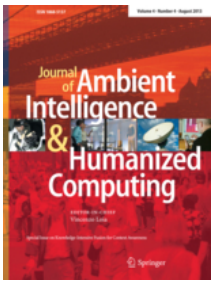

Special Issue Proposal

Journal of Ambient Intelligence and Humanized Computing

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Editor-in-Chief: Vincenzo Loia

Special Issue on

"Vehicles as Sensing Devices: From Observations to Actionable Insights"

Overview

A wide spectrum of vehicles, including taxis, buses and logistical vans, have been equipped with a number of pervasive devices (e.g., GPS antennas, personal smartphones). As a result, they are able to report their positions and driving status to the data center at a reasonably high temporal and spatial resolution. This data possesses unique and valuable characteristics, such as ubiquitousness, continuousness, wide coverage, and large-scale, among others. Consequently, moving vehicles on the road surfaces have become a *powerful yet unique* sensing tool and device. For instance, the sensing tasks can range from real-time traffic road conditions to operation dynamics of vehicle drivers. It has been well-recognized that such data provides rich opportunities to enable promising smart applications for easing individual life, recommending personalized services, as well as facilitating city development. Yet, a considerable gap still exists between data collection and consequent extraction of actionable insights when building smart cities. Such gap poses fundamental challenges on how we can achieve such insights. To narrow such gap, advanced mathematical techniques are necessary. Such methods have particular technical challenges to be overcome, which include algorithm effectiveness, computation speed, energy efficiency, user privacy, server security and overall system's scalability. This special issue aims to present the state-of-the-art research achievements in addressing the above-mentioned challenges in converting the pervasive observation data to the actionable insights, especially in the context of moving vehicles.

Topics (Areas of interest for this special issue include the following topics):

All submitted papers will be peer-reviewed and selected on the basis of both their quality and their relevance to the theme of this special issue. The topics of interests for this special issue include, but not limited to:

- Online/offline map matching algorithms that identify the true driving paths of vehicles from the raw vehicle trajectory data.
- Big vehicle trajectory data manage, storage, and compression algorithms, as well as novel data visualization techniques.
- Big data analytics for location-based services, personalized routing services, and intelligent transportation systems.
- Mobile crowd sensing techniques from task creation, task allocation to task aggregation, in which tasks are completed by moving vehicles.
- Driving behavior modelling and intention (e.g., trip purpose) inference from vehicle trajectory and OBD data.
- Data fusion and integration techniques from multi-source pervasive and vehicle trajectory data.
- Data communication and sharing to enable novel urban applications and services.
- Privacy and security in collecting, storing and analyzing pervasive vehicle trajectory data.
- Real-time operations of large-scale systems based on pervasive vehicle trajectory data.
- Novel applications and services based on the vehicle trajectory data, together with data provided by the other parties, such as the open data, social media data, sensory data from drivers' smartphones.

Submission Guidelines

All the papers should be full journal length versions and follow the guidelines set out by Journal of Ambient Intelligence and Humanized Computing (http://www.springer.com/engineering/computational+intelligence+and+complexity/journal/12652). Manuscripts should be submitted online at https://www.editorialmanager.com/aihc/default.aspx. All the papers will be peer-reviewed following the journal reviewing procedures. Authors have to select the Article Type "**SI: Vehicles as Sensing Devices**" in the submission system.

Important Dates

Paper submission due: April 15, 2019
1st round review notification: July 15, 2019
1st revision due: August 15, 2019
2nd round review notification: September 15, 2019
2nd revision due: September 31, 2019
Final acceptance: October 30, 2019
Publication: 1st quarter, 2020 <tentative>

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