

### **Workshop title**

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

### **Workshop proposer(s)**

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### **Abstract**

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 benefit 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.

### **Keywords**

- Theory and Models for Optimization and Control
- Simulation and Modeling
- Data Mining and Data Analysis

### **Topics of interest**

- 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



The 23<sup>rd</sup> IEEE International Conference on  
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- Artificial Transportation Systems and Simulation
- Parallel Transportation Systems
- Case studies