

JUNFENG (JAYDEN) GUAN

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EDUCATION

- University of Illinois Urbana-Champaign** May. 2017 - Aug. 2022
Doctor of Philosophy in Electrical and Computer Engineering Advisor: Prof. [Haitham Hassanieh](#)
- University of Illinois Urbana-Champaign** May. 2017 - Dec. 2019
Master of Science in Electrical and Computer Engineering Advisor: Prof. [Haitham Hassanieh](#)
- University of Illinois Urbana-Champaign** Aug. 2013 - May. 2017
Bachelor of Science in Electrical Engineering (with Highest Honors) Advisor: Prof. [Songbin Gong](#)

PROFESSIONAL EXPERIENCE

- École Polytechnique Fédérale de Lausanne** Apr. 2022 - Present
Postdoctoral Researcher Advisor: Prof. [Haitham Hassanieh](#)
- Nokia Bell Labs** Jun. 2021 - Aug. 2021
Radio Systems Bell Labs Summer Intern Murray Hill, NJ (Remote)
- IBM Research** May. 2019 - Aug. 2019
Graduate Research Intern Thomas J. Watson Research Center, NY

MAIN CONFERENCE AND JOURNAL PUBLICATIONS

13. [ICASSP'23] [Junfeng Guan](#), Sohrab Madani, Waleed Ahmed, Samah Hussien, Saurabh Gupta, Haitham Hassanieh. "Exploiting Virtual Array Diversity For Accurate Radar Detection." *IEEE International Conference on Acoustics, Speech and Signal Processing*, 2023. [\[pdf\]](#)
12. [IPSN'23] Ishani Janveja, Jiaming Wang, [Junfeng Guan](#), Suraj Jog, Haitham Hassanieh. "WINC: A Wireless IoT Network for Multi-Noise Source Cancellation." *ACM/IEEE International Conference on Information Processing in Sensor Networks*, 2023. [\[pdf\]](#)
11. [ECCV'22] Sohrab Madani*, [Junfeng Guan](#)*, Waleed Ahmed*, Saurabh Gupta, Haitham Hassanieh. "Radatron: Accurate Detection Using Multi-Resolution Cascaded MIMO Radar." *European Conference on Computer Vision*, 2022. [\[pdf\]](#) (* coprimary authors)
10. [NSDI'22] Suraj Jog, [Junfeng Guan](#), Sohrab Madani, Ruochen Lu, Songbin Gong, Haitham Hassanieh. "Enabling IoT Self-Localization Using Ambient 5G Signals." *USENIX Symposium on Networked Systems Design and Implementation*, 2022. [\[pdf\]](#)
9. [NSDI'21] [Junfeng Guan](#), Jitian Zhang, Ruochen Lu, Hyungjoo Seo, Jin Zhou, Songbin Gong, Haitham Hassanieh. "Efficient Wideband Spectrum Sensing Using MEMS Acoustic Resonators." *USENIX Symposium on Networked Systems Design and Implementation*, 2021. [\[pdf\]](#)
8. [TMTT'21] [Junfeng Guan](#), Arun Paidimarri, Alberto Valdes-Garcia, Bodhisatwa Sadhu. "3D Imaging Using Millimeter Wave 5G Signal Reflections." *IEEE Transactions on Microwave Theory and Techniques*, 2021. [\[pdf\]](#)
7. [CVPR'20] [Junfeng Guan](#), Sohrab Madani, Suraj Jog, Saurabh Gupta, Haitham Hassanieh. "Through Fog High Resolution Imaging Using Millimeter Wave Radar." *IEEE Conference on Computer Vision and Pattern Recognition*, 2020. [\[pdf\]](#)
6. [RFIC'20] [Junfeng Guan](#), Arun Paidimarri, Alberto Valdes-Garcia, Bodhisatwa Sadhu. "3D Imaging using mmWave 5G Signals." *IEEE Radio Frequency Integrated Circuits Symposium*, 2020. [\[pdf\]](#)

