IEEE INTERNET OF THINGS JOURNAL

A joint publication of
IEEE Sensors Council, IEEE Communications Society, IEEE Computer Society, and IEEE Signal Processing Society

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IEEE Internet of Things Journal Special Issue on
Emerging Social Internet of Things: Recent Advances and Applications

The concept of Social Internet of Things (SIoT) has emerged from the integration of social networking into the core of the Internet of Things. It envisions IoT objects and devices to have social interactions with each other autonomously, cooperate with other agents, and exchange information with human users and surrounding computing devices. These objects are able to sense/actuate, store, and interpret information in an opportunistic and loosely-coupled fashion. The objects in the SIoT paradigm can exhibit multiple forms of social relationships derived from their collaborative activities or functional, temporal and spatial dependencies to meet a particular need of human users, which signify the difference between the SIoT domain to that of social-based mobile networks or sensor networks. The social interaction among the SIoT objects contribute a huge volume of data to be processed and used by various applications such as social VANET, social connected health, SIoT-based recommendation service, traffic service, policing, energy management etc, in the area of Smart Cities, Smart Homes, Smart Grid, and Smart Factories to satisfy human needs, interests, and objectives. Such a dynamic landscape with billions of social communities of objects and devices requires new models, theories and approaches of interaction and collaboration, which could be established by referring to the experience people have already gained in social networking domain over the past few years.

Despite all the possibilities offered by SIoT, there are several critical challenges that need further attention from the industry and academic communities. Until now, it remains unclear how to efficiently address the application of social concepts into the IoT paradigm, how to discover and utilize SIoT services and applications in certain industrial areas, how to handle complex interactions in a dynamic SIoT environment, how to perceive a social object's autonomy, and how to handle the darker aspects of SIoT such as security, privacy and trust issues, and so on. This special issue aims to foster the dissemination of high quality research in terms of theory and practice related to IoT and the social aspects of it. Specific topics of interests include, but not limited to the following:

- Middleware and novel network protocols for SIoT
- Exploration and evaluation of social relationship among IoT objects
- Heterogeneity and interoperability of objects in SIoT
- Autonomic service discovery and composition in SIoT
- Security and privacy concerns in SIoT platforms and applications
- Information extraction and diffusion in SIoT
- Semantics and context management in SIoT environment
- Smart interactions and interfaces for SIoT paradigm
- Trustworthiness management in SIoT
- Analysis, visualization and representation SIoT models
- Data management, big data processing and analytics in SIoT
- Integration of SIoT and cloud computing environment
- Test-bed and simulation tools for SIoT
- Interoperability in SIoT
- Innovative real-world applications and systems in SIoT domain

Important Dates

Manuscript Submission: **June 15, 2017**
Final Manuscript Due: October 15, 2017
Notification of acceptance: August 15, 2017
Publication: January, 2018

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Submission

All original manuscripts or revisions to the IEEE IoT Journal must be submitted electronically through IEEE Manuscript Central, http://mc.manuscriptcentral.com/iot. Author guidelines and submission information can be found at http://iot.ieee.org/journal. Each submitted manuscript will be sent to reviewers who will evaluate your work. The IEEE IoT Journal encourages authors to suggest potential reviewers as part of the submission process, which might help to expedite the review of the manuscript. Please suggest only those without conflict of interest (e.g. who work at institutions other than your own and with whom you have no collaborative or other technical or family ties). Each submission must be classified by the author to select appropriate keywords of this Journal.

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