Akshaya Naapa Ramesh

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EDUCATION

University of Michigan, Ann Arbor, MI — December 2025

Bachelor of Science in Engineering in Computer Engineering

GPA: 3.78/4.00

Activities: Michigan Mars Rover Team, Girls in EECS, Arts Chorale

Honors: Dean's List (All Semesters), NCWIT Aspirations In Computing: National Honorable Mention (2022)

Relevant Courses:

Advanced Embedded Systems, Embedded Control Systems, Digital Integrated Circuits, Data Structures and Algorithms, Introduction to Computer Organization, Logic Design, Introduction to Electronic Circuits, Signals & Systems, Computer Science Pragmatics (UNIX Tools & Scripting)

PROJECT EXPERIENCE

Michigan Mars Rover Team, University of Michigan, Ann Arbor, MI,

Embedded Hardware & Software Team Member — Aug. 2022 - Present

- Designed 24v-converter and brushed dc motor controller printed circuit boards on Altium to assist power distribution and motor control of various components of Rover
- Assisted team in schematic design and layout of a CAN transceiver to aid Mrover's transition to CAN communication protocol
- SMD soldered and assembled PCBs integral to rover operations
- Debugged several brushed dc motor controller boards to ensure their functionality in the rover arm.

WORK EXPERIENCE

General Motors, Inc., Warren, MI,

Software Engineering Intern — June 2024 - Present

- Fixed various PowerBI dashboards on EV vehicle power distribution systems
- Built wire-harness tape optimization application to optimize function and profit

Supplemental Instructruction Leader, University of Michigan, Ann Arbor, MI,

Programming & Introductory Data Structures (C++) — Aug. 2023 - Present

- Conducted weekly lectures reviewing course topics and project overviews
- Taught students the basics of Git and debugging

SquareTrade, Inc., Remote

Fullstack Software Engineering Intern — June 2023 - Aug. 2023

- Built consumer electronic warranty replacement portal in Angular & Spring Boot
- Designed algorithm that matches original product to replacement options from potential business partners' APIs

PROJECTS | Github: https://github.com/akshayanr

Automated Pill Dispenser (EECS 373 Final Project) | STM32L4R5ZI MCU, Arduino Uno, ILI9488 TFT (SPI)

- Built automated pill dispensing system with biometric security system, touch display, and pill scanning features
- Designed Custom User Interface & Graphics on ILI9488 TFT display with SPI Communication
- Configured Pixy2 Camera with SPI Communication to build pill scanning mechanism
- Developed fingerprint management system with Arduino Uno using UART communication with fingerprint sensor

4-Function Calculator | Verilog, Quartus Prime, ModelSim, Altera DE2-115

- Built an RTL sequential calculator in Verilog that performs addition, subtraction, multiplication, and division
- Implemented ripple carry adder and Booth's multiplication algorithm with error checking
- Tested design through testbench simulations on ModelSim and manual operations on Altera DE2-115

Dorm Security Lock System | Verilog, Quartus Prime, ModelSim

- Created an RTL security lock system in Verilog that takes in 8 digit student ID and opens access if valid ID
- Developed edge case test benches and simulated design in ModelSim

Lung Cancer Classifier (Medlytics Research Project) | Pandas, Scikit-learn, Keras, CSS, HTML

- Developed machine learning classifier using VGG-19 transfer learning model and 15000 lung tissue images
- Generated data augmented histopathological images using ImageDataGenerator for training classifier

SKILLS

- **Software/OS:** C/C++, System Verilog/Verilog, Python, Matlab, Java, Java Script, Windows, MacOS, Linux, UNIX, SQL
- **Digital Design:** FPGA, ARMv7 ISA
- **Applications**: Altium, ModelSim, Git, Quartus Prime, STM32Cube, LTSpice, Docker, Jupyter Notebook, Android Studio, Angular, SpringBoot, Jira
- **Equipment:** STM32 Nucleo Dev Board, Arduino, Logic Analyzer, Oscilloscope, SMD Soldering
- **Certifications:** Fundamentals of Verification and System Verilog (Udemy), Learning FPGA Development (LinkedIn Learning), Android Basics (Udacity)