

Special Issue: Recent Advances in Electronic Commerce and Security &
Web Information Systems and Applications
Selected Best Papers of International Symposium on Electronic Commerce and Security
2009(ISECS 2009) & International Symposium on Web Information Systems and Applications
2009(WISA 2009)
Track on Software

Editorial

This special issue comprises of fourteen selected papers from the International Symposium on Electronic Commerce Security (ISECS 2009), Nanchang, China, 22-24 May 2009. The conference received 1050 paper submissions from 19 countries and regions, of which 487 were selected for presentation after a rigorous review process. From these 487 research papers, through two rounds of reviewing, the guest editors selected twelve as the best papers on the Computers track of the Conference. The candidates of the Special Issue are all the authors, whose papers have been accepted and presented at the ISECS 2009 and WISA 2009, with the contents not been published elsewhere before.

The ISECS 2009 and WISA 2009 are sponsored by Nanchang HangKong University, China, Peoples' Friendship University of Russia, Nanchang University (China), Jiangxi Normal University (China), Wuhan University (China), National Chung Hsing University (Taiwan), Institute of Software, Chinese Academy of Sciences, Sichuan University (China), and Jiaying University (China). Technical Co-Sponsors of the conference are IEEE, IEEE Computer Society, and IEEE Computer Society Technical Committee on E-Commerce.

“Lossless Compression Schemes of Vector Quantization Indices Using State Codebook”, by Chin-Chen Chang, Guei-Mei Chen, Chia-Chen Lin, proposes two novel schemes to further compress the VQ index table of images based on the SOC scheme without losing any image quality by the original VQ encoding. Simulation results indicate that the proposed schemes achieve significant reduction of bit rate without losing any image quality by the original VQ encoding.

“Assuring Structural Parallel Programs based on Scoped Permissions”, by Yang Zhao, Ligong Yu, Gongxuan Zhang, proposes a "scoped permission" system for a simple object-oriented language with shared memory and structural parallelism. The permission is abstracted as a linear value associated with some piece of state in a program and it is normally adopted in program analysis and verification.

“Empirical Study on the Influence of Social Capital to Informal Knowledge Transfer among Individuals”, by Zhihong Li, Tao Zhu. Based on theories of knowledge transfer, the hypotheses of influence of social capital to informal knowledge transfer among individuals were proposed. By empirical study, this paper verified and revised the model, and revealed that three dimensions of social capital not only have a direct significant effect on informal knowledge transfer performance among individuals, but also have an indirect effect on the informal knowledge transfer performance among individuals by impacting on knowledge transfer opportunities, motives and ability respectively.

“An Improved Ant Colony Optimization Cluster Algorithm Based on Swarm Intelligence”, by Weihui Dai, Shouji Liu and Shuyi Liang, proposes an improved ant colony optimization cluster algorithm based on a classic algorithm - LF algorithm. By the introduction of a new formula and the probability of similarity metric conversion function, as well as the new formula of distance, this algorithm can deal with the category data easily. This algorithm can handle large category dataset more rapidly, accurately and effectively, and keep the good scalability at the same time.

“Information-oriented Online Shopping Behavior in Electronic Commerce Environment”, by Chun-An Chen, proposes a modified model of the consumer online purchase decision making process, in the proposed model, online shoppers tend to place more focus on different marketing mix elements in each phase.

“Flexible Business Process Integration for Clusters of Small-Medium Sized Enterprises in Heterogenous Environment”, by Bo Jiang, Yun Ling, proposes present an on-demand information service platform for small-medium enterprise clusters and propose loosely-coupled service-oriented business process integration scheme for this platform. The platform and the related techniques have been applied in realistic textile industrial clusters.

“A Quantitative Method for Pulse Strength Classification Based on Decision Tree”, by Huiyan Wang, Peiyong Zhang, proposes a novel method based on decision tree (DT), the proposed method can classify PS accurately and provide an effective means for the analysis of pulse signal.

