

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 opportunities to leverage skills in dynamic engineering environments.

Education

University of Massachusetts Amherst

Bachelor of Science in Computer Engineering

Amherst, MA

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, Wonderware, SPICE, KiCAD (PCB design & schematics), Unix, Linux

Others: Soldering, Multimeters, Oscilloscopes, Quartus Prime, GPIO, ADC, I2C, SPI, UART, Fusion 360, Git, Shell

Experience

Coherent Corp.

Controls/Electrical Engineering Intern

East Granby, CT

June 2024 - August 2024

- Resolved control system faults by recalibrating and troubleshooting hardware, enhancing equipment reliability.
- Optimized Allen Bradley PLC programming, decreasing error and reducing optic fiber wastage by 5%.
- Installed chemical sensors on Nextrom lathes, improving process monitoring and safety.
- Conducted safety audits on control cabinets, identifying critical issues for safer access during maintenance.

University of Massachusetts Amherst

Student Tutor

Amherst, MA

August 2023 - Present

- Provided tutoring for MATLAB and Python to engineering majors.
- Cultivated an inclusive environment for diverse learning styles.

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 digital 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

- Fostering inter-society cooperation, enhancing campus-wide engineering initiatives.
- Developing creative strategies to bridge communication gaps between engineering societies.

Electronics Lead - American Society of Mechanical Engineers (ASME)

September 2023 - Present

- Led electronics development for mini golf robot in 2024 ASME Student Design Competition, securing top 5 finish.
- Utilized I2C for precise motor control using an XBOX controller via bluetooth.
- Collaborate with matrixed team to enhance robot functionality, ensuring competitive performance.