ACM Journals

CALL FOR PAPERS

ACM Journal on Autonomous Transportation Systems

Special Issue on MOST'24

Guest Editors:

- **Weisong Shi** (weisong@udel.edu), University of Delaware
- **Satish Ukkusuri** (sukkusur@purdue.edu), Purdue University
- **Zheng Dong** (dong@wayne.edu), Wayne State University

Mobility profoundly influences our daily lives and the frameworks of our societal interactions. The modes by which we navigate our environments - whether on foot, by car, bicycle, train, airplane, or maritime vessel - extend beyond mere locomotion. They prompt significant dialogues across diverse disciplines including engineering, computer science, data science, logistics, public health, and social sciences. As the demand for equitable, accessible mobility solutions grows, the integration of connected and autonomous systems introduces new challenges and opportunities, driving innovation at the nexus of technology and societal needs.

In May 2024, the second IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST) successfully positioned itself as a pivotal arena for interdisciplinary exchange among scholars and industry leaders. ACM JATS is an ideal stage to extend the conference's influence through a call for papers for a special issue dedicated to advancing the frontier of mobility research. We aim to feature high-quality technical papers that delve into various aspects of mobility, from the development of systems both indoors and outdoors to groundbreaking tools, software solutions, and infrastructural advancements. Contributions may include but are not limited to data analytics, logistics, novel algorithmic strategies, and applications of artificial intelligence in mobility. We particularly welcome papers on distributed systems, connectivity in autonomous vehicles, and advancements that enhance system accessibility and fairness, ensuring mobility solutions cater effectively to all community segments.

By amalgamating diverse perspectives and expert knowledge, this special issue aspires to spotlight transformative breakthroughs that could redefine the future of mobility. Researchers and practitioners are invited to contribute works that not only challenge existing technological paradigms but also propose innovative solutions tailored to serve the diverse needs of modern societies. This special issue will serve as a foundational reference for those striving to influence the future of mobility through scientific excellence and technological innovation.

Topics

This Special Issue is dedicated to recent advances and future implications in autonomous vehicle technology. Topics of interest include but are not limited to the following:

Under edge-assisted Mobility:

- Edge-based Mapping and Localization
- Edge data analytics for autonomous vehicles
- Vehicle-edge-cloud multilayer infrastructure

- Smart transportation and charging infrastructure
- Edge data analytics for autonomous vehicles
- Wireless communication infrastructure for autonomous vehicles

Under technology to support Mobility

- ML-driven SLAM algorithms
- Real-time charging scheduling scheme for autonomous fleet
- Emerging mobility technologies
- Machine Learning system optimization for autonomous vehicles
- Autonomous vehicle computing and interface standards
- Hardware/software/control co-optimization
- Hardware architecture for emerging autonomous vehicle applications
- Electrification and battery management
- Autonomous vehicle security and resilient computing systems
- Autonomous vehicle simulation environment and real-world testbeds

Under sustainable Mobility

- Sustainable mobility solutions
- Equitable and affordable mobility methods
- Social and human impact of autonomous vehicles

Important Dates

- Open for Submissions: September 1, 2024
- Submission deadline: December 31, 2024
- First-round review decisions: January 31, 2025
- Deadline for revision submissions: February 28, 2025
- Notification of final decisions: April 1, 2025
- Tentative publication: May 1, 2025

Submission Information

All original manuscripts or revisions to the ACM JATS must be submitted online at ScholarOne Manuscripts (https://mc.manuscriptcentral.com/jats). The author guidelines for ACM JATS can be found at JATS Author Guidelines (https://dl.acm.org/journal/jats/author-guidelines). Select the paper type "Paper for MOST'24" upon submission to ensure that the article is considered for this special issue. Authors must also mention the same in their submission cover letter.

Contact information: For questions and further information, please contact **Weisong Shi** (weisong@udel.edu), or **Zheng Dong** (dong@wayne.edu).