“Multiplication Operation on Fuzzy Numbers” by Shang Gao and Zaiyue Zhang, proposes based on extension principle, nonlinear programming method, analytical method, computer drawing method and computer simulation method are used for solving multiplication operation of two fuzzy numbers.

“ZFlow: Workflow for Cooperative Editing System”, by Fei Zhu, Xiaoxu Zhu, Qiang Lv, Yiyong Shi, Yang Yang and Qiaoming Zhu, proposes workflow description language, which is based on activity, manages users and resource, considers constraints in editing, controls activity execution, and provides interfaces for cooperation concurrency and consistency.

“Improved Adaptive and Multi-group Parallel Genetic Algorithm Based on Good-point Set”, by Ruijiang Wang, Yihong Ru and Qi Long, proposes an adaptive genetic algorithm to solve the multi-group homogenization in the solution space. The stimulation shows that this algorithm can effectively prevent the early convergence, and to a large extent improve the accuracy of solution, which is suitable for large-scale, high-precision optimization problems.

“Event-B based Verification of Interaction Properties In Multi-Agent Systems”, by Leila Jemni Ben Ayed, Fatma Siala, proposes a specification and verification technique of multi agent interaction protocols using AUML and Event B. and focus on the translation of messages with response delay, complex messages and protocol’s states.

“Narrowcast Pricebook-Driven Persuasion: Engagement at Point of Influence, Purchase and Consumption in Distributed Retail Environments”, by Martha G. Russell, proposes the effectiveness in retail locations of a narrowcast price book-driven video messaging system documents the impact of the marketing messages in influencing consumer attention, perception and behavior.

“Method of Non-optimum Analysis on Risk Control System”, by Zengtang Qu, Ping He, proposes the syndrome and empirical analysis based on the non-optimum category of the risk. Based on non-optimum analysis, it puts out the academic idea of extension risk analysis.

“RCHIG: An Effective Clustering Algorithm with Ranking”, by Jianwen TAO, proposes a novel clustering framework called RCHIG to integrate clustering with ranking, which generates conditional ranking relative to clusters to improve ranking quality, and uses conditional ranking to generate new measure attributes to improve clustering.

We are particularly grateful to Guangnan Ni, Chin-Chen Chang, Jen-Yao Chung, Ben M. Chen, and Dongfen Yuan for accepting our invitation to deliver invited talks at this year’s conference. We wish to thank the Nanchang HangKong University, China for providing the venue to host the conference. In particular, we would like to acknowledge School of Computing, Nanchang HangKong University, China, who has worked throughout the year in preparation for this conference. We would like to take this opportunity to thank the authors for the efforts they put in the preparation of the manuscripts and for their valuable contributions. We wish to express our deepest gratitude to the program committee members for their help in selecting papers for this issue and especially the referees of the extended versions of the selected papers for their thorough reviews under a tight time schedule. Last, but not least, our thanks go to the Editorial Board of the Journal of Software for the exceptional effort they did throughout this process.

In closing, we sincerely hope that you will enjoy reading this special issue.

Guest Editors:

Jie-Xian Zeng, Nanchang HangKong University, China. Email: Zengjx58@163.com

Fei Yu, Peoples’ Friendship University of Russia, Russia. Email: hunanyufei@126.com

Limin Sun, Institute of Software, Chinese Academy of Sciences, China. Email: sunlimin@ios.cn

Mingwen Wang, Jiangxi Normal University, China. Email: mwwang@jxnu.edu.cn

Guangxue Yue, Jiaying University, China. Email: guangxueyue@yahoo.com.cn



Jie-Xian Zeng was born in Jiangxi China, on October 23, 1958. He received the Master degree from Northwestern Polytechnical University, China, in 1997. He is currently Professor with School of Computing of Nanchang Hangkong University.

His major research interests include image processing, theoretical graphics, computer vision, and pattern recognition. He has published more than 40 papers in the above areas, in leading journals and conference proceedings. He is a workshop chair, member of the advisory committee or program committee of many international IEEE conferences. He also served as the chair of several international conferences such as ISECS’08 and ISECS’09. He can be reached by e-mail: Zengjx58@163.com.



