

# Yamini Shankar

cs22d002@cse.iitm.ac.in

Ph.D. Scholar specializing in wireless sensing, adversarial defenses, and resource-efficient network systems

Dept. of CSE, IIT Madras

Making devices smart, literally!

[Github](#) [LinkedIn](#) [Scholar](#)

## RESEARCH STATEMENT

My research leverages Wi-Fi channel state information (CSI) for physical context sensing, such as human activity and object detection, with a focus on privacy implications and resilience against adversarial sensing. I have developed an SDR-based testbed with a customizable 802.11 stack for real-time sensing experiments. Currently, I explore optimizing network resource utilization in edge-assisted wireless sensing

## EDUCATION

*Indian Institute of Technology, Madras - Ph.D (CSE) 2022 – Ongoing*

*Jawaharlal Nehru University, New Delhi - M.Tech (CS & IT) 2020 – 2022*

*Central University of Haryana, Haryana - MCA 2017 – 2020*

*St. Anthony's College, NEHU, Shillong, Meghalaya - B.Sc. (CS) 2014 – 2017*

*Class 12th, KV NEHU, Shillong, Meghalaya - 2014*

*Class 10th, KV NEHU, Shillong, Meghalaya - 2012*

## PUBLICATIONS

### **Practical Defense Against Adversarial WiFi Sensing(IEEE ANTS 2024)**

Developed a black-box defense reducing classification accuracy while maintaining high throughput and SNR reliability.

### **Improving Network Resource Utilization for Distributed Wireless Sensing Applications (ACM AIoT@MobiHoc2024)**

Proposed CSI compression and subsampling methods, evaluated on indoor and outdoor testbeds, achieving significant resource savings.

## EXPERIENCE

### **Research:** SeNSE Lab, IIT MADRAS

Built a SDR based testbed for wireless sensing, 2 conference publications

### **Teaching Assistant:** Developed and graded assignments for 100+ students

TA for **CS3205**, **CS2030**, and **CS6040**: Guided 100+ students, developed course materials, and graded assignments.

Recognized as "**Best TA**" for contributions in CS2030 (2023) and CS3205 (2024).

## SKILLS

**Programming:** Python, C, C++, PyTorch, NS-3.

**Tools:** SDR platforms, MATLAB, Wireshark.

**Research:** Wireless sensing, adversarial defenses, CSI processing.