Rohan Menon

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An engineering graduate with a focus on embedded devices, software development, and networking who loves working on challenging problems in fast-paced collaborative teams.

Education

University of Washington Sep 2021 - Dec 2023
B.S. Electrical and Computer Engineering

Relevant coursework: *The Hardware/Software Interface · Signals, Systems, and Data · Computer Architecture · Computer Networks · Network Security and Cryptography · Digital Imaging Systems*

Experience

Research Assistant Feb 2022 - Mar 2024
UW Sensor Systems Laboratory with Joshua Smith

WISP · rohanmenon.com/s/wisp - a family of batteryless sensors that are powered by and communicate entirely through UHF RFID power harvesting and backscatter.

- Developed hardware and embedded firmware for a new, modular, generation of WISP devices.
- Created a companion cross-platform desktop application to collect and visualize data from WISP.
- **R. Menon**, R. Gujarathi, A. Saffari, J. Smith, "Wireless Identification and Sensing Platform Version 6.0", EnsSys 2022

Deep Contact Graph Routing · rohanmenon.com/s/dcgr - a collaboration with Astrobotic, developing new routing protocols for the Moon, funded by a NASA ESI grant.

- Built ray-tracing based, GPU-accelerated, simulator for modeling RF propagation between agents.
- Created open-source framework for simulating networking between mobile agents.
- D. Ta, **R. Menon**, J. Taggart, A. Tettamanti, S. Feaser, P. Torrado, J. Smith, "Roaming DTN: Integrating Unscheduled Nodes into Contact Plan Based DTN Networks", CCAA 2023

Projects

Resonant · rohanmenon.com/s/resonant Nov 2020 - Jun 2021
A system to localize and identify ambient noises and present them to a user through a wearable display.

- Developed a 3D sound localization algorithm using a microphone array with phase shift estimation and created a heads-up display to communicate this information to a user.

Aquametric · rohanmenon.com/s/aquametric Oct 2018 - Dec 2020
Low power, cellular-based, stream and river monitoring devices. Won a Hackaday Bootstrap Award and was a finalist for the Hackaday Prize 2020, an international competition for open-source electronics.

- Used power gating and aggressive sleep states to extend its battery life to one year in the field.
- Developed firmware enabling features like OTA updates and a variable sensor uplink cadence.

Skills

Hardware
- Digital (incl. Verilog) and analog circuit design
- PCB design, rapid prototyping
- Cellular, LoRa, RFID communication

Software
- Python, Rust, C/C++
- Frontend dev (JS, React, web design)
- Embedded firmware