

EDUCATION

University of California, San Diego Ph.D. in Electrical and Computer Engineering Advisor: Xinyu Zhang	La Jolla, California Sep. 2018 – Present
Beijing University of Posts and Telecommunications B.E. in Electrical and Computer Engineering Advisor: Anfu Zhou	Beijing, China Sep. 2018

PROFESSIONAL & RESEARCH EXPERIENCE

University of California, San Diego Research Assistant	La Jolla, CA Sep. 2018 – Present
<ul style="list-style-type: none">– Designed and implemented HiveMind, a machine learning model splitting scheme tailored for 5G MEC network 1– Designed NeuroMessenger, a light-weight encoding mechanism for efficient distributed learning communication [3]– Implemented a first-of-its-kind mmWave vehicular network prototype and verified its performance under high mobility [4].– Designed and developed, X-Array, an omni-directional mmWave network [5].	
Microsoft Research (AFO OCTO) Research Intern (Advisors: Manikanta Kotaru, Xenofon Foukas)	Redmond, WA Jun. 2022 – Oct. 2022
<ul style="list-style-type: none">– (Ongoing) Designed an O-RAN based framework for optimizing the energy efficiency of 5G-connected HoloLens.– Implemented an Intel FlexRAN based vRAN testbed on commercial cloud servers.	
AT&T Lab Research Intern	San Ramon, CA Jun. 2019 – Sep. 2019
<ul style="list-style-type: none">– Investigated LTE RAN latency components and designed an IP MTU regulator to reduce RAN latency.	
Beijing University of Posts and Telecommunications Research Assistant	Beijing, China Aug. 2016 – Jun. 2018
<ul style="list-style-type: none">– Designed and developed KPad [7], a system to increase channel utilization in Wi-Fi MU-MIMO.– Developed Romil, a mobile mmWave relay utilizing robotic intelligence to extend mmWave coverage [2, 6].	

PUBLICATIONS

Journal Articles

1. *Song Wang*, Xinyu Zhang, Hiromasa Uchiyama, and Hiroki Matsuda. HiveMind: Towards Cellular Native Machine Learning Model Splitting. **IEEE Journal on Selected Areas in Communications**, 40(2):626–640, 2021
2. Anfu Zhou, Shaoqing Xu, *Song Wang*, Jingqi Huang, Shaoyuan Yang, Teng Wei, Xinyu Zhang, and Huadong Ma. Robotic Millimeter-Wave Wireless Networks. **IEEE/ACM Transactions on Networking**, 28(4):1534–1549, 2020

Conference Papers

3. *Song Wang* and Xinyu Zhang. NeuroMessenger: Towards Error Tolerant Distributed Machine Learning Over Edge Networks. In **IEEE INFOCOM**, 2022
4. *Song Wang*, Jingqi Huang, and Xinyu Zhang. Demystifying Millimeter-Wave V2X: Towards Robust and Efficient Directional Connectivity Under High Mobility. In **ACM MobiCom**, 2020
5. *Song Wang*, Jingqi Huang, Xinyu Zhang, Hyoil Kim, and Sujit Dey. X-array: Approximating Omnidirectional Millimeter-Wave Coverage Using an Array of Phased Arrays. In **ACM MobiCom**, 2020
6. Anfu Zhou, Shaoqing Xu, *Song Wang*, Jingqi Huang, Shaoyuan Yang, Teng Wei, Xinyu Zhang, and Huadong Ma. Robot Navigation in Radio Beam Space: Leveraging Robotic Intelligence for Seamless mmWave Network Coverage. In **ACM MobiHoc**, 2019
7. *Song Wang*, Jingqi Huang, and Anfu Zhou. KPad: Maximizing Channel Utilization for MU-MIMO Systems Using Knapsack Padding. In **IEEE ICC**, 2018

SYSTEMS & PROGRAMMING SKILLS

- Languages: C/C++, Python, Matlab, Golang, P4, and Assembly
- Technologies: FlexRAN, OAI 5G, Pytorch, TensorFlow, Kubernetes, Docker, 802.11ad/ay, Mininet, and Wireless Insite