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, Fusion 360, Numpy, LaTeX, MS (Word, Excel, PowerPoint)

Experience

Coherent Corp. **East Granby, CT**

Controls/Electrical Engineering Intern **June 2024 - August 2024**

- Resolved technical faults in control systems by recalibration and troubleshooting hardware faults. Applied systematic problem-solving techniques to maintain equipment reliability.
- Troubleshot and optimized Allen Bradley PLC programming, reducing fiber length error and decreasing fiber wastage.
- Led installation of chemical sensors, including mechanical mounting, electrical interfacing, signal calibration and validation testing to enhance system accuracy.
- Conducted thorough safety audits, identifying critical issues and implementing actions to enhance workplace safety. Documented and tracked missing and needed parts, ensuring compliance with safety standards.

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.

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.

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.

Organizations

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.
- Utilized troubleshooting and debugging to ensuring precise motor control with GPIO and Bluetooth modules.
- Achieved 5th place in the initial round and securing a top 5 overall finish in the Competition.