Workshop Title

Transportation 5.0: Big Data, Super Computing and Artificial Intelligence Technologies for Intelligent Transportation Systems

Description of the Workshop

The past decades have witnessed the rise and power of big data, artificial intelligence, Internet of things (IoT), and high-performance computing techniques. These advanced techniques have great potential and capacity to enable new methodology, applications, and dramatic improvements for current Intelligent Transportation Systems (ITS). To this end, developing new concepts/methodology/tools/ algorithms/applications for future ITS with these technologies become more important and promising.

However, big data, super computing, and AI technologies come along with correspondingly technological challenges when addressing ITS issues. We need to get insights and decisions derived from big data, super computing, and AI technologies. In this workshop, we would discuss: How can big data, super computing and AI technologies benifit ITS? How can we understand urban mobility patterns with big data, big computing and AI technologies?.....

The goal of this workshop is to bring together researcher and practitioners in academia, industry and government to present and discuss their latest research findings and engineering experiences in developing and applying big data, AI, and high-performance computing techniques for ITS.

The topics of interest include, but are not limited to:

- Traffic data sharing and collaborative applications
- Traffic big data analytics and mining
- Traffic Knowledge graph for ITS operations
- Crowdsourcing for sensing, managing, and controlling of ITS
- City-scale traffic simulation with high-performance computing techniques
- Big data for ITS modeling
- Travel behavior analysis under cyber-physical-social spaces
- Knowledge discovery and pattern recognition from human mobility
- Social Transportation
- Environment and ITS
- Advanced machine learning and deep learning techniques for ITS
- Ride-sharing Transportation
- Intelligent and comprehensive control of transportation systems
- Artificial Transportation Systems and Simulation
- Parallel Transportation Systems
- Case studies

Program

1. Speaker: Weifeng Lv, School of Computer Science and Technology, Beihang Unviersity

Title: Big Data Enable Big Transportation

Duration: 20 minutes

2. Speaker: Zhaocheng He, SUN YAT-SEN University

Title: HoloTraffic: From Holistic Perception To Holographic Traffic Data

Duration: 20 minutes

3. Speaker: Pu Wang, Central South University

Title: Estimating Traffic Flow in Large Road Networks Based on Multi-Source Traffic Data

4. Speaker: Lingbo Liu, SUN YAT-SEN University

Title: Deep Spatial-Temporal Traffic Modeling: from Regional Flow to Online Origin-Destination Prediction

Duration: 20 minutes

5. Speaker: Junchen Jin,

Title: PRECOM: A Parallel Recommendation Engine for Control, Operations, and Management for Urban Traffic Networks

Duration: 20 minutes