WI-IAT 2021 Special Track on
Spatial Temporal Data Management and Visualization for Food and
Strategic Reserves

Introduction

To better prepare for the crisis such as Covid-19, food and strategic reserves are essential tasks. In the era of wireless technology, robotics, web service, there are many computing technologies being introduced. With the recent development and progress of IoT (Internet of Things), it is possible to get information about how a storage object is operating and its real-time status in details. For example, RFID can track the distribution of goods, different sensors can monitor the environment, and GPS can send the location and time back. Based on the information, we could have a log for the monitored food and strategic reserves and implement the real time traceability and distribution. Therefore, it requires the spatial temporal data management and visualization, which can help to verify the history, location, or application of an item. It is especially critical for some industries such as food and strategic reserves, logistics, supply chain and e-commerce. The two key technologies are data management and visualization. In the age of cloud computing, they are two promising fields. Although there are several solutions already in place, many challenges remain to be investigated and tackled.

The purpose of this special session is to not only discuss the existing topics in spatial temporal data management and visualization architecture, but also focus on the new rapidly growing area from the integration of big data analytics and spatial temporal analysis for significant mutual promotion. We intend to discuss the recent and significant developments in the general area and to promote cross-fertilization of techniques. The participants in this special session will benefit as they will learn the latest research results of high performance chips, data acquisition architecture and management of IoT and big data analytics based traceability system, as well as the novel idea of merging them.

Topics of Interest

The general topics include, but are not limited to

- Visualization of IoT based systems
- Intelligent Data Fusion and Aggregation
- Storage Management Technologies
- Deep Learning
- Big (Sensor) Data
- Pattern Discovery

- Multiple Representation Structure
- Spatiotemporal Data Management and Analysis
- Online Learning from Data
- Distributed Computing for Big (Sensor) Data
- Convex and Nonconvex Optimization-based Data Analytics

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