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 8 research papers and accepted 3 research papers. It covers some top research topics in smart cities such as intelligent urban planning, emergency management, and smart learning by using intelligent information technologies and decision support methods.

1. Introduction

Decision Support for Smart Cities Minitrack focuses on the application of artificial intelligence and big data analytics 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 the development of smart cities. Furthermore, decision support tools and various 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 cites.

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 decision support for smart city and digital services as follows.

Intelligent urban planning is one of the most important streams in decision support for smart cities. Cities are complex systems, and understanding their structure is critical for urban planning. Landsman et al. build a multi-layered social activity network and reveal the structure of the city through the community structure in this network. The ability of this structure to capture meaningful socio-economic patterns across the city is evaluated. Their results will aid urban, transportation, infrastructural planning, policy-making, real estate and socio-economic development initiatives.

Emergency management and disaster resilience have becoming important issues for a smart city. Zhang et al. propose a dynamic scenario model for disaster resilience. A disaster case of a crude oil tank is taken as an example to give a better understanding of the dynamic scenario model. Their result shows that the dynamic scenario model can establish a more structurally and normalized representation for disaster scenarios.

Online learning has been expanding for some time but the forced move to it due to the outbreak of COVID-19 has created new issues. Zuo et al. set out to investigate the impact mechanism of online learning user satisfaction from the perspective of cognitive load in the era of COVID-19 and explore ways to optimize cognitive load in teaching practice. Their results indicate that the antecedents of cognitive load are multi-dimensional and the user's satisfaction with the online learning platform mainly consists of the expected confirmation of the information system and the perceived usefulness, and their findings can help us think backward about optimizing user satisfaction with online learning in the context of COVID-19 breakout.

3. Conclusions

The forthcoming papers provide perspectives in terms of main issues in smart cities, and the contributions to these areas are appreciated, and they bring new perspectives in both theory and technology.

URI: https://hdl.handle.net/10125/70749
978-0-9981331-4-0