# Haofan Lu

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### Research Interests

• AI for Wireless, Internet of Things, Mobile Computing, and Integrated Sensing and Communication

#### EDUCATION

#### University of California, Los Angeles

Sep 2021 – Jun 2026 (Expected)

PhD student in Computer Science Department

- Advisor: Professor Omid Abari Intelligent Connectivity (ICON) Group
- Thesis Project: AI-assisted Integrated Sensing and Communication for NextG Wireless Networks

## University of Illinois at Urbana-Champaign

Sep 2017 – Jun 2021

B. S. in Electrical Engineering

GPA: 3.88

- Thesis Advisor: Professor Romit Roy Choudhury
- Thesis Project: Indoor Localization with the Assistance of Ultrasonic Beacons

## Zhejiang University

Sep 2017 - Jun 2021

B. Eng. in Electrical Engineering and Automation

GPA: 3.94

• Capstone: A on-bike crowd-sourcing urban air-quality monitoring system (Dean's Best Social Impact Award)

#### SELECTED PUBLICATIONS

- [ICML'24] <u>Haofan Lu</u>, Christopher Vattheuer, Baharan Mirzasoleiman, Omid Abari "NeWRF: A Deep Learning Framework for Wireless Radiation Field Reconstruction and Channel Prediction" [Paper] [Poster] [Slides] [Code]
- [HotMobile'24] Tianxiang Li, Mohammad H. Mazaheri, Kalaivani Kamalakannan, <u>Haofan Lu</u>, Omid Abari "Can IoT Devices be Powered up by Future Indoor Wireless Networks?". [Paper] [Slides]
- [Under submission] <u>Haofan Lu</u>, Tianxiang Li, Omid Abari "Enhancing IoT Communication and Localization via Smarter Antenna" [Paper]
- [SIGCOMM'23] <u>Haofan Lu</u>, Mohammad Hossein Mazaheri, Omid Abari, "A Millimeter Wave Backscatter Network for Joint Communication and Localization". Acceptance rate: 71/323 = 22.0%. [Paper] [Slides]
- [IEEE IoT Journal'23] Ali Abedi, <u>Haofan Lu</u>, Alex Chen, Charlie Liu, Omid Abari, "WiFi Physical Layer Stays Awake and Responds When Should Not". IF: 10.6. [Paper]
- [HotNets'22] <u>Haofan Lu</u>, Tianxiang Li, Reza Rezvani, Ali Abedi, Omid Abari, "Bringing WiFi Localization to Any WiFi Devices". Acceptance rate: 32/104 = 30.8%. [Paper] [Slides]

#### Industry Experience

## Samsung Research America - Standard and Mobility Innovation Lab

Jun 2023 – Sep 2023

Research Intern

- Project: WiFi-based velocity estimation and tracking for Ambient Intelligence
- Developed an indoor device-free tracking system based on WiFi, and filed a patent for the code and artifacts

### Hewlett Packard Labs - Networking and Distributed Systems Lab

 $Jun\ 2024 - Sep\ 2024$ 

Research Intern

- Project: Integrated Sensing and Communication for Private 5G Systems
- Profiled the handover latency between commercial deployed WiFi and Private 5G networks
- Designed and Implemented a 5G-based sensing system to reduce the handover latency

#### TECHNICAL SKILLS

- Languages: Python, MATLAB, C/C++, CUDA
- Frameworks & Platforms: PyTorch, ESP-IDF, USRP, GNU Radio, Docker, OpenAirInterface, srsRAN
- Softwares: Wireless Insite, WaveFarer, Accuver XCAL

### Honors & Awards

Amazon AI Fellowship [Link]	2024
Qualcomm Innovation Fellowship [Link]	2024
PhD Research Fellowship of University of California, Los Angeles	2021
Graduation with Highest Honor of University of Illinois at Urbana-Champaign	2021
Dean's List of University of Illinois at Urbana-Champaign	2020