SONG WANG

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EDUCATION

Beijing University of Posts and Telecommunications Beijing, China
B.E., Internet of Things Engineering *2014-2018*
Major GPA: 3.86, **Courses:** Network and Protocols (95/100), Mobile Internet (93/100), Principles of Communications (97/100), Ad Hoc and Broadband Wireless (88/100)

Queen Mary University of London (Joint Program with BUPT) London, UK
B.S, Electronic Engineering *2014-2018*

University of California, San Diego San Diego, US
Ph.D. in progess, Electronic Engineering *2018-Present*
Major GPA: 3.57, **Courses:** Linear Algebra and Application (A-), Multi-User Communication System (A+), Digital Communications (B+), Probabilistic Coding (A),

EXPERIENCE

Department of Electrical and Computer Engineering, University of California San Diego
and
Sony Corporation Tokyo
Research Assistant Supervised by Prof. Xinyu Zhang and Mr Hiromasa Uchiyama *9/2020-Present*

- Design a novel mobile edge ML split system that accelerates ML inference by splitting ML models over edge and cloud, and adjusting the split scheme to the network dynamics in real-time.
- Verify the performance of the split ML system on a 5G simulator with realistic traffic patterns and mobility.

Department of Electrical and Computer Engineering, University of California San Diego
Research Assistant Supervised by Prof. Xinyu Zhang *9/2018-Present*

- Deploy the first-of-its-kind campus-scale COTS 60GHz V2X testbed with mesh control plane and customized firmware for fine-grained channel measurement.
- Conduct the first comprehensive reality check of mmWave V2X on the testbed combined with large-scale ray-tracing simulations and verify the practicality of mmWave V2X on beamforming, blockage handling, and spatial multiplexing.
- Design and implement WiFi-like omni-directional coverage mmWave access point with novel Array of Phased arrays (APA) structure.

AT&T Research
Research Intern Supervised by Dr. Jin Wang *7/2019-9/2019*

- Design a RAN based upper layer guidence system that optimaze IP packet size based on RAN KPIs in challenging RF conditions.
- Build a real-time RAN KPI guidance prototype in a production RAN server and streamed guidance results to a public IP server.
- First intern to reverse engineer and verify the vital metrics such as IP packet size, RLC PDU size, average number of RLC PDUs, etc from the AT&T's RAN server.

IoT Laboratory, Beijing University of Posts and Telecommunications
PhD Student Supervised by Prof. Anfu Zhou *3/2017-7/2018*

- Analysis the performance and behavior of 802.11ad 60GHz radio devices using wireshark and iPerf tcp streaming.
- Build USRP based 60GHz SDR and use it to monitor the PHY performance of 802.11ad devices.
- Design dynamic programming based algorithm to address user scheduling problem in MU-MIMO and benchmark the design in trace-driven simulation on Matlab.

PUBLICATIONS

S. Wang, J. Huang, X. Zhang, "Demystifying Millimeter-Wave V2X: Towards Robust and Efficient Directional Connectivity Under High Mobility", *ACM International Conference on Mobile Computing and Networking (MobiCom'20)*

S. Wang, J. Huang, X. Zhang, H. Kim, S. Dey, "X-Array: Approximating Omnidirectional Millimeter-Wave Coverage Using an Array of Phased-Arrays", *ACM International Conference on Mobile Computing and Networking (MobiCom'20)*

A. Zhou, S. Xu, **S. Wang**, J. Huang, S. Yang, T. Wei, X. Zhang; H, Ma, Robotic Millimeter-Wave Wireless Networks", *IEEE/ACM Transactions on Networking (ToN'19)*

A. Zhou, S. Xu, **S. Wang**, J. Huang, S. Yang, T. Wei, X. Zhang, H. Ma, Robot Navigation in Radio Beam Space: Leveraging Robotic Intelligence for Seamless mmWave Network Coverage", *ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc'19)*

S. Wang, J. Huang, A. Zhou, "KPad: Maximizing Channel Utilization for MU-MIMO Systems using Knapsack Padding", *IEEE International Conference on Communications 2018 Wireless Networking Symposium (ICC'18 WN)*