IEEE Transactions on Social Computational Systems

Special Issue on "Collaborative Edge Computing for Social Internet of Things Systems"

The emerging applications for smart cities intend to promote the quality of citizens' life. Among them, ubiquitous user connectivity and real-time computation offloading are significant for the ever-increasing requirements of delay-sensitive and mission-critical applications. By integrating human social behaviors (such as relationship, similarity, community, social ties) with physical Internet of Things (IoT) systems, social IoT systems are promising to provide ubiquitous connectivity among users. As the applications of social IoT systems are transferring from information dissemination to user entertainment (such as image identification, online games, augmented reality), computation offloading is significant to reduce the execution delay of applications.

The proliferation of IoT pushes the horizon of edge computing. Since social features and connections among users are significant for both IoT systems and computation offloading, this specific issue focuses on Collaborative Edge Computing (CEC) in social IoT systems. However, it is rather challenging to perform CEC for social IoT systems because of network heterogeneity, user privacy, user selfishness and so on. Besides, different users and individuals may be interested in various kinds of information, distinct user requirement may require different task processing abilities, and spatio-temporal distribution character challenges the cooperation of IoT users. Consequently, novel design principles are advocated for CEC in social IoT systems.

In light of these potentials, this special section solicits original research and practical contributions which advance CEC in social IoT systems, regarding the architecture, technologies and applications. Surveys and state-of-the-art tutorials are also welcome. This special section will focus on (but not limited to) the following topics:

- CEC-based architecture and framework in social IoT systems
- CEC-based real-time decision making in social IoT systems
- CEC and machine learning in social IoT systems
- CEC-based energy-aware approaches in social IoT systems
- Collaborative and emotional computing enabled social IoT systems
- Resource management in CEC-based social IoT systems
- Security and privacy-preserving approaches for CEC in social IoT systems
- Use cases/applications highlighting the potential of CEC in social IoT systems
- The future for CEC in social IoT systems: challenges and open issues

Important Date (tentative):
First submission deadline: October 30, 2020

Notification of first decision: December 30, 2020
Revision submission deadline: February 20, 2021
Notification of final decision: March 15, 2021
Final manuscript (camera ready) submission deadline: March 30, 2021
Issue of Publication: June 2021(Expected)

Preparation of manuscripts should refer to the guidelines in the "Author Information" on the IEEE Transactions on Computational Social Systems website: http://www.ieeesmc.org/publications/transactions-on-computational-social-systems/call-forpapersand-special-issues. Papers should be submitted through https://mc.manuscriptcentral.com/tcss. Please be sure to select the manuscript type "Collaborative Edge Computing for Social Internet of Things Systems". All submissions will undergo an initial screening by the guest editors for its fitness to the theme of the special issue and prospects for successfully negotiating the review process.

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