Fei Yu was born in Ningxiang, China, on February 06, 1973. Before Studying in Peoples’ Friendship University of Russia, Russia, He joined and worked in Hunan University, Zhejiang University, Hunan Agricultural University, China. He has wide research interests, mainly information technology. In these areas he has published above 50 papers in journals or conference proceedings and a book has published by Science Press, China (Fei Yu, Miaoliang Zhu, Cheng Xu, et al. Computer Network Security, 2003). Above 30 papers are indexed by SCI, EI. He has won various awards in the past. He served as many workshop chair, advisory committee or program committee member of various international ACM/IEEE conferences, and chaired a number of international conferences such as IITA’07, ISIP’08, ISECS’08 ISIP’09, ISECS’09 and ISISE’08. He have taken as a guest researcher in State Key Laboratory of Information Security, Graduate School of Chinese Academy of Sciences, Guangdong Province Key Lab of Electronic Commerce Market Application Technology, Jiangsu Provincial Key Lab of Image Processing and Jiangsu Provincial Key Laboratory of Computer Information Processing Technology.



Limin Sun was born in Henan, China, on September 26, 1966, received the B.S, M.S and Ph.D. degrees in computer science from National University of Defense Technology at Changsha, China, in 1988, 1995 and 1998, respectively.

He joined Institute of Software, Chinese Academy of Sciences in June 1998, where he is now a professor and director for Wireless Ad Hoc Network Lab. His current research interests include wireless sensor networks, vehicular ad hoc networks, and wireless broadband access networks. He has published three books and over 90 papers international journals and conference proceedings (including Elsevier Computer Communications, International Journal of Sensor Networks, VLSI Signal Processing Systems, EURASIP Journal of Wireless Communication & Networking; ICDCS, ICC, WCNC, SECON). Besides, he has already applied for 18 patents.



Mingwen Wang was born in Jiangxi, China, on December 19, 1964, received his B.S. degree in mathematics from Jiangxi Normal University, Nanchang, China, in 1985, M.S. degree in probability theory and mathematics statistics from Jiangxi Normal University, and Ph.D. degree in computer software and theory from Shanghai Jiaotong University, Shanghai, China, in 2000.

He was a lecture from 1988 to 1995, and was an associate professor from 1996 to 2000 in Department of computer science, Jiangxi Normal University, Nanchang, China. He was a Visiting Researcher, Department of computer science, Montreal University, Quebec, Canada, from December, 2002 to December, 2003. He is currently a professor and Ph.D supervisor in School of Computer and Information Engineering, Jiangxi Normal University. His research interests include Data Mining, Information Retrieval and Pattern Recognition.

He served as a programming member of Symposium of Search Engine and Web Mining (SEWM) from 2006 to 2008, as a programming chair of Symposium of Search Engine and Web Mining (SEWM) in 2009. He is a senior member of China Computer Federation, China (2005-). He was the recipient of University Researcher Award, Jiangxi Province (2007).



Guangxue Yue was born in 1963, Guizhou, China. He obtained his master in Hunan University. Professor, the College of Mathematics & Information Engineering, Jiaying University, China. His main research interests include Distributed Computing & Network, Network Security, and Hybrid & Embedded Systems. In these areas he has published above 30 papers in leading journals or conference proceedings, above 20 papers are indexed by SCIE, EI. He served as many workshop chairs, advisory committee or program committee member of various international IEEE conferences, and chaired a number of international conferences such as ISECS'08, ISIP'09, ISECS'09 and ISISE'08. He have taken as a guest researcher in Jiangxi University of Science and Technology, Jiangsu Polytechnic University, State Key Laboratory for Novel Software Technology at Nanjing University, Graduate School of Chinese Academy of Sciences, Guangdong Province Key Lab of Electronic Commerce Market Application Technology.