

## Special Issue on Big Data Analytics and Network Applications for Cyber-Physical Systems Wireless Personal Communications

Zheng Xu<sup>1</sup> · Yunhuai Liu<sup>2</sup> · Kim-Kwang Raymond Choo<sup>3</sup> · Neil Y. Yen<sup>4</sup>

Published online: 25 April 2017  
© Springer Science+Business Media New York 2017

The phrase “big data” refers to the kinds of data that challenge existing analytical methods due to size, complexity, or rate of availability. The challenges in managing and analyzing “big data” can require fundamentally new techniques and technologies in order to handle the size, complexity, or rate of availability of these data. The cyber-physical system (CPS) has been coming into our view and will be applied in our daily life and business process management. The emerging CPS must be robust and responsive for its implementation in coordinated, distributed, and connected ways. It is expected that future CPS will far exceed today’s systems on a variety of characteristics, for example, capability, adaptability, resiliency, safety, security, and usability. With the rapid development of computing and sensing technologies, such as ubiquitous wireless sensor networks, the amount of data from dissimilar sensors and social media has increased tremendously.

The submitted manuscripts were reviewed by experts from both academia and industry. After two rounds of reviewing, the highest quality manuscripts were accepted for this special issue.

**Acknowledgements** The guest editors would like to thank Prof. Ramjee Prasad who is the editor in chief of Wireless Personal Communications. His help and trust is the most important thing for the success of this SI. The guest editors would like to thank the reviewers for their high quality reviews, which provided insightful and constructive feedback to the authors of the papers.

---

✉ Zheng Xu  
xuzheng@shu.edu.cn

<sup>1</sup> The Third Research Institute of the Ministry of Public Security, 339 Bisheng Road, Shanghai, China

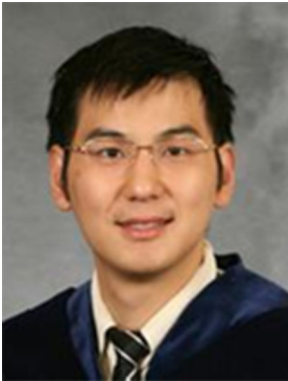
<sup>2</sup> Beijing Institute of Big Data, Jingyuan Peking University, Building No. 6, Beijing, China

<sup>3</sup> The University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249, USA

<sup>4</sup> The University of Aizu, Aizu-Wakamatsu, Fukushima 965-8580, Japan



**Zheng Xu** was born in Shanghai, China. He received the Diploma and Ph.D. degrees from the School of Computing Engineering and Science, Shanghai University, Shanghai, in 2007 and 2012, respectively. From 2014 to 2016, he was a postdoc at Tsinghua University, China. He is currently working in the third research institute of ministry of public security, China. His current research interests include topic detection and tracking, semantic Web and Web mining. He has authored or co-authored more than 70 publications including *IEEE Trans. On Fuzzy Systems*, *IEEE Trans. On Automation Science and Engineering*, *IEEE Trans. On Cloud Computing*, *IEEE Trans. On Emerging Topics in Computing*, *IEEE Trans. on Industrial Informatics*, *IEEE Trans. On Big Data*, etc.



**Yunhuai Liu** is a professor in the Beijing Institute of Big Data, China. He received the Ph.D. degrees from Hong Kong University of Science and Technology (HKUST) in 2008. His main research interests include wireless sensor networks, pervasive computing, and wireless network. He has authored or co-authored more than 50 publications and his publications have appeared in *IEEE Trans. on Parallel and Distributed Systems*, *IEEE Journal of Selected Areas in Communications*, *IEEE Trans. on Mobile Computing*, *IEEE Trans. on Vehicular Technology* etc.



**Kim-Kwang Raymond Choo** received his Ph.D. in Information Security in 2006 from Queensland University of Technology, Australia. He is currently a cloud technology endowed associate professor at University of Texas at San Antonio, and a guest professor at China University of Geosciences. He was named one of 10 Emerging Leaders in the Innovation category of The Weekend Australian Magazine/Microsoft's Next 100 series in 2009, and is the recipient of various awards including ESORICS 2015 Best Research Paper Award, Winning Team of Germany's University of Erlangen-Nuremberg Digital Forensics Research Challenge 2015, Highly Commended Award by the Australia New Zealand Policing Advisory Agency, a Fulbright Scholarship in 2009, and a 2008 Australia Day Achievement Medallion.



**Neil Y. Yen** received Doctorate degree in human sciences at Waseda University, Totsukamachi, Japan, and in engineering at Tamkang University, New Taipei, Taiwan, in 2012. His Doctorate degree at Waseda University was funded by Japan Society for the Promotion of Science (JSPS) under RONPAKU program. He has joined the University of Aizu, Aizuwakamatsu, Japan, as an Associate Professor since April 2012. Dr. Yen has been engaged extensively in an interdisciplinary field of research, where the themes are in the scope of big data science, computational intelligence, and human-centered computing. Dr. Yen has been actively involved in the research community by serving as Guest Editor, Associate Editor, and Reviewer for international referred journals and as Organizer/Chair of ACM/IEEE-sponsored conferences, workshops, and special sessions. He is now a Member of IEEE Computer Society, IEEE System, Man, and Cybernetics Society, and Technical Committee of Awareness Computing (IEEE SMCS).