

Call for Papers

Networked Computing for Embodied AI

Special Session Co-Chairs

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Scope and Motivation

By integrating perception, decision-making, and physical interaction in robots or virtual agents, embodied AI represents the next frontier of intelligent systems, bridging the gap between digital intelligence and real-world autonomy. Unlike traditional AI systems, embodied AI demands real-time, distributed coordination across sensors, actuators, and computing units within open and dynamic network environments. This paradigm shift introduces unique challenges in computing systems capable of adapting to heterogeneous networking conditions. Furthermore, emerging embodied AI technologies—including generative AI, collaborative multi-agent systems, multimodal learning, and AR/VR agents—impose new requirements on computing and networking architectures. These challenges necessitate the seamless integration of ubiquitous computing resources into wide-area collaborative systems, supporting critical capabilities such as instant resource discovery, low-latency task execution, scalable intelligence distribution.

The Networked Computing for Embodied AI Track aims to serve as an international forum for experts, researchers, and practitioners from academia, industry, and government to exchange new ideas and results on the convergence of networking and computing for protentional demands of embodied AI, as well as to promote and accelerate the corresponding standardization and applications.

Topics of Interest

Our track seeks original contributions in the following topical areas, plus others that are not explicitly listed but are closely related:

- Edge-Cloud Continuum for Embodied AI
- Integrated computation and network architecture
- Intelligent embodied AI systems
- Network aware AI models and applications
- IoT, mobile and embedded architectures
- Sustainable and secure networked AI
- Collaborative edge/cloud computing architectures and methodologies
- Swarm Intelligence & Multi-Agent Systems

Important Dates

Paper Submission: 2025-08-15

Notification: 2025-10-01

Camera Ready and Registration: 2025-10-15

How to Submit a Paper

Each submission should include the authors' names, affiliations, an abstract, and 5–10 keywords. Papers are limited to 8 pages, including figures and references. Up to two additional pages may be included with an overlength charge. Full instructions on how to submit papers are provided on the IEEE ICPADS 2025 website: <http://ieee-icpads.org.cn/CFP-research-paper.html>