Announcing a Special Section in IEEE Access: Advances in Vehicular Clouds

Submission Deadline: November 1, 2015

IEEE Access invites manuscript submissions in the area of Advances in Vehicular Clouds

A vehicular cloud is a type of cloud that consolidates the computing and storage resources of vehicular clients and internet servers for the processing of transportation data to promote and support an Intelligent Transportation System (ITS). Vehicles carry significant amount of useful local traffic information. A vehicular cloud provides a convenient platform for vehicles and people to share sensing data and computing resources for ITS applications. Obtaining instantaneous local traffic condition from nearby vehicles for route planning, collaborative image reconstruction of an event such as car accident, and big data processing of traffic information for local authority to improve transportation systems are some examples of vehicular cloud computing applications.

The advancement of vehicular clouds relies on development of several key technologies. At the vehicle level, we expect improved driving experience with new technologies in sensors, human computer interaction, and automation. At the network level, we expect improved connectivity and reduced latency in communication networks such as cellular networks and vehicular ad-hoc networks (VANETs). At the system level, we envision a new architecture for vehicular cloud to emerge in order to encourage development of ITS applications. Similar to cloud computing, research issues such as computing and sensing resource virtualization, big data processing, real-time data processing and collaboration among vehicles, and efficient information dissemination will be some important research topics.

The realisation of vehicular clouds involves research in several discipline including sensor technology, vehicular technology, wireless communication technology, and various technologies in computer science such as software engineering, artificial intelligence, big data analytics, and others. The research in vehicular clouds is interdisciplinary surrounding ITS applications. Besides, the concept of vehicular clouds is new, with growing interest from the research community. The goal of this Special Section in IEEE Access is to collect articles about ideas, concepts, models, technologies, approaches, methodologies, and practices of vehicular clouds and to create awareness on this latest development in ITS that has the potential to improve and revolutionize transportation systems.

Topics of interest include, but are not limited to:

- Ideas, concepts and models of vehicular clouds
- Protocols, algorithms, technologies and approaches for vehicular clouds
- Communication and resource management for vehicular clouds
- Architecture design of vehicular clouds
- Green vehicular clouds to support environmentally friendly transportation systems
- Security, privacy, and trust for vehicular clouds
- Big data for vehicular clouds
We also highly recommend the submission of multimedia with each article as it significantly increases the visibility downloads and citations of articles.

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