Vasishta Malisetty

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EDUCATION

Northeastern University (Boston, MA) Sept 2022 – May 2026
Candidate for Bachelor of Science in Electrical and Computer Engineering **GPA**: 3.88
Coursework: Electronics, Circuits & Signals, Algorithms, Digital Design, Embedded Design, Networks, Linear Systems
Activities: Generate Product Development Studio, John Martinson Honors Program, Eta Kappa Nu, Intramural Soccer
Interests: Pittsburgh Steelers, Chelsea FC, Chess, Food, Video Games, Hiking, Basketball, Board Games

WORK EXPERIENCE

Amazon Robotics Jan 2025 – Present
Hardware Development Engineering Co-op North Reading, MA

- Develop a CAN bridge in C++ with CMake to debug a sensor board PCBA, enabling data transfer to the SoM via UDP
- Created sensor drivers in Python to automate data collection from test fixtures using ModbusTCP and IO-Link, validating compact vacuum pumps with 32% greater accuracy and saving Amazon 70+ hours per tested pump
- Analyzed 263,000+ end effector inducts using Python to parse robot telemetry data and calculate end effector kinematics, refining future end effector design requirements and reducing robot damage

Raytheon Jun – Aug 2024
Systems Integration Engineering Intern Marlborough, MA

- Developed MATLAB simulations using waypoint data to evaluate the SPY-6 radar's ability to identify and track common electronic attack patterns, neutralizing the effects of these attacks on the radar
- Created Jenkins-based simulations to debug SPY-6 naval radar software, reducing radar testing expenses

Philips Jan – Jun 2024
Hardware Test Engineering Co-op Andover, MA

- Automated hardware lifecycle test fixtures with LabVIEW, qualifying healthcare patient monitor products against international reliability standards and saving Philips over 170 hours per product requiring validation
- Designed wire harnesses to integrate a 4-wire digital multimeter, load cell, and power supply with a PCBA, automating the collection of insertion force and contact resistance data for 20,000+ mechanical cycles
- Developed five drivers using LabVIEW to control relays, linear actuators, and DC motors with USB, GPIB, and COM ports

PROJECT & LEADERSHIP EXPERIENCE

PlaitPilot | Electrical Engineer | Altium, Buck Converter, LDO, I2C, C++ | GitHub Jan 2025 – Present

- Create an automated machine that reduces hair braid extension preparation time from hours to seconds
- Design the power electronics subsystem in Altium with buck converters and LDOs, efficiently powering peripherals
- Develop a C++ driver for Adafruit's VL6180X sensor to enable distance data collection with an ESP32 over I2C

Sensify | Lead Electrical Engineer | I2C, SPI, UART, ESP32, Multimeter, Oscilloscope, KiCad | GitHub Aug – Dec 2024

- Led a team of 12 engineers in the development of Sensify, a modular VR controller that enhances training simulations
- Designed 3 PCBAs with KiCad, producing a functional prototype with real-time haptic feedback, USB-C charging, and hot-swappable peripherals using an ESP32 to communicate with sensors via I2C, SPI, and UART protocols
- Debugged PCBA connections and signals with an oscilloscope and multimeter, ensuring successful operation

C-STAR | Electrical Engineer | C++, FreeRTOS, DC Motors, Encoders, ESP32 Microcontroller | GitHub Jan – Apr 2024

- Built C-STAR, an autonomous concrete sounding robot that detects delaminations in concrete structures
- Designed a PCBA with KiCad for precise PWM control of brushed DC motors using an ESP32 and H-Bridge motor drivers
- Programmed PID algorithms with C++ and FreeRTOS to handle encoder interrupts and control robot movement

SEBIK | Electrical Engineer | KiCAD, Arduino, Pneumatics, DFMEA, C++ | GitHub Sept – Dec 2023

- Developed SEBIK, an automated table top injection molder that produces 1 common medical product every 4 minutes
- Designed a PCBA with KiCad to control pneumatic piston actuation using N-channel MOSFETs and an A
- Initiated a DFMEA on the pneumatics subsystem and implemented C++ exception handling, enhancing user safety

TECHNICAL SKILLS

Hardware: Circuit Design, PCBA Design, Oscilloscope, Multimeter, Function Generator, Soldering, Arduino, IO-Link
Software: C++, Python, Altium, KiCad, MATLAB, LabVIEW, PSpice, Git, CMake, Linux, SystemVerilog, Xilinx Vivado, Quartus Prime