YANQING LU

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EDUCATION

University of Southern California — Los Angeles, CA
M.S. in Computer Science (GPA: 3.90/4) — Jan 2024 - Dec 2025 (Expected)
- Research Interests: large language model, deep reinforcement learning, and real-world applications of ML methods
- Relevant Courses: Natural Language Processing, Computer Vision, Robot Learning, Optimization for Machine Learning

Southern University of Science and Technology — Shenzhen, China
B.S. in Mathematics and Applied Mathematics (GPA: 3.68/4) — Aug 2019 - Jun 2023
- Visiting Student, UC Berkeley EECS – Summer 2021 (GPA: 4.00/4)
- Awards: Excellent Freshman Scholarship, *Special Award*; Merit Student Scholarship; Excellent Graduation Thesis

PUBLICATIONS

* *indicates equal contribution.*

PEARL: Peer-Enhanced Adaptive Radio via On-Device LLM
Ju-Hyung Lee*, Yanqing Lu*, Klaus Doppler
Under review

On-Device LLM for Context-Aware Wi-Fi Roaming [paper][code][demo]
Ju-Hyung Lee, Yanqing Lu, Klaus Doppler
ICML 2025 Workshop on Machine Learning for Wireless Communication and Networks **(Student Travel Grant Awardee)**

Caching for Edge Inference at Scale: A Mean Field Multi-Agent Reinforcement Learning Approach [paper][code]
Yanqing Lu, Meng Zhang, Ming Tang
IEEE Global Communications Conference (GLOBECOM) 2023

EXPERIENCES

Nokia Technologies — Sunnyvale, CA
Research Intern (Supervisor: Dr. Klaus Doppler; Mentor: Dr. Ju-Hyung Lee) — May 2025 - Aug 2025
- Optimized LLM post-training to enable **edge-efficient multi-task decision-making** for lower-layer wireless control.
- Proposed an LLM-based framework to jointly optimize link latency and energy consumption for device-to-device (D2D) communication, leveraging inter-device context information.
- Developed an iOS demonstration app utilizing Apple's on-device LLM for real-time D2D optimization.

WiDeS Group, University of Southern California — Los Angeles, CA
Research Assistant (Supervisor: Prof. Andreas F. Molisch; Mentor: Dr. Ju-Hyung Lee) — Jan 2024 - May 2025
- Developed a deep reinforcement learning frameworks for autonomous base station deployment from scratch.
- Designed and executed the **full LLM development lifecycle**, including problem formulation, data collection, model post-training, and on-device deployment for adaptive Wi-Fi roaming optimization.

Baixing AI — Shanghai, China
Software Engineer Intern — Sep 2023 - Dec 2023
- Integrated a state machine into a LLM chatbot to enhance **intent recognition** and enforce **structured workflows**.
- Resolved recurring LLM service outages by redesigning the API key distribution system for improved scalability.
- Migrated the network protocol of the company's core product from HTTP to WebSocket, enabling server-initiated message delivery and significantly enhancing the extensibility of product features.

Prof. Ming Tang's Group, Southern University of Science and Technology — Shenzhen, China
Student Researcher (Advisor: Prof. Ming Tang) — July 2022 - May 2023
- Developed a mean field **multi-agent reinforcement learning** framework for optimizing model caching in edge intelligence systems, ensuring scalable and efficient communications among edge nodes.
- Showed that cooperative strategies outperform competitive ones in the multi-agent edge caching scenario.

PROJECTS

AutoBS: Autonomous Base Station Deployment with Reinforcement Learning [paper][code] — Jan 2024 - Dec 2024
- Achieved over 90% of the optimal performance for base station (BS) deployment, in both single and multiple BS scenarios.
- Proposed an asynchronous multi-BS deployment approach that **exponentially reduced** time complexity compared to exhaustive search, enabling scalable optimization across large network deployments.

SERVICES

- Reviewer, NeurIPS 2025 Workshop on AI and ML for Next-Generation Wireless Communications and Networking