CALL FOR PAPERS

IEEE Internet of Things Journal

Special Issue on AI at the Edge for Vehicular and Low-Altitude IoT Networks

The convergence of Artificial Intelligence (AI) and edge computing is critical for enabling the next generation of intelligent cyber-physical systems. This special issue focuses on two of the most demanding frontiers: Vehicular IoT Networks (connected/autonomous vehicles, intelligent transportation systems) and Low-Altitude IoT Networks (UAVs, urban air mobility). These domains require ultra-low latency, high reliability, and robust operation, making cloud-centric processing impractical. Deploying AI on the resource-constrained devices that populate these networks—such as onboard units, UAVs, and sensors—poses unique challenges in 3C (computation, communication, caching) resources and energy efficiency.

This special issue seeks to showcase groundbreaking research on efficient, scalable, and secure AI solutions that push intelligence to the extreme edge, enabling real-time perception, decision-making, and coordination in these dynamic environments.

Topics of interest include, but not limited to:

- AI Model Lightweight Techniques Adapted to Resource-constrained IoT Nodes
- Distributed and Collaborative AI for Vehicular/Low-Altitude IoT Networks
- AI-enabled Ground/Air Node Deployment for Seamless Edge Service Provision
- Intelligent Vehicular/Low-Altitude Communication Scheme Design
- AI-assisted Task Offloading, Scheduling, and Caching for Delay-Sensitive Services
- Intelligent Orchestration and Management of 3C Resources
- Mobility, Access, and Handover Management in High-Dynamic IoT Networks
- Energy Saving, Green, and Sustainable Vehicular/Low-Altitude Network Design
- Edge Generative AI Applications in Vehicular/Low-Altitude IoT Networks
- Security, Privacy, and Reliability Issues in Vehicular/Low-Altitude IoT Networks
- Hardware/Software Co-Design for Rapid Response and Network Reconstruction
- Novel Applications and Case Studies for Vehicular/Low-Altitude IoT Networks

Important Dates

- Submission Deadline: May 31st, 2026
- First Review Due: July 31st, 2026
- Revision Due: September 15th, 2026
- Second Reviews Due/Notification: November 15th, 2026
- Final Manuscript Due: December 15th, 2026
- Publication Date: February 2027

Submission

The original manuscripts to be submitted need to follow the guidelines at: https://ieee-iotj.org/wp-content/uploads/2025/02/IEEE-IoTJ-Author-Guidelines.pdf, which should not be concurrently submitted for publication in other venues. Authors should submit their manuscripts through the IEEE Author Portal at: https://ieee.atyponrex.com/journal/iot. The authors must select as "Special Issue on AI at the Edge for Vehicular and Low-Altitude IoT Networks " when they reach the "Article Type" step in the submission process.

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