Akshaya Naapa Ramesh

Littleton, MA 01460 | akshayan@umich.edu | (978) 501-4570 | https://akshayanr.github.io/portfolio/

EDUCATION

University of Michigan, Ann Arbor, MI — April 2026
Bachelor of Science in Engineering in Computer Engineering
GPA: 3.86/4.00
Activities: Michigan Mars Rover Team, Girls in EECS, Arts Chorale
Honors: Dean's List - Fall 2022, Winter 2023, NCWIT Aspirations In Computing: National Honorable Mention (2022)
Relevant Courses:
Data Structures and Algorithms, Introduction to Computer Organization, Logic Design, Introduction to Electronic Circuits, 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
- Drafted requirements and designed 24v-converter printed circuit board on Altium Designer to assist power distribution of the Mars 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
- Learning to program STM32 Nucleo Dev Boards as new Embedded Software member (Fall 2023)

Pre-College Research Institute, Harvard University, Cambridge, MA
Social Sciences Student & Researcher — June 2021 - Aug. 2021
- Proposed research project: Analyzing Twitter Ethnographies on Viewpoints on World Hunger.

MIT Beaver Works Summer Institute, MIT Lincoln Laboratory, Lexington, MA,
Medlytics Student & Researcher — Jan. 2020 - Aug. 2020
- Built custom machine learning model that classifies lung cancer from lung tissue images.
- Developed user interface of classifier in Flask framework for medical professionals

WORK EXPERIENCE

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

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) | Python, 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++, Verilog, Python, Java, Java Script, Windows, MacOS, Linux
- **Digital Design:** FPGA, ARM ISA
- **Applications**: Quartus Prime, ModelSim, STM32CUBE, Git, Altium, Docker, Jupyter Notebook, Android Studio, Angular, SpringBoot, Jira
- **Equipment:** SMD Soldering, STM32 Nucleo Dev Board, Oscilloscope
- **Certifications:** Learning FPGA Development (LinkedIn Learning), Android Basics (Udacity)