

IEEE Transactions on BIG DATA ([IEEE TBD](#))

Special Issue on *Urban Computing*



Important Dates

Paper submission due: ~~Nov. 30, 2015~~ **Dec. 7, 2015**

Final paper notification: June 20, 2016

Camera-ready due: July 10, 2016

Guest Editors

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Overview

Urbanization's rapid progress has modernized people's lives but also engendered big challenges, such as air pollution, increased energy consumption and traffic congestion. Tackling these challenges can seem nearly impossible years ago given the complex and dynamic settings of cities. Nowadays, sensing technologies and large-scale computing infrastructures have produced a variety of big data in urban spaces, e.g. human mobility, air quality, traffic patterns, and geographical data. The big data contain rich knowledge about a city and can help tackle these challenges when used correctly.

Urban computing is a process of acquisition, integration, and analysis of big and heterogeneous data generated by a diversity of sources in urban spaces, such as sensors, devices, vehicles, buildings, and human, to tackle the major issues that cities face, e.g. air pollution, increased energy consumption and traffic congestion [1][2]. Urban computing connects unobtrusive and ubiquitous sensing technologies, advanced data management and analytics models, and novel visualization methods, to create win-win-win solutions that improve urban environment, human life quality, and city operation systems. Urban computing also helps us understand the nature of urban phenomena and even predict the future of cities.

[1] Some representative projects and literatures can be found from [this website](#).

[2] Yu Zheng, Licia Capra, Ouri Wolfson, Hai Yang. [Urban Computing: concepts, methodologies, and applications](#). ACM Trans. on Intelligent Systems and Technology. 5, 3, 2014

Topics of Interests

We invite the submission of high-quality manuscripts reporting relevant research in the area of sensing/mining/understanding/managing urban big data. The special issue welcomes submissions presenting technical, experimental, methodological and/or applicative contributions in this scope, addressing –though not limited to– the following topics:

- Intelligent systems and technology for urban sensing and city dynamics sensing
- *City-wide* traffic modeling, visualization, analysis, mining, and prediction
- *City-wide* human mobility modeling, visualization, mining, and understanding
- Urban big data management and heterogeneous data management

- Intelligent systems and technology for evaluating urban planning and city configurations
- Urban environment/pollution/energy consumption monitoring and data mining
- *City-wide* intelligent transportation systems
- Anomaly detection and event discovery in urban areas
- Discover regions of interests and regions of different functions
- Mining public transportation data, such as ticketing data in bus and subway systems, road pricing data, and taxi data
- Social behavior modeling, understanding, and patterns mining in urban spaces
- Ubiquitous/pervasive intelligent systems in urban areas
- Understanding urban economy based on big data
- Public safety and security empowered by big data
- *City-wide* mobile social applications in urban areas
- Location-based social networks enabling urban computing scenarios
- Smart recommendations in urban spaces
- Mining data from the Internet-of-Things/sensor networks in urban areas
- Intelligent delivery services in cities

Submissions

Before submitting your manuscript, please ensure you have carefully read the [Instructions for Authors](#) for IEEE Transactions on Big Data (TBD). The complete manuscript should be submitted through [TBD's submission system](#). To ensure that you submit to the correct special issue, please select the appropriate section in the drop-down menu upon submission. In your cover letter, please also clearly mention the title of the SI.

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