Haofan Lu

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404 Westwood Plaza, ENG VI Room 497, Los Angeles, CA 90095

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

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

Selected Publications

- **[ICML'24]** Haofan Lu, 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, Haofan Lu, Omid Abari "Can IoT Devices be Powered up by Future Indoor Wireless Networks?". **[Paper]** **[Slides]**
- **[SIGCOMM'23]** Haofan Lu, 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, Haofan Lu, Alex Chen, Charlie Liu, Omid Abari, "WiFi Physical Layer Stays Awake and Responds When Should Not". IF: 10.6. **[Paper]**
- **[HotNets'22]** Haofan Lu, 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, OpenAirInterface, srsRAN
- Softwares: Wireless Insite, WaveFarer, Accuver XCAL, Blender