

# YANQING LU

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## EDUCATION

### University of Southern California

M.S. in Computer Science

- GPA: 3.90/4
- Research Interests: On-device LLM, Deep Reinforcement Learning, Optimization for ML, Efficient AI

Los Angeles, CA

Jan 2024 - Dec 2025 (Expected)

### Southern University of Science and Technology

B.S. in Mathematics and Applied Mathematics

- GPA: 3.68/4
- Awards: Excellent Freshman Scholarship, *Special Award*; Merit Student Scholarship; Excellent Graduation Thesis

Shenzhen, China

Aug 2019 - Jun 2023

## PUBLICATIONS

### On-Device LLM for Context-Aware Wi-Fi Roaming [[paper](#) | [code](#) | [demo](#)]

Ju-Hyung Lee, Yanqing Lu, Klaus Doppler

International Conference on Machine Learning (ICML) 2025 Workshop on ML4Wireless (Student Travel Grant Award)

### 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

Research Intern (Supervisor: Dr. Klaus Doppler)

Sunnyvale, CA

May 2025 - Aug 2025

- Optimized on-device LLM as the context-aware decision-maker **across multiple tasks** in the Wi-Fi scenario.
- Designed a Wi-Fi Aware parameter tuning problem, and proposed an inter-device context-aware LLM solution.
- Developed an iOS demo app utilizing on-device LLM to optimize real-time Wi-Fi Aware connectivity.

### WiDeS Group, University of Southern California

Research Assistant (Supervisors: Dr. Ju-Hyung Lee, Prof. Andreas F. Molisch)

Los Angeles, CA

Jan 2024 - May 2025

- Designed and implemented the core frameworks for automatic base station deployment via DRL from scratch.
- Implemented the **complete machine learning lifecycle** for applying on-device LLM to wireless control.

### Baixing AI

Software Engineer Intern

Shanghai, China

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

Research Assistant (Supervisor: Prof. Ming Tang)

Shenzhen, China

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

- Developed a reinforcement learning-based framework for base station (BS) deployment, achieving over 90% of the performance of the optimal solution 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.

## SKILLS

Python, Java, C/C++, Swift, SQL, Matlab,  $\LaTeX$

PyTorch, Hugging Face, Ray RLlib, Git, Slurm, Docker, Redis, Spring Boot, FastAPI