

Special Issue on Recent Advances in  
Information Processing & Intelligent Information Systems and Applications  
Track on Computers

## Guest Editorial

This special issue comprises of thirteen selected papers from the International Symposium on Information Processing 2009 (ISIP 2009), Huangshan, China, 21-23 August 2009 and International Symposium on Intelligent Information Systems and Applications 2009 (IISA 2009), Qingdao, China, 28-30 October 2009. The conference received 623 papers submissions from 11 countries and regions, of which 320 papers were selected for presentation after a rigorous review process. From these 320 research papers, through two rounds of reviewing, the guest editors selected thirteen 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 ISIP 2009 and IISA 2009, with the contents not been published elsewhere before.

The ISIP 2009 are Co-sponsored by Jiaying University, China, Peoples' Friendship University of Russia, Russia, Nanchang HangKong University, China, Sichuan University, China, Hunan Agricultural University, China, National Chung Hsing University, Taiwan, Guangdong University of Business Studies, China, Academy Publisher of Finland, Finland.

The IISA 2009 are Co-sponsored by Qingdao University of Science & Technology, China; Peoples' Friendship University of Russia, Russia; Nanchang HangKong University, China; National Chung Hsing University, Taiwan; Hunan Agricultural University, China; Guangdong University of Business Studies, China; Jiaying University, China. Technical Co-Sponsors of the conference are IEEE, IEEE Shandong Section, IEEE Shanghai Section.

“A Data Aggregation Algorithm Based on Splay Tree for Wireless Sensor Networks”, by Zhang Shu-Kui, Cui Zhi-Ming, Gong Sheng-Rong, Liu Quan and Fan Jian-Xi. In this paper, an aggregation algorithm based on splay tree is proposed to achieve the following goals: monitoring data of any portion of the region can be obtained at one time by querying the root instead of flooding those regions, thus incurring significant energy savings.

“Efficient Selection and Integration of Hidden Web Database”, by Xuefeng Xian, Pengpeng Zhao, Yuanfeng Yang, Jie Xin and Zhiming Cui, proposes an approach to iteratively select and integrate candidate web database. The core of this approach is a benefit function that evaluates how much benefit the web database brings to a given status of an integration system by integrating it.

“A Study on the Influence of Organizational Climate on Knowledge-Sharing Behavior in IT Enterprises”, by Zhihong Li, Tao Zhu and Fang Luo proposes a research model about influencing factors of organizational climate on knowledge-sharing behavior within organizations.

“Modeling and performance evaluation of service choreography based on stochastic Petri net”, by Yuxiang Dong, Yunni Xia, Tianhao Sun and Qingsheng Zhu, proposes a stochastic-Petri-net-based approach to predict the performance of web service choreographed using WSCI. This approach translates WSCI-based composition into general stochastic Petri net and obtains analytical estimation of process-completion-time based on the continuous-time Markov chain derived from the Petri net.

“The Design of Serial ATA Bus Control Chip”, by Cheng Wei, Tan Zhenhua and Zhu Zhiliang and Chang Guiran, proposes the differences between Parallel ATA protocol and serial ATA protocol, and describe the hierarchical classification of serial ATA protocol model.

“Research on Logistics Network Infrastructure Based on HCA and DEA-PCA Approach”, by Changbing Jiang, the connotation of LNI is analyzed in this paper. Compared with the extensive research on LNI in developed world, empirical work is still rare in China.

“Memory forensics for QQ from a Live System” by Yuhang Gao and Tianjie Cao, In this paper, Authors have managed to reconstruct the process space of the QQ client. The invalid PTEs are taken into consideration and the paging file is made fully use of.

“On-line Hot Topic Recommendation Using Tolerance Rough Set Based Topic Clustering”, by Yonghui Wu, Yuxin Ding, Xiaolong Wang and Jun Xu, proposes a tolerance rough set based topical clustering and class label extraction method based on a tolerance approximation topical feature space, which could reduce the non-topical noise words and generate more topical cluster.

“Optimal Backup Interval for a Database System with Full and Periodic Incremental Backup”, by Cunhua Qian, Yingyan Huang, Xufeng Zhao and Toshio Nakagawa, proposes the following backup scheme for a database system: a database is updated at a nonhomogeneous Poisson process and an amount of updated files accumulates additively.

“Mining Top-K Graph Patterns that Jointly Maximize Some Significance Measure”, by Yong Liu, Jianzhong Li, Jinghua Zhu and Hong Gao, proposes a new problem of mining top-k graph patterns that jointly maximize some

significance measure from graph databases.

