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 **Amherst, MA**
Bachelor of Science in Computer Engineering **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. **East Granby, CT**
Controls and Electrical Engineering Intern **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

Department of Electrical and Computer Engineering **Amherst, MA**
Undergraduate Teaching Assistant **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