICMLC 2007 and ICNC 2007, advisory committee or program committee member of various international ACM/IEEE conferences, and he has taken as a guest editor for Special Issue on Web Intelligence and Applications in International Journal of Intelligent Information and Database Systems (IJIDS). He is also Editors-in-Chief of International Journal of Intelligent Information Technology Application. He has sponsored many conferences such as 2008

International Workshop on Knowledge Discovery and Data Mining (WKDD 2008) and 2008 International Symposium on Intelligent Information Technology Application (IITA 2008).



Prof. Ben K. M. Sim has extensive experience serving as Editor and Guest Editor of many international journals. Currently serving his second term as an Associate Editor of the IEEE Transactions on Systems, Man, and Cybernetics, Part C, he is also the sole Guest Editor of an upcoming special issue on Grid Resource Management in the IEEE Systems Journal, the official journal of the IEEE Systems Council (formed by 15 IEEE Societies). In addition, he serves as an Associate Editor of the International Journal of Applied Systemic Studies, an Editorial board member of the International Journal of Hybrid Intelligent Systems and The Open Cybernetics and Systemics Journal and an Editorial Advisory Board Member of the System and Information Sciences Notes.

He is the Editor of five special journal issues in Grid computing and automated negotiation. As the sole Guest Editor, he single-handedly managed and coordinated the review processes for four special journal issues on (i) game-theoretic analysis and stochastic simulation of negotiation agents (IEEE Transactions on

SMC, IEEE, USA), (ii) learning approaches for negotiation agents (International Journal of Intelligent Systems (Wiley, USA)), (iii) Agent-based Grid Computing, (Applied Intelligence Journal (Springer, USA)), and (iv) Grid Resource Management (IEEE Systems Journal). Additionally, he is also the Lead Editor of a special issue on negotiation agent and Grid system in the Multiagent and Grid Systems Journal (IOS Press, NL).