SPECIAL ISSUE ON

COMPUTATIONAL INTELLIGENCE FOR SMART CITY SERVICES

Aims and Scope

Unprecedented urbanization rate has been witnessed in recent years, which has greatly promoted the economy and our daily life. Urbanization has brought about many challenges as well, such as air and water pollution, traffic congestion, energy waste, etc. In order to address these issues, the concept of "smart city" has been proposed. The development of smart city services is accompanied by huge amount of data collection via Internet of Things (IoT) sensors, while the data is often heterogeneous, complex, noisy and chaotic. This amount of diversity in data makes it difficult but necessary to extract and explore valuable information for developing better smart city services. This calls for sophisticated "computational intelligence" (CI) techniques for properly exploiting such invaluable information.

This nature-inspired computational intelligence includes multidisciplinary techniques such as machine learning, fuzzy systems, evolutionary computing, etc. These techniques can be used in city-wise applications to gain insights from data and then efficiently manage assets, resources and services. It is predictable that CI techniques will play a leading role in the future in promoting the development of smart city services with the next wave of technology revolution driven by AI, 5G, blockchain, etc. Smart city developments are highly reliant on these intelligent techniques and a more effective governance will be achieved by supporting pervasive accesses to diverse data, multi-source information fusion and various applications. Development in computational intelligence can help us to have a better understanding in optimizing city management, and to achieve more effective collaboration and integrated city services. It brings more convenience to human society and improves the quality of life.

In light of the above observations, in this special issue, we are looking for original work on intelligent techniques to support more effective and efficient city services. Generally speaking, city services are integrated from diverse sectors that normally support vertical applications, which requires novel solutions to fuse them together for collaborative services. This in turn encourages the emergence of Computational Intelligence applications and opens up new opportunities. The goal of this special issue is to offer a venue for researchers from academia or industry to present their solutions for re-designing intelligent mechanisms to support intelligent smart city services, and possibly to reveal new and compelling use cases.

Topics

This special issue is targeted on general readership articles about design and application of CI technologies. Topics of interest include, but are not limited to:

- Intelligent Computing in Smart City
- IT Infrastructure Design for Smart City Service
- Smart City Reference Model and Simulation
- Theory and Methodology of Urban Computing
- Cross-domain Computing in Urban Perception
- Intelligent Service Collaboration of Smart City Services
- High Confidence Smart City Service System
- Intelligent Fusion and Computing of Multi-sensors
- Intelligent Computing Devices for Smart City Services
- Intelligent Applications for Smart City Services
- Intelligent Civil Emergency Management
- Intelligent Urban Sensing
- Efficient Data Transmission for Smart City Services
- Data Management and Analytics for Intelligent Services

Submission

The IEEE Computational Intelligence Magazine (CIM) publishes peer-reviewed high-quality articles. All manuscripts must be submitted electronically in PDF format. Manuscripts must be in standard IEEE two-column/single space format and adhere to a length of 10-12 pages (including figures and references) for regular papers. A mandatory page charge is imposed on all papers exceeding 12 pages in length.

More information on manuscript details and submission guidelines can be found at the following websites:

- Special Issue website: https://research-web.github.io/posts/si/cim2020
- IEEE CIM website: https://cis.ieee.org/publications/ci-magazine/cim-information-for-authors

Important Dates

- Manuscript Due: Nov 1, 2020
- First Notification: Jan 1, 2021
- Revision Due: Feb 1, 2021

- Final Notification: Mar 1, 2021
- Publication Date: Sep 1, 2021

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