Ishaan Salian

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Detail-oriented and adaptable Computer Engineering Junior, proficient in Python and C, with a keen interest in embedded systems and PCB design. Seeking Summer 2024 opportunities to leverage skills in dynamic engineering environments.

Education

University of Massachusetts Amherst **Amherst, MA**

Bachelor of Science in Computer Engineering **Expected May 2025**

- **Awards:** Chancellor's Award, Dean's List
- **Coursework:** Hardware Organization & Digital Design, Modeling and Verification of Embedded Systems, Security Engineering, Systems Programming, Reverse Engineering, Vulnerability Analysis, Data Structures & Algorithms

Technical Skills

Languages: Python, Java, Embedded C/C++, RISC-V, MATLAB, Assembly, Verilog, VHDL, HTML
Technologies: Arduino, BeagleBone, ATmega328P, SPICE, KiCAD (PCB design & schematics), Git, Unix, Linux, Shell
Others: Soldering, Multimeters, Oscilloscopes, GPIO, ADC, I2C, MatplotLib, Numpy, LaTeX, MS (Word, Excel, PowerPoint)

Projects

TinyTemp - Digital Thermometer | *KiCAD, Embedded C, ATtiny85* **March 2024**

- Designed a compact PCB using KiCad, achieving a 33% size reduction with a compact 2 sq. inches design.
- Implemented power-saving algorithms in embedded C by sampling temperature values only when necessary.
- Built the project at 76% of the cost requirements, demonstrating effective cost management and resource optimization.

TravelTime, Real-time Bus Information Display - Hack(H)er413 | *Arduino Mega, ESP8266* **February 2024**

- Developed a system that displays transit information by utilizing public transit API.
- Integrated Arduino Mega and ESP8266 using serial communication for real-time bus updates leveraging SPI.
- Implemented 7-segment displays for timings and an LCD screen for clear presentation of bus information using UART.

keyRING, A Smart Key Holder - HackUMASS XI | *Arduino Uno, Embedded C* **November 2023**

- Designed a system for sensing keys using a spring-like mechanical switch and sonar sensor for door movement.
- Programmed the ATmega328P using C to communicate with the switch for key detection using interrupts.
- Awarded "Cheapest Hardware Hack" for a cost-effective design with 97% positive feedback from 50+ students.

Email Spam Detection using Naive Bayes Algorithm | *Python, MATLAB* **April 2023**

- Developed a script utilizing scipy.io and NumPy libraries to implement a Naive Bayes classifier for spam detection.
- Applied Bayesian principles to train the classifier on training dataset to effectively calculate probabilities.
- Achieved an accuracy rate of 94.1% with trained model on test data consisting of new, unseen emails.

Experience

College of Engineering **Amherst, MA**

Student Tutor **August 2023 - Present**

- Provided tutoring and academic support for MATLAB and Python to a diverse range of engineering majors.
- Adapted to students' varying learning styles and levels of proficiency to tailor explanations to individual needs.

New Student Orientation and Transitions **Amherst, MA**

Orientation and Transitions Leader **March 2023 - March 2024**

- Led over 20 student groups, tours, and presentations, both in-person and online, fostering student connections.
- Mentored a cohort of over 600 incoming students, contributing to their successful adjustment to university life.

Activities

Liaison - Institute of Electrical and Electronics Engineers (IEEE) **March 2024 - Present**

- Elected Liaison for the UMass IEEE Chapter to facilitate communication between Engineering Societies on campus.
- Coordinating with the executive board to plan events throughout the semester.

Electronics Lead - American Society of Mechanical Engineers (ASME) **September 2023 - Present**

- Implementing Arduino Mega to make a mini golf robot for the 2024 ASME Student Design Competition.
- Employing troubleshooting methods and debugging skills to ensure successful testing and prototyping of the robot.
- Designing algorithms for precise maneuvering, and motor control with GPIO and Bluetooth modules.