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Biography
(Please provide in paragraph form within 500 words.) （中英文）

Yingyang Chen (Senior Member, IEEE) received the B.Eng. degree from the Yingcai Honors College, University of Electronic Science and Technology of China (UESTC), Chengdu, China, in 2014, and the Ph.D. degree from Peking University, Beijing, China, in 2019. She is currently an Associate Professor with Jinan University, Guangzhou, China. Her research interests include next-generation multiple access, cross-layer resource allocation, and mobile edge intelligence. She was a recipient of the Award for Scientific Research of Peking University and the First Prize of Science and Technology Progress Award from the China Work Safety Association. She is serving as an Editor for IEEE COMMUNICATIONS LETTERS

Speech Title (English): （中英文）

Towards Edge Intelligence via Autonomous Navigation: A Robot-Assisted Data Collection Approach

Speech Abstract
(Please provide in paragraph form within 500 words.) （中英文）

With the growing demand for large-scale and high-quality data in edge intelligence systems, mobile robots are increasingly deployed to collect data proactively, particularly in complex environments. However, existing robot-assisted data collection methods face significant challenges in achieving reliable and efficient performance, especially in non-line-of-sight (NLOS) environments. This paper proposes a communication-and-learning dual-driven (CLD) autonomous navigation scheme that incorporates accurate channel modeling and a non-point-mass robot representation, which enables simultaneous optimization of navigation, communication, and learning performance. An efficient algorithm based on majorization–minimization (MM) is proposed to solve the non-convex and non-smooth CLD problem. Simulation results demonstrate that the proposed scheme achieves superior performance in collision-free navigation, data collection, and model training compared to benchmarks. It is also shown that CLD can adapt to different scenarios by flexibly adjusting the weight factor between communication and learning objectives.