

CALL FOR PAPERS

IEEE Internet of Things Journal

Special Issue on Multimodal Integrated Sensing and Communication for IoT Networking in 6G and Beyond

Integrated Sensing and Communication (ISAC) is a key enabler for future 6G systems, unifying communication and sensing. As Internet of Things (IoT) applications expand, IoT networks require higher perceptual accuracy, lower latency, and more reliable connections, requirements that single-modal ISAC architectures often struggle to meet in complex environments. Multimodal ISAC integrates sensing information from radar, LiDAR, vision, IMU, GPS, and other environmental sensors. This fusion provides richer environmental awareness, more efficient resource allocation, enhanced security, and improved communication performance under dynamic conditions, significantly advancing intelligent IoT networking in 6G and beyond.

This Special Issue invites high-quality contributions on multimodal ISAC technologies tailored for IoT networking. We welcome theoretical developments, system designs, algorithms, experimental results, datasets, and comprehensive surveys. Authors are invited to submit original manuscripts on topics including, but not limited to:

- Information-Theoretic Bounds and Fundamental Trade-offs of Multimodal ISAC
- Joint Waveform, Beamforming, and Signal Design for Multimodal ISAC
- Fusion Methodologies for Heterogeneous Sensing Modalities in IoT Networks
- AI and Machine Learning for Multimodal IoT Sensing, Semantic Extraction, and Data Compression
- Reconfigurable Intelligent Surfaces and Metasurfaces for Enhanced Multimodal IoT Sensing
- Advanced Antenna Design and MIMO Architectures for Multimodal ISAC in IoT Networks
- Prototyping, Experimental Testbeds, and Field Trials for Multimodal ISAC in IoT Networks
- Distributed and Cloud-Based Architectures for Large-Scale Multimodal ISAC in IoT Networks
- Dynamic Resource Allocation and Optimization for Multimodal ISAC in IoT Networks
- Physical-Layer Security and Privacy-Preserving Techniques for Multimodal Sensory Data in IoT Networks
- Multimodal ISAC for Agentic AI and Embodied Intelligence in IoT Networks
- Emerging IoT Applications of Multimodal ISAC: Low-Altitude Wireless Networks, Robotics, and Autonomous Vehicles

Important Dates

- Submission Deadline: ~~August 15th, 2026~~ Extended to September 1st, 2026
- First Review Due: October 15th, 2026
- Revision Due: November 30th, 2026
- Second Reviews Due/Notification: December 31st, 2026
- Final Manuscript Due: February 15th, 2027
- Publication Date: April 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 Multimodal Integrated Sensing and Communication for IoT Networking in 6G and Beyond " when they reach the "Article Type" step in the submission process.

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