

SOHRAB MADANI

✉ Email address:

ssohrabmadani@gmail.com

smadani2@illinois.edu

 [LinkedIn](#)

Education

2020–Present	Ph.D. in Electrical and Computer Engineering <i>University of Illinois at Urbana-Champaign</i> , GPA: 4.0/4.0 Supervisor: Haitham Hassanieh
2018–2020	M.Sc. in Electrical and Computer Engineering <i>University of Illinois at Urbana-Champaign</i> , GPA: 4.0/4.0 Supervisor: Haitham Hassanieh
2013–2018	B.Sc. in Electrical Engineering (Communication Systems Branch) <i>Sharif University of Technology</i> , Tehran, Iran B.Sc. in Pure Mathematics <i>Sharif University of Technology</i> , Tehran, Iran

Research Interests

- Wireless Networking and RF systems
- Applications of machine learning in wireless sensing and digital health
- Theory of Machine Learning

Honors and Awards

- **Ranked 6th** in Konkoor (Iran University entrance exam for B.Sc. Degree) among **more than 250,000 participants**, Summer 2013.
- **Second Prize** in IMC ([International Mathematics Competition for University Students](#)), 2017.
- **Silver medal** (ranked **4th among 180 contestants**) in the [41st Iranian Mathematical Competition for University Students](#), 2017.
- Ranked **2nd** in total GPA (Mathematics) Sharif University of Technology, 2017.
- Ranked **2nd** in Communications branch among more than 50 students, and **4th** in total among more than 200 EE students, 2017.
- Dean's List of Distinguished Students in Electrical Engineering College, Sharif University of Technology, 2016–2018.
- Fellowship of the [Iran National Elites Foundation](#) 2012–2018.

Publications and Research

[Accepted to NSDI'21] **Sohrab Madani**, Suraj Jog, Jesus Omar Lacruz, Joerg Widmer, Haitham Hassanieh. “Practical Null Steering in MillimeterWave Networks”

- Developed the practical system that can create nulls in mmWave phased arrays.
- Introduced a theoretically optimal algorithm to create nulls.
- Built and evaluated our system on commercial phased arrays at 60 GHz.

[CVPR'20] Junfeng Guan, **Sohrab Madani**, Suraj Jog, Haitham Hassanieh, Saurabh Gupta. “Through Fog High Resolution Imaging Using Millimeter Wave Radar.” IEEE Conference on Computer Vision and Pattern Recognition, 2020.

- Designed and trained a Generative Adversarial Networks (GAN) model for RF image enhancement
- Implemented super-resolution radar image processing algorithms

Experience

June 2020 – Present	Research Intern at MIT Media Lab Dr. Fadel Adib Project: Design and implementation of machine learning systems for robust stress monitoring using wireless signals. I lead the machine learning and signal processing part of the project.
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Fall 2019	Teaching Assistant at UIUC Dr. Haitham Hassanieh Course: Communication Networks
Summer 2020	Teaching Assistant at UIUC Dr. Haitham Hassanieh Course: Wireless Communications

Skills

Programming	Python C++ MATLAB Java
ML Frameworks	PyTorch TensorFlow

Courses

Networking: Computer Networks, Advanced Wireless Networks, High-Speed and Programmable Networks, Network Coding and Applications

Math: Real analysis (I, II), Algorithms, Stochastic Processes (Math Dept.), Linear Algebra, Advanced Graph Theory, Algebraic Graph Theory, Abstract Algebra (I, II, III), Number theory

ML: Pattern Recognition, Statistical Learning Theory