Preface

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Biographical notes: Hanhua Chen received his PhD in 2010 from the School of Computer Science and Engineering, Huazhong University of Science and Technology, where he is currently working as a Professor. His research interests include distributed systems, services computing, online social networks, peer-to-peer systems and wireless sensor networks. He received the National Excellent Doctorial Dissertation Award of China in 2012 and the Excellent Young Scientist Award of NSFC in 2014. He is the TPC Co-chair of the eighth Asia-Pacific Services Computing Conference (APSCC 2014). He is an editorial board member of the *International Journal of Distributed Sensor Networks* (*IJDSN*) and a Young Associate Editor of *Frontiers of Computer Science* (*FCS*). He is a member of the IEEE and ACM.

Jia Zhang is an Associate Research Professor at the Carnegie Mellon University's Silicon Valley Campus. Her recent research interests centre on service-oriented computing, with a focus on collaborative scientific workflows, internet of things, service-oriented architecture, and semantic service discovery. She has co-authored one textbook titled *Services Computing*, and has published over 120 refereed journal papers, book chapters, and conference papers. She is currently an Associate Editor of *IEEE Transactions on Services Computing* (*TSC*) and of *International Journal of Web Services Research* (*JWSR*), and Editor-in-Chief of *International Journal of Services Computing* (*IJSC*). Previously at the Northern Illinois University as a Tenured Associate Professor of Computer Science, she taught courses in software engineering and databases and opened two graduate-level courses based on her co-authored textbook *Services Computing*. She also has nine years of architect and technical lead experience in the software industry.

Services computing is a new cross-discipline that covers the science and technology needed to bridge the gap between business services and IT/telecommunication services. The goal of services computing is to develop new computing technology and thereby enable more advanced IT/telecommunication services to support business services more efficiently and effectively. With the emergence of new techniques, such as big data, mobile computing, and cloud computing, new trends of services computing techniques are emerging for developing new computing technology to enable larger-scale business services efficiently and effectively. This special issue includes selected papers from the 2014 Asia-Pacific Services Computing Conference. This year, we have received 205 submissions, and after a rigorous peer review process, 17 papers with highest scores were selected by the program committee to be invited to be submitted to the *International Journal of Embedded Systems*.

- In the first paper, 'Re-examining social network services from sociability perspective', Zhongjie Wang and Xiaofei Xu discuss the difference between social network services and the traditional functionality-oriented genetic services, propose the concept of 'degree of sociability' for examining social network services, and summarise the factors that affect the sociability of services.
- In the second paper, 'The embedded real-time detection system of moving object based on improved Gaussian mixture model', Zhiwei Tang et al. present a real-time motion detection method based on improved Gaussian mixture model for realising real-time moving object detection on embedded system.
- In the third paper, 'Low-cost sensors aided vehicular position prediction with partial least squares regression during GPS outage', Yuanting Li et al. propose a low-cost and convenient method for vehicle position prediction during GPS availability and even in different

GPS outages based on the data fusion method of the partial least squares regression algorithm.

- In the fourth paper, 'ePush: a streaming push service for mobile content delivery', Weilong Ding et al. propose a friendly SaaS for common users to create and maintain their own mobile contents via efficient streaming push service.
- In the fifth paper, 'Phoney: protecting password hashes with threshold cryptology and honeywords', Rong Wang et al. propose a system which employs a threshold cryptosystem to encrypt the password hashes in the password file and honey words to confuse attackers.
- In the sixth paper, 'Design and application of top ontologies for the transactions on IoT', Chao Qu et al. design an information automatic processing ontology by using semantic technology to support the transactions on IoT.
- In the seventh paper, 'Lightweight semantic service modelling for IoT: an environment-based approach', Qiang Wei et al. propose an environment-based approach for lightweight semantic service modelling in IoT. The authors adopt WSMO-Lite as the lightweight semantic service model and extend WSMO-Lite to allow modelling the dynamic environment and availability of service.
- In the eighth paper, 'Cloud backup: an enhanced smartphone app designed with cross-platform approach', Yu-Teng Jacky Jang et al. present and implement a cross-platform mobile service architectural framework based on the concept of service-oriented computing, enables users to synchronise mobile data to cloud storages within different mobile platforms.
- In the ninth paper, 'Active or inactive: infer private user information in location-based social network', Guo Chi et al. reveal the urgency of location privacy issue faced by all LBSN users and propose a threat model to infer attributes for active and inactive users based on their check-in location data and relationships in LBSNs.
- In the tenth paper, 'Variable ferry routing algorithm for sparse wireless sensor networks', Tong Ning et al. propose a variable ferries routing scheme in order to reduce the energy consumption of ferries in sparse wireless sensor networks, and present a triangulation algorithm and triangular mesh colouring strategy for constructing a ferry route.
- In the 11th paper, '*K*-anonymisation of social network by vertex and edge modification', Yuliang Zhang et al. propose a social network anonymisation approach by using a heuristic k-degree anonymisation algorithm for addressing the privacy issue and preserve the utility very well.
- In the 12th paper, 'Mobile traffic identification based on application's network signature', Xin Su et al. propose a new network signature for mobile apps to identify the mobile application from network traffic and distinguish the application's flows as much as possible.
- In the 13th paper, 'Interest overlay network model on distributed social network service', Zhenyu Liao et al. setup an interest overlay network model on distributed SNS in order to solve the problems in recommendation and improve the quality of recommendation.
- In the 14th paper, 'MGPA: a multi-granularity space preallocation algorithm for object-based storage devices', Shuibing He et al. propose an adaptive multi-granularity object space preallocation algorithm, which exploits a user-informed method and an adaptive varied-size method to preallocate disk space, to improve I/O performance for OSDs.
- In the 15th paper, 'High capacity reversible steganography in encrypted images based on feature mining in plaintext domain', Zhaoxia Yin et al. propose a reversible steganograohic scheme by using multi-granularity encryption and residual histogram shifting in encrypted images with high capacity based on feature mining in plaintext domain.
- In the 16th paper, 'Optimal node deployment strategy for wireless sensor networks based on dynamic ant colony algorithm', Hua Su et al. propose an optimised strategy for wireless sensor networks node deployment on the basis of dynamic ant colony algorithm, aiming at solving the problem of slow convergence speed, long searching time and falling into local optimal solution frequently.
- In the 17th paper, 'LibTiP: a lightweight and robust scheme for data trustworthiness and privacy protection in participatory sensing', Wei Ren et al. propose a lightweight and robust scheme data trustworthiness, reputation evaluation, privacy protection, and system robustness against malicious participators in participatory sensing.

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