

Special Issue: Recent Advances in Intelligent Information Technology & Network Security

Selected Best Papers of the third International Symposium on Intelligent Information Technology and Security Informatics (IITSI 2010) & the Second International Symposium on Networking and Network Security (ISNNS 2010)

Track on Software

Guest Editorial

This special issue comprises of six selected papers from the third International Symposium on Intelligent Information Technology and Security Informatics (IITSI 2010), Jinggangshan, China, 2-4 April 2010. The conference received 630 paper submissions from 17 countries and regions, of which 358 papers were selected for presentation after a rigorous review process. From these 358 research papers, through two rounds of reviewing, the guest editors selected six as the best papers on the Software track of the Conference. The candidates of the Special Issue are all the authors, whose papers have been accepted and presented at the IITSI 2010, with the contents not been published elsewhere before.

The 2010 Symposium on Intelligent Information Technology and Informatics Security is co-sponsored by Jinggangshan University, China; Peoples' Friendship University of Russia; Feng Chia University, Taiwan; Nanchang HangKong University, China; East China Jiaotong University, China; Jiaying University, China; Qingdao University of Science & Technology, China; Academy Publisher, Finland; Hunan Agricultural University, China. Technical Co-Sponsors of the conference are IEEE; IEEE Shanghai Section.

“On a Generalization of Cubic Spline Interpolation”, by Shang Gao, Zaiyue Zhang and Cungen Cao, based on analysis of basic cubic spline interpolation, the clamped cubic spline interpolation is generalized in this paper. The methods are presented on the condition that the first derivative and second derivative of arbitrary node are given.

“Research on Component Composition and Replacement with Formal Semantics”, by Ruzhi Xu, Quansheng Wu and Peiguang Lin, based on the notion of ‘design by contract’, components interaction patterns and process patterns of component composition, formal semantics of components are proposed.

“Credit-based Repeated Game Model Applied in Transfer Decision of Opportunistic Network”, by Cheng Zhang, Qing-sheng Zhu, and Zi-yu Chen, focuses on the scene happened in Opportunistic Network. From the global network and whole life-cycle of nodes, it converts the phase game of nodes into repeated-game and makes each game become one process of repeated-game.

“Optimizing Large Query by Simulated Annealing Algorithm Based On Graph-Based Approach”, by Yongheng Chen, Wanli Zuo, Fenglin He and Kerui Chen, proposes the traditional simulated annealing algorithm through discussing its theory and process, analyzes its shortcoming in detail, simple describe influence of key parameters to simulated annealing algorithm and provided feasible improvement.

“Cyclops – Snapshot Translation System Based on Mobile Device”, by Fai Wong, Sam Chao and Wai Kit Chan, presents a new translation framework, Cyclops, that realizes the translation of the snapshot of text by using the integrated digital camera of mobile device, targeted at providing a comprehensive GUI for user to access the meaning of any non-native text in the most natural and efficient way.

“Applying Unascertained Theory, Principal Component Analysis and ACO-based Artificial Neural Networks for Real Estate Price Determination”, by Wanqing Li and Huawang Shi, proposes a multi-resolution approach for the determination of the real estate pricing. This new way has the merits of both ant colony algorithm and neural network. Its validity and speed are tested through an example.

We are particularly grateful to IEEE Fellow Prof. Derong Liu, Editor-in-Chief of IEEE Trans. on Neural Networks, University of Illinois at Chicago, USA; IEEE Fellow Prof. Jun Wang from Chinese University of Hong Kong, Hong Kong; 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 Jinggangshan University, China for providing the venue to host the conference. In particular, we would like to acknowledge school of Electronic and Information Engineering, Jinggangshan, 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:

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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 60 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 40 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, IITA'08, ISIP'08, ISIP'09, ISIP'10, ISECS'08, ISECS'09, ISECS'10, ISECS'11 and ISISE'08, ISISE'09, ISISE'10. 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.



Xuange Peng was born in Nov. 9th, 1950. He is a professor of Jinggangshan University, China. Professor Peng served in Jinggangshan University from 1977 to 2010. Now his current title is dean in Computer Science Department, Information Science and Medium College, Jinggangshan University, from 2004. He has published more than 80 journal or international conference papers. Above 20 papers are indexed by SCI, EI and ISTP. Professor Peng has won research awards by Jiangxi municipal education commission, Jiangxi municipal industry and information commission, Ji'an municipal government. His main research interests include embedded system, industrial control and intelligent instrument.



Juefu Liu was born in Pinjiang, China on May, 1963. He received his B. S. degree from East China Institute of Geology in June 1984 and got M.S degree from China University of Geosciences in June, 2000. Both specialized in Geodetection and Information Technology. His main research fields include information grid, data mining, geographic information system.

Now he is professor and assistant dean of information engineering College in East China Jiaotong University, director of Computer Federation in Jiangxi, China, expert of golden shield project in Jiangxi public security Bureau, part-time professor of Jinggangshan University. He has published more than 30 research papers in academic journals and conferences both nationally and internationally.



Jiexian 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.



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.