

JUNFENG (JAYDEN) GUAN

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RESEARCH INTERESTS

Wireless Networking and Sensing Systems, Joint Communication and Sensing, Millimeter-Wave and 5G Networks

EDUCATION

University of Illinois at Urbana-Champaign

Dec. 2019 - Present

Ph.D. Candidate in Electrical and Computer Engineering

Advisor: Prof. [Haitham Hassanieh](#)

University of Illinois at Urbana-Champaign

May. 2017 - Dec. 2019

Master of Science in Electrical and Computer Engineering

University of Illinois at Urbana-Champaign

Aug. 2013 - May. 2017

Bachelor of Science in Electrical Engineering (with Highest Honors)

MAIN CONFERENCE AND JOURNAL PUBLICATIONS

11. [Manuscript Under Review] [Junfeng Guan](#), Sohrab Madani, Waleed Ahmed, Saurabh Gupta, Haitham Hassanieh. "Radatron: Accurate Detection Using Multi-Resolution Cascaded MIMO Radar." *Under Review*, 2022.
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.
9. [NSDI'21] [Junfeng Guan](#), Jitian Zhang, Ruochen Lu, Hyunjoo 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

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.
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
SIGCOMM'18 Industry Best Paper Finalists	2020
Edward C. Jordan Award, UIUC	2017

PATENTS

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.

INDUSTRIAL EXPERIENCES

• Nokia Bell Labs Radio Systems Bell Labs Summer Intern	Jun. 2021 - Aug. 2021
• IBM Research Graduate Research Intern	May. 2019 - Aug. 2019

TEACHING EXPERIENCE

• Communication Networks (ECE 438, UIUC)	Aug. 2019 - Dec. 2019
• Communication System Laboratory (ECE 463, UIUC)	Aug. 2018 - Dec. 2018

SERVICES

• Invited Reviewer for IEEE Transactions on Microwave Theory and Techniques	Feb. 2022
• Invited Reviewer for IEEE Globecom Workshops	Aug. 2021
• Invited Reviewer for IEEE Transactions on Instrumentation and Measurement	Aug. 2021
• Invited Reviewer for IEEE Access	Jun. 2021
• Invited Reviewer for IEEE Transactions on Mobile Computing	Dec. 2020