

GUEST EDITORIAL PREFACE

Special Issue on Cognitive-based Data Sensing in the Big Data Era, Part 1

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With the advances of information communication technologies, it is critical to improve the efficiency and accuracy of emergency management systems through modern data processing techniques. The past decade has witnessed the tremendous technical advances in Sensor Networks, Internet/Web of Things, Cloud Computing, Mobile/Embedded Computing, Spatial/Temporal Data Processing, and Big Data, and these technologies have provided new opportunities and solutions to emergency management. Data processing/analysis in emergency management is a typical big data scenario. Numerous sensors and monitoring devices continuously sample the states of the physical world, while the web data processing techniques make the Internet a big data repository which can reflect the states of the cyber world and the human world. The efficient processing of these data imposes a challenge to the data management community. It is important to develop advanced data management and data processing mechanisms to support disaster detection, disaster response and control, rescue resource planning and scheduling, and emergency commanding.

The purpose of this special issue is to provide a forum for researchers and practitioners to exchange ideas and progresses in the related areas. This special issue addresses the challenges of emergency management based on advanced big data management technologies. This special issue will bring together researchers and practitioners in big data management, cloud computing, parallel algorithms, internet of things, spatial database, complex event detection, optimization

theory, intelligent transportation systems and social networks to support disaster detection, response and rescue.

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. Totally, we have received 32 manuscripts and 11 papers are accepted. The accepted rate is about 30%. This special issue will publish by IJCINI as two parts issues.

The first part issue publishes five papers including one paper from guest editors. The paper by X. Luo et al. proposes the related theory and method on the basis of macroscopic traffic flow classification, using the road network capacity calculation method and traffic distribution forecasting method proposed with interregional channel planning level of service and the internal road network planning level of service as the control target. The paper by F. Xie et al. illustrates the vehicle static properties extraction algorithm and compares different algorithms. This paper provides an overview of the algorithms and technologies used in extracting static properties of vehicle in the video. The paper by H. Fan et al. sets up the profit model of manufacturer dominated dual-channel supply chain system, studied to the optimal pricing and inventory strategies of decentralized and centralized supply chain, and obtained the optimal pricing and inventory strategy of the two kinds of supply chain system. The paper by Y. Wang et al. proposed the teaching-method reformation of foreign degree students, which is combining the group study and assignment-oriented study together to reinforce students' learning process, and to improve the teaching effect. Finally, the paper by S. Cheng et al. uses the score of integrated factor as the rank of composite indicator, clustering to the educational resource allocation of 42 undergraduate colleges by use of cluster analysis under the new factors.

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