

Call for Papers

Large Models for Future Vehicles and Transportation

In recent times, there has been a surge in interest and rapid advancement in the realm of extensive pre-trained models, driven by the exponential growth of voluminous datasets and model parameters. The significance of large models (LMs) for intelligent vehicles and transportation systems is profound, as they are driving a revolution in how we design, operate, and interact with transportation technologies. These LMs, often powered by advanced artificial intelligence and machine learning techniques, are shaping the future of mobility in various ways. Some potential uses of LM for future vehicles and transportation include autonomous driving, intelligent driver assistance systems, human-machine interaction, personalized driver experience, traffic flow and urban mobility, innovative vehicle designs, and so on. Moreover, combining LMs with other AI technologies, such as edge computing and cloud computing, can create a powerful synergy that addresses the challenges and requirements of future vehicles and transportation systems. In light of this potential, this special section provides a venue to cover comprehensively algorithms, frameworks, technologies, and applications of large models for future vehicles and transportation. Topics of interest include, but are not limited to, the following:

- LMs-based Internet of Vehicles
- LMs for connected and autonomous vehicles
- LMs-based human-machine interaction within vehicles
- Applications of LMs for intelligent transportation systems
- LMs for next-generation human-vehicle-road cooperation systems
- LM-based designing and testing of next-generation intelligent vehicles
- Novel uses of LMs for vehicle intelligence and knowledge discovery
- Training or adaptation methods of LMs for future vehicles and transportation
- LMs architecture design for future vehicles and transportation
- Visualizing and interpreting of LMs for future vehicles and transportation
- Integration of LMs with other AI technologies for future vehicles and transportation

Guest Editors

Shahid Mumtaz, dr.shahid.mumtaz@ieee.org, Nottingham Trent University, UK

Bo Ai, boai@bjtu.edu.cn, Beijing Jiaotong University, China

Ikram Ashraf, ikram.ashraf@nokia-bell-labs.com, Nokia, Finland

Anwer Al-Dulaimi, anwer.al-dulaimi@exfo.com, EXFO Inc., Canada

Key Dates

- ❖ Paper submission: 15 December 2023
- ❖ First round of review notification: 1 March 2024
- ❖ Notification of final decision: 15 May 2024
- ❖ Final Manuscript Submission Deadline: 31 May 2024
- ❖ Publication: Q3/Q4 2024

Submission Guidelines

During submission, authors must submit their paper to the “**Special Section**” and include the title of Special Section during paper registration. The cover letter should mention specifically “**Large Models for Future Vehicles and Transportation Special Section**”.