

Yanzi Zhu

CONTACT	Phone: 1-520-477-8020	Email: zhuyanzi at gmail dot com
INTERESTS	Ambiguous, impactful & challenging system design problems using data-driven approaches	
WORK EXPERIENCE	Senior Software Engineer, Google, WA 2019/09 — Present	
	<ul style="list-style-type: none">• Leading service team with 6 engineers to build the next generation k8s-based distributed infrastructure for Database, Data Analytics and AI/ML• Made strategic choices and led various platform and networking projects for Google Distributed Cloud - Edge: KubeVirt VM, GPU, VPN, IPv6 and consumer APIs.• Drove the research and design of a Wifi downstream protection algorithm across the entire Android stack (driver/firmware, HAL, Google Play Service, Stadia app), achieved over 30% latency reduction for thousands of Stadia game sessions• Built Stream Protect SDK on Android TV in Java (deprecated due to Stadia shutdown)• Pioneered Cloud AR (now Immersive Stream for XR) with networking and codec adaptation algorithms that now support millions of streaming sessions today	
	MmWave Engineer Intern, Facebook, CA 2016 — 2018	
	<ul style="list-style-type: none">• Patent US10805170B1: Wireless Network Performance Monitoring and Sector Assignment• Led two contractors and built a full-stack mmWave network diagnosis and optimization platform, including data infrastructure, analysis backend, and web UX, and deployed that in multiple countries• Designed physical layer algorithms to mitigate wireless interference for Terragraph mesh network, created measurement software platform (in Python & C++), and validated 90% reduction based on the mmWave measurements• Implemented an LSTM-based networking anomaly detection system in Python	
SKILLS	System design, algorithm, data & signal processing, coding (Go, Python, Java, C++) Cross functionality team collaboration, strategic project planning & prioritization	
EDUCATION	University of California, Santa Barbara, Santa Barbara, CA M.S. and Ph.D., Computer Science, September 2019	
	University of Minnesota, Minneapolis, MN B.S., Electrical Engineering (<i>High Distinction</i>), May 2014	
RESEARCH EXPERIENCE	Graduate Researcher, SAND Laboratory, IL Sept. 2014 — Sept. 2019	
	<ul style="list-style-type: none">• Revealed a novel passive reconnaissance attack using ambient WiFi signals to monitor human locations, and proposed defenses against such attacks• Designed a single-device mmWave mobile imaging system to detect the object's location, surface boundary, curvature, and material, while tolerating trajectory noise• Implemented a mobile energy-saving scheme by data-driven network stack offloading	
	Undergraduate Researcher, FPGA Laboratory, MN Nov. 2012 — May 2014	
	<ul style="list-style-type: none">• Developed a computational method named <i>binary stochastic</i> that maintains high fault tolerance and low computing latency (in hardware architecture)	
PUBLICATIONS	<ol style="list-style-type: none">1. Yanzi Zhu, Zhujun Xiao, Yuxin Chen, Zhijing Li, Max Liu, Ben Y. Zhao and Haitao Zheng. "Et Tu Alexa? When Commodity WiFi Devices Turn into Adversarial Motion Sensors." <i>Proceedings of the Network and Distributed System Security Symposium (NDSS)</i>, 2020.2. Zhujun Xiao, Yanzi Zhu, Yuxin Chen, Ben Y. Zhao, Junchen Jiang, and Haitao Zheng. "Addressing Training Bias via Automated Image Annotation." <i>arXiv preprint arXiv:1809.10242</i>, 2018.	

3. Zhijing Li, Zhujun Xiao, **Yanzi Zhu**, Irene Pattarachanyakul, Ben Y. Zhao, and Haitao Zheng. “Adversarial Localization against Wireless Cameras.” *Proceedings of Workshop on Mobile Computing Systems and Applications (HotMobile)*, Tempe, AZ, Feb. 2018.
4. **Yanzi Zhu**, Yuanshun Yao, Ben Y. Zhao and Haitao Zheng. “Object Recognition and Navigation using a Single Networking Device.” *Proceedings of International Conference on Mobile Systems, Applications, and Services (MobiSys)*, Niagara Falls, NY, Jun. 2017.
5. Zhijing Li, Ana Nika, Xinyi Zhang, **Yanzi Zhu**, Yuanshun Yao, Ben Y. Zhao and Haitao Zheng. “Identifying Value in Crowdsourced Wireless Signal Measurements.” *Proceedings of International Conference on World Wide Web (WWW)*, Perth, Australia, Apr. 2017.
6. Maryam Eslami Rasekh, Zhinus Marzi, **Yanzi Zhu**, Upamanyu Madhow and Haitao Zheng. “Noncoherent mmWave Path Tracking.” *Proceedings of Workshop on Mobile Computing Systems and Applications (HotMobile)*, Sonoma, CA, Feb. 2017.
7. **Yanzi Zhu**, Yibo Zhu, Ana Nika, Ben Y. Zhao and Haitao Zheng. “Trimming the Smartphone Network Stack.” *Proceedings of Workshop on Hot Topics in Networks (HotNets)*, Atlanta, GA, Nov. 2016.
8. Ana Nika, Zhijing Li, **Yanzi Zhu**, Yibo Zhu, Ben Y. Zhao, and Haitao Zheng. “Empirical Validation of Commodity Spectrum Monitoring.” *Proceedings of ACM Conference on Embedded Networked Sensor Systems (SenSys)*, Stanford, CA, Nov. 2016.
9. **Yanzi Zhu**, Yibo Zhu, Ben Y. Zhao and Haitao Zheng. “Reusing 60GHz Radios for Mobile Radar Imaging.” *Proceedings of Annual International Conference on Mobile Computing and Networking (MobiCom)*, Paris, France, Sept. 2015.
10. Yibo Zhu, **Yanzi Zhu**, Zengbin Zhang, Ben Y. Zhao, and Haitao Zheng. “60GHz Mobile Imaging Radar.” *Proceedings of Workshop on Mobile Computing Systems and Applications (HotMobile)*, Santa Fe, NM, Feb. 2015.
11. **Yanzi Zhu**, Peiran Suo, and Kia Bazargan. “Binary Stochastic Implementation of Digital Logic.” *Proceedings of ACM International Symposium on Field Programmable Gate Arrays (FPGA)*, Monterey, CA, Feb. 2014.

TALKS & POSTERS

1. **Yanzi Zhu**, Ben Y. Zhao and Haitao Zheng. “MmWave Sensing.” *Millimeter-Wave Networks and Sensing Systems (mmNets)*, Snowbird, UT, Oct. 2017.
2. **Yanzi Zhu**, Yibo Zhu, Ben Y. Zhao and Haitao Zheng. “60GHz Mobile Radar Imaging.” *Google Faculty Summit*, Mountain View, CA, Oct. 2015.

AWARDS

Student Travel Awards

- Networked Systems Design and Implementation (NSDI) 2015 & 2016
- Mobile Computing and Networking (MobiCom) 2015 & 2016