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Special Issue on Sensor Data Computing as a Service in Internet of Things

IEEE Transactions on Emerging Topics in Computing

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The internet-of-things (IoT) has gained significant attention over the past decade. It “allows people and things to be anytime, anyplace, with anything and anyone, ideally using any path/ network and any service.” Sensor data computing as a service model (also called sensing as a service) envisions to offer sensor data to interested consumers on demand. It will provide access to sensors or sensor data as a service similar to other utility-based models such as infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS), and software-as-a-service (SaaS). Sensor data computing as a service model is also expected to be on top of an IoT infrastructure and creates novel business and financial opportunities to increase the sustainability of IoT. The number of things connected to the internet exceeded the number of people on earth in 2008. By 2020, there will be 50 to 100 billion devices connected to the internet, ranging from smartphones, pcs, and ATMs to manufacturing equipment in factories and products in shipping containers. It has been estimated that every individual on earth will have more than six devices connected to the internet by 2020. The sensory data these object produce have significant value to many different parties from supply chain management to healthcare services. Sensor data computing as a service model allows interested parties to buy data from an open market. Sensor data computing as a service model needs to be supported by wide range of sensing and communication technologies. Majority of these sensor data will come from the internet connected smart objects. This special issue will comprise a state of the art research finding related sensor data computing as a service model. This feature will include board range of technologies that involve in deploying and capturing sensor data to processing them in the cloud to deliver them to interested consumers on demand.

All the articles should address the challenges in sensor Data Computing as a Service model explicitly. Topics of interests include (but are not limited to):

- Sensor data computing as a service architectures, platforms, and middleware
- IoT infrastructure to support sensor data computing as a service
- Real-time sensor data analysis
- Sensor data management, processing and analysis
- Naming, address management and end-to-end addressability
- Energy-efficient objects and services discovery
- Security, trust, and privacy
- Interoperability in sensor data computing as a service
- Cloud resource composition in sensor data computing as a service domain
- Utility based IoT services and related business models
- Applications and new value chains for sensor data computing as a service

Submitted articles must not have been previously published or currently submitted for journal publication elsewhere. As an author, you are responsible for understanding and adhering to our submission guidelines. You can access them at the IEEE Computer Society web site, www.computer.org. TETC is the newest Transactions of the IEEE Computer Society with Open Access only. Please submit your paper to Manuscript Central at https://mc.manuscriptcentral.com/tetc-cs.

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