

Ishaan Salian

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Computer Engineering graduate with hands-on experience in embedded platforms, motor control, and low-power system design. Proven track record of leading technical projects from PCB design to full robotic and IoT implementations.

Education

University of Massachusetts Amherst

Bachelor of Science in Computer Engineering

Amherst, MA

Graduated May 2025

- **Awards:** Chancellor's Award (\$56,000), Dean's List

- **Coursework:** Digital Design, Systems Programming, Networked Embedded Systems, Low Power Embedded Systems, Computer Architecture, Synthesis and Verification of Digital Systems, Electronic Circuits, Artificial Intelligence

Technical Skills

Programming: C, C++, Python, Verilog, MATLAB, Bash

Embedded Platforms: ESP32, Raspberry Pi, Arduino, nRF52832, ATTiny85, DE1-SoC

Hardware/Tools: KiCad, Altium, Fusion 360, Oscilloscope, GDB, PLCs, BLE, I2C, SPI, UART, Soldering

Software/DevOps: Git, RTOS, OpenCV, Linux, Quartus Prime, Yosys

Experience

Coherent Corp.

Controls and Electrical Engineering Intern

East Granby, CT

June 2024 - August 2024

- Supported control system upgrade for fiber draw tower; implemented PID tuning and Allen-Bradley PLC ladder logic
- Identified and fixed a logic bug causing fiber length errors, improving product consistency and yield
- Independently proposed and prototyped a custom alcohol drip delivery system to reduce friction on capstan belts

Riccio College of Engineering

Undergraduate Teaching Assistant

Amherst, MA

Various Courses

- Assisted in courses such as Physical Computing, ECE Junior Design Project, Security Engineering
- Guided students in bare-metal programming, secure computing, encryption/decryption, and hardware integration

Projects

Autonomous Workspace Organizer Robot | *KiCad, Fusion 360, BLE, Object Detection*

Senior Design Project

- Identified a common desk clutter problem and proposed a robotics-based solution for organization as a capstone project
- Led hardware design by creating a custom ESP32-based PCB and 3D-printed robot body with servo-actuated tracks
- Architected BLE communication between the robot and an overhead camera running object detection with OpenCV

Weather Monitor Station | *C, Nordic nRF52832, ePaper display*

April 2025

- Designed an outdoor weather monitor to track environmental data and predict storms using barometric pressure trends
- Customized Nordic SDK firmware to periodically sample sensor data, enter deep sleep mode, and wake via interrupts
- Chose an ePaper display for low-power, always-on data visualization, balancing readability with energy constraints

Campus Compass | *Python, OpenAI API, Git version control*

November 2024

- Developed an LLM-powered personalized meal recommendation system based on dietary preferences and availability
- Led backend development using real-time data from UMass Dining APIs achieving 82% alignment with preferences

keyRING, a Smart Key Holder - HackUMASS XI | *Arduino Uno, Embedded C*

November 2023

- Prototyped a system for key sensing using a spring-like mechanical switch and sonar sensor for detecting door movement
- Programmed the ATmega328P using C to communicate with the switch to detect keys using digital interrupts
- Recognized with the 'Cheapest Hardware Hack' award for delivering a functional prototype under budget constraints

Organizations

Liaison - Institute of Electrical and Electronics Engineers (IEEE)

March 2024 - March 2025

- Organized 5+ joint events with engineering orgs, helping create collaborative spaces for technical talks and workshops

Electronics Co-Lead - UMass Mechatronics Team (ASME)

September 2023 - May 2024

- Co-led electronics integration for a competitive mini-golf robot, including motor control and Bluetooth-based input
- Represented the team during design reviews and competition presentations; contributed to the team's top-5 placement
- Worked closely with mechanical and software teams to synchronize movement, aiming, and power efficiency