INFOCOM 2026 Workshop on Embodied Intelligence Networks (EIN)

Monday, May 18, 2026 ● 14:00 – 18:00 ● Room: Fuyo ● IEEE INFOCOM 2026, Tokyo, Japan

A half-day workshop on networking for embodied and agentic intelligence, bringing together researchers working on perception, reasoning, and action across virtual and physical environments.

Committee

Yusheng Ji (National Institute of Informatics, Japan)

Baochun Li (University of Toronto)

Ruidong Li (Kanazawa University, Japan)

Min Song (Stevens Institute of Technology)

Teruo Higashino (Kyoto Tachibana University)

Krishna Kant (Temple University)

Zhenjiang Li (City University of Hong Kong)

Seung-Jong Park (Missouri University of Science & Technology)

Corrado Puligheddu (Politecnico di Torino)

Siping Shi (The Hong Kong Polytechnic University)

JaeSeung Song (Sejong University)

Tao Song (Shanghai Jiao Tong University)

Feng Wang (University of Mississippi)

Guiling Wang (New Jersey Institute of Technology)

Poonam Yadav (University of York)

Rongfei Zeng (Northeastern University)

Sai Qian Zhang (New York University)

Xiaoxi Zhang (Sun Yat-sen University)

Yuanqing Zheng (Hong Kong Polytechnic University)

Chairs:

Baochun Li (University of Toronto)

Edith C. H. Ngai (University of Hong Kong)

Ningxin Su (The Hong Kong University of Science and Technology (Guangzhou))

Hao Wang (Stevens Institute of Technology)

2:00 p.m. - 2:10 p.m.

Welcome and workshop introduction

Baochun Li, General Chair, together with Program Co-Chairs Edith C. H. Ngai, Ningxin Su, and Hao Wang, will introduce the workshop and the day's program.

2:10 p.m. - 3:10 p.m.

Keynote: Keynote talk

Speaker: TBD | Title: TBD

3:10 p.m. - 3:25 p.m.

Short coffee break

3:25 p.m. - 4:55 p.m.

Session I: Adaptive and Collaborative Embodied Intelligence

pFedNavi: Structure-Aware Personalized Federated Vision-Language Navigation for Embodied AI

Qingqian Yang and Hao Wang (Stevens Institute of Technology, USA); Sai Qian Zhang (Meta/New York University, USA); Jian Li (Stony Brook University, USA); Yang Hua (Queen's University Belfast, United Kingdom (Great Britain)); Miao Pan (University of Houston, USA); Tao Song, Zhengwei Qi and Haibing Guan (Shanghai Jiao Tong University, China)

Federated Self-Evolving Embodied AI Agents

Leming Shen and Yuanqing Zheng (The Hong Kong Polytechnic University, Hong Kong)

E-RECAP: Embodied REplanning with Cost-Aware Pruning

Shuaijun Liu and Ningxin Su (The Hong Kong University of Science and Technology (Guangzhou), China)

VULCAN: Vision-Language-Model Enhanced Multi-Agent Cooperative Navigation for Indoor Fire-Disaster Response

Shengding Liu and Qiben Yan (Michigan State University, USA)

Rethinking IoT for Embodied AI: From Data Infrastructure to Intelligence Infrastructure

Shuai Tong and Jiliang Wang (Tsinghua University, China)

KV-SC: KV-Based Semantic Collaboration for Distributed Embodied Intelligence Networks

Baoxia Du and Ruidong Li (Kanazawa University, Japan); Yinfeng Cao (The Hong Kong Polytechnic University, Hong Kong); Dusit Niyato (Nanyang Technological University, Singapore)

4:55 p.m. - 5:10 p.m.

Coffee and tea break

5:10 p.m. - 5:50 p.m.

Session II: Systems, Security, and Optimization for Embodied AI Infrastructure

Jiao: Bridging Isolation and Customization in Mixed Criticality Robotics

James Yen, ZhiBai Huang and Zhixiang Wei (Shanghai Jiaotong University, China); Tinghao Yi, Shupeng Zeng and Liang Pang (Openmind, China); Songtao Xue (Shanghai Jiaotong University, China); Zhengwei Qi (Shanghai Jiao Tong University, China)

MEC-based HFL: A Fair Aggregation Approach for Non-IID Data via Minimum Enclosing Circle

Fan-Hsun Tseng, Jiang-Yi Zeng and Yu-Teng Lai (National Cheng Kung University, Taiwan); Hsin-Hung Cho and Chi-Yuan Chen (National Ilan University, Taiwan)

Towards Operating System Automated Optimization via System Knowledge and Tunability Embedding

Yuxin Ren, Donghui Chen, Yun Hao, Nan Zhang, Zhipeng Xie, Yanqiang Liu, Bo Wan, Bo Zhang, Xu Wang, Wanming Hu, Haili Bai, Ning Jia and Xinwei Hu (Huawei Technologies, China)

Multimodal Behavioral PUF Authentication for Physical AI Robots Combining Electromechanical Actuation and Computational Load Signatures

Jiho Lee, Jaehyung Jeong, Jayeon Pyo and JaeSeung Song (Sejong University, Korea (South))

5:50 p.m. - 6:00 p.m.

Closing remarks

Baochun Li, General Chair, will conclude the workshop and thank participants, speakers, and organizers.