“A New Judging and Revising Method for Ordinal Consistency of Fuzzy Judgment Matrix”, by Xixiang Zhang, Guangxue Yue, Xiaojing Liu and Fei Yu, a judging method for ordinal consistency of fuzzy judgment matrix was proposed according to the transitivity of binary relation.

“A Hybrid Intelligent Learning Algorithm to Identify the ECNS Based on FBP Optimized by GA” by Zhibin Liu and Shuanghai Li, proposes a hybrid intelligent learning algorithm which uses the genetic algorithm (GA) to optimize the fuzzy backpropagation (FBP) neural network.

“Dependent Component Analysis: Concepts and Main Algorithms” by Rui Li Hongwei Li and Fasong Wang. In this paper, we describe the overall basic DCA model in detail, moreover, the relationships between ICA and these DCA models have also been shown. The separateness and uniqueness is discussed of some special DCA models too.

We are particularly grateful to IEEE Fellow Prof. Gary G. Yen, President-Elect of IEEE Computational Intelligence Society and Editor-in-Chief of IEEE Computational Intelligence Magazine, Oklahoma State University, USA; IEEE Fellow Prof. Jun Wang from Chinese University of Hong Kong, Hong Kong; IEEE Fellow Prof. Derong Liu, Associate Editor of IEEE Trans. on Neural Networks, University of Illinois at Chicago, USA; IEEE & IET Fellow Prof. Chin-Chen Chang from National Chung Hsing University, Taiwan, and Chair of IEEE Shanghai Section; and Prof. Junfa Mao at Shanghai Jiaotong University, China. for accepting our invitation to deliver invited talks at this year's conference.

We wish to thank the Jiaxing University, China and Qingdao University of Science & Technology, China for providing the venue to host the 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 Computers for the exceptional effort they did throughout this process.

The ISIP 2010 will be held in Guangdong University of Business Studies, China, we are looking forward to seeing you in Guangdong University of Business Studies, China.

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

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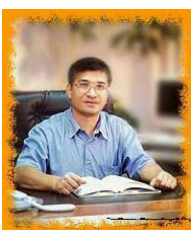
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**Fei Yu** was born in Ningxiang, China, on February 06, 1973. Before Studying in Peoples' Friendship University of Russia, Russia, He joined and worked in Hunan University, Zhejiang University, Hunan Agricultural University, China. He has wide research 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

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**Chin-Chen Chang** was born in Taichung, Taiwan on Nov. 12th, 1954. He obtained his Ph.D. degree in computer engineering from National Chiao Tung University. He's first degree is Bachelor of Science in Applied Mathematics and master degree is Master of Science in computer and decision sciences. Both were awarded in National Tsing Hua University. Dr. Chang served in National Chung Cheng University from 1989 to 2005. His current title is Chair Professor in Department of Information Engineering and Computer Science, Feng Chia University, from Feb. 2005.

Prior to joining Feng Chia University, Professor Chang was an associate professor in Chiao Tung University, professor in National Chung Hsing University, chair professor in National Chung Cheng University. He had also been Visiting Researcher and Visiting Scientist to Tokyo University and Kyoto University, Japan. During his service in Chung Cheng, Professor Chang served as Chairman of the Institute of Computer Science and Information Engineering,

Dean of College of Engineering, Provost and then Acting President of Chung Cheng University and Director of Advisory Office in Ministry of Education, Taiwan.

Professor Chang has won many research awards and honorary positions by and in prestigious organizations both nationally and internationally. He is currently a Fellow of IEEE and a Fellow of IEE, UK.



**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

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**Wen Chen** was born in 1967 in Anhui, China. He received his PhD from the University of Electro-Communications, Tokyo, Japan in 1999. He was a researcher with Japan Society for the Promotion of Sciences from 1999 through 2001. Then he joined University of Alberta, Canada, starting as a post-doctoral fellow in Information Research Lab and continuing as a research associate in Department of Electrical and Computer Engineering. Since 2006, he has been a full professor in Department of Electronic Engineering, Shanghai Jiaotong University, China, where he is also the director of Institute for Signal Processing and Systems. Dr. Chen was awarded the Ariyama Memorial Research Prize in 1997, the PIMS Post-Doctoral Fellowship in 2001. He received the honors of "New Century Excellent Young Researcher in China" in 2006 and "The Pujiang Excellent Investigator in Shanghai" in 2007. He is elected the vice general secretary of Shanghai Institute of Electronics in 2008. He is in the editorial board of the "International Journal of Wireless Communications and Networking", and serves IEEE Communications Society as a Technical Committee

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