Yamini Shankar

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RESEARCH SUMMARY

- **Doctoral Focus Area: *Wireless Sensing***
  Understanding adversarial use cases and network implications of wireless sensing technologies and its potential implications on security/privacy for resource constrained IoT devices.
- **Master's thesis** at JNU involved designing and implementing optimization algorithms for computation offloading and service placement for Edge networks. [1 journal publication]
- Additionally, a semester long (Jan - May, 2020) **research internship** at MNNIT, Allahabad gave me hands-on expertise on network simulators and dealing with real systems.

EDUCATION

- **Indian Institute of Technology, Madras** - *Ph.D (CSE)*
  2022 – Ongoing
- **Jawaharlal Nehru University, New Delhi** - *M.Tech (CS & IT)*
  2020 – 2022 (87.0%)
- **Central University of Haryana, Haryana** - *MCA*
  2017 – 2020 (78.1%)
- **St. Anthony's College, NEHU, Shillong, Meghalaya** - *B.Sc. (CS)*
  2014 – 2017 (73.87%)
- **Class 12th, KV NEHU, Shillong, Meghalaya** - *2014 (74.33%)*
- **Class 10th, KV NEHU, Shillong, Meghalaya** - *2012 (9.2 CGPA)*

PROJECTS

Research Progress - Leveraging Wi-Fi channel state information for learning physical contexts, e.g., human sensing, object detection etc. My long term goal is to understand the **privacy implications** of such sensing and making wireless networks **resilient to adversarial sensing**. I have set up a SDR based wireless testbed running a fully customizable and open-source 802.11 stack that is able to run simple sensing algorithms in real-time.

Service Placement with Multiple Objectives in Fog Computing Environment using Particle Swarm Optimization, JNU

- Investigated the Service Placement Problem (SPP) in Fog.
- Optimized multiple objectives – service spread, energy efficiency and resource utilization subject to resource constraints using PSO in SPP.

Publication: Kumar, Dinesh, Gaurav Baranwal, **Yamini Shankar**, and Deo Prakash Vidyarthi. "*A survey on nature-inspired techniques for computation offloading and service placement in emerging edge technologies.*" *World Wide Web* (2022): 1-59.

Courses

- Wireless Communication and Networks (1st sem)
- Linear Algebra and Random Processes (1st sem)
- Smart Sensing for Internet of Things (2nd Sem)
- Communication Networks for IoT (2nd Sem)
- Pattern Recognition and Machine Learning (2nd Sem)

TECHNICAL SKILLS

Programming/Scripting: C, C++, Python, MATLAB
Hardware Exposure: Software Defined Radios, FPGAs, Microcontrollers

EXTRA CURRICULAR

Debating: Awards in *National Youth Parliament* (UNDP-2018), *Red Cross Society* (Narnaul, 2019),
Annual Youth Festival (Kurukshetra, 2019)
Music: I play the guitar and ukulele and am deeply interested in music.

VOLUNTEERING

- NPTEL GATE CSE Portal (Subject Matter Expert)
- Outreach Program by St. Anthony's College,Shillong (for teaching rural students basic IT skills) - 2015, 2016.