5. [NSDI'19] Suraj Jog, Jiaming Wang, [Junfeng Guan](#), Thomas Moon, Haitham Hassanieh, Romit Roy Choudhury. "Many-to-Many Beam Alignment in Millimeter Wave Networks." *USENIX Symposium on Networked Systems Design and Implementation*, 2019. [\[pdf\]](#)
4. [VLSI'19] Thomas Moon, [Junfeng Guan](#), Haitham Hassanieh. "Online Millimeter Wave Phased Array Calibration Based on Channel Estimation." *IEEE VLSI Test Symposium*, 2019. [\[pdf\]](#)
3. [SIGCOMM'18] Sheng Shen, Nirupam Roy, [Junfeng Guan](#), Haitham Hassanieh, Romit Roy Choudhury. "MUTE: Bringing IoT to Noise Cancellation." *ACM SIGCOMM*, 2018. [\[pdf\]](#)
2. [IMS'17] Brandon Arakawa, Liuqing Gao, Yansong Yang, [Junfeng Guan](#), Anming Gao, Ruochen Lu, Songbin Gong. "Simultaneous Wireless Power Transfer and Communication to Chip-Scale Devices." *IEEE International Microwave Symposium*, 2017. [\[pdf\]](#)
1. [IMS'17] Ali Kourani, Yong-Ha Song, Brandon Arakawa, Ruochen Lu, [Junfeng Guan](#), Anming Gao, Songbin Gong. "A 150 MHz Voltage Controlled Oscillator using Lithium Niobate RF-MEMS Resonator." *IEEE International Microwave Symposium*, 2017. [\[pdf\]](#)

POSTERS AND ARTICLES

4. [SIGCOMM'22 Poster] [Junfeng Guan](#), Suraj Jog, Sohrab Madani, Ruochen Lu, Songbin Gong, Haitham Hassanieh. "Enabling IoT Self-Localization Using Ambient 5G mmWave Signals." *ACM SIGCOMM*, 2022. [\[pdf\]](#)
3. [GetMobile'21] [Junfeng Guan](#), Jitian Zhang, Ruochen Lu, Hyungjoo Seo, Jin Zhou, Songbin Gong, Haitham Hassanieh. "Efficient Wideband Spectrum Sensing Using MEMS Acoustic Resonators." *ACM GetMobile: Mobile Computing and Communications*, 2021. [\[pdf\]](#)
2. [IEEE D&T'20] Thomas Moon, [Junfeng Guan](#), Haitham Hassanieh. "Know Your Channel First, then Calibrate Your mmWave Phased Array." *IEEE Design & Test Magazine*, 2020. [\[pdf\]](#)
1. [MobiCom'18 Poster] Sheng Shen, Nirupam Roy, [Junfeng Guan](#), Haitham Hassanieh, Romit Roy Choudhury. "Poster: Networked Acoustics Around Human Ears." *ACM MobiCom*, 2018. [\[pdf\]](#)

SELECTED HONORS AND AWARDS

ACM SIGMOBILE Research Highlights	2021
Qualcomm Innovation Fellowship [website]	2020
RFIC'20 Industry Best Paper Finalists	2020

PATENTS

3. Saeed Reza Khosravirad, [Junfeng Guan](#), Harish Viswanathan, Jakub Sapis. "Resource Allocation in Joint Communication and Sensing." *US Patent App*, 2023.
2. [Junfeng Guan](#), Bodhisatwa Sadhu, Arun Paidimarri, Asaf Tzadok, Alberto Valdes Garcia. "Imaging with wireless communication signals." *US Patent App*, 2021.
1. [Junfeng Guan](#), Sohrab Madani, Suraj Jog, Saurabh Gupta, Haitham Hassanieh. "Neural network-based millimeter-wave imaging system." *US Patent App*, 2021.

SERVICES

- Shadow Program Committee - ACM SenSys 2022 June 2022
- Reviewer: ICCV'23, CVPR'23, ECCV'22, IEEE VTC, Internat. J. of Wireless Information Networks, IEEE Trans. on Microwave Theory and Techniques, IEEE Trans. on Instrumentation and Measurement, IEEE Trans. on Mobile Computing, IEEE Globecom Workshops, IEEE Access.