

Minitrack Introduction: Decision Support for Smart Cities

Wei XU
School of Information
Renmin University of China
weixu@ruc.edu.cn

Jian MA
Department of Information
Systems
City University of Hong Kong
isjian@cityu.edu.hk

Jianshan SUN
School of Management
Hefei University of Technology
sunjs9413@gmail.com

Abstract

This minitrack received 23 research papers and accepted 11 research papers. It covers important research topics in smart cities such as smart transportation, smart environmental protection, smart business, smart finance and intelligent information technologies and decision support methods for smart cities.

1. Introduction

Decision Support for Smart Cities Minitrack focuses on the application of big data analytics and business intelligence tools for smart cities. With massive applications of Internet of things (IoT), social media, and social network platforms, large amount of heterogeneous data are gathered and processed with advanced analytic tools to support smart cities. Furthermore, decision support tools, various IS theories and data mining techniques can be employed to speed up the whole process. To bring technical, behavioral, and managerial perspectives together, this minitrack provides new insights into decision support for smart cities.

2. An Overview of Abstracts

The forthcoming minitrack papers emphasize providing decision support by integrating theories, sensor data processing techniques, and big data analytics. We summarized these leading studies in terms of three important issues in decision support for smart city and digital services.

2.1. Smart transportation and environmental protection

Smart transportation and environmental protection is one of the most important streams in decision support for smart cities. Bian et al. proposed a deep learning

approach to assess driving risk. Sun et al. developed a spatial-temporal recurrent neural network technique for air quality prediction, while Qi et al. offered a multi-source-data-oriented ensemble learning method for PM 2.5 concentration prediction.

2.2. Smart business and finance

Smart business and finance has becoming an important issue with the rapidly growing transaction and social media data. Liu et al. proposed a non-parametric Bayesian method for purchase prediction. Fu et al. detected zombie companies under the absence of bank data. Zhang et al. studied on the impact of personalized recommendation diversity. Deng et al. used patent knowledge graph model for facilitating technology transfer. Huang et al. explored evaluation factors for the object of automated trading systems. Liu et al. combined enterprise knowledge graph and news sentiment analysis for stock price prediction.

2.3. Intelligent information technologies and decision support methods for smart cities

Intelligent information technologies and decision support methods can improve the effectiveness and efficiency of smart cities. Cheng et al. proposed a linear combination technique for time series forecasting. Ferro et al. developed smart devices and services for smart city.

3. Conclusions

The forthcoming papers provide different perspectives in terms of three main issues, i.e., smart transportation and environmental protection, smart business and finance, and intelligent information technologies and decision support methods for smart cities. The contributions to these areas are appreciated, and they bring new perspectives in both theory and technology.