Arya Rahmanian

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Education

Texas A&M University BS Computer Engineering w/ Minor in Mathematics — December 2023
Final GPA: 3.7 / 4.0, Graduated Cum Laude

MS Computer Engineering — December 2025
Current GPA: 4.0 / 4.0

Relevant Coursework: Machine Learning, Data Structures and Algorithms, Signals and Systems, Computer Architecture, Computer Systems, Operating Systems, Programming Languages, Microprocessor System Design, Information Theory and Learning Algorithms, Discrete Math

Relevant Technical Skills

- **Python** in a **Machine Learning** setting; Created a **CNN** using **PyTorch** and **SciKit-learn** with the fashion-mnist dataset to classify images of clothing with 90% accuracy.
- **PostgreSQL**, **JavaScript**, **JavaFX,** and **Git** to create a database and GUI for a fast food restaurant.
- **HTML/CSS** and **JavaScript** to create a web app that plans camping trips at national parks using **Agile** development. Used JavaScript to work with several API's. **Heroku** to set up website hosting.
- **C++** in socket programming using **TCP/IP** protocols.
- **ARM** and **C** on a Raspberry Pi 4; Built a single cycle ARM-based processor in **Verilog**.
- **Xilinx FPGA** boards using **Verilog** and **C**; Built several **Finite-State-Machines,** such as creating a stoplight.
- **Vivado** with **Xilinx Zybo** board to create Zynq based microprocessor system to run **Linux** on the **FPGA** board and created built in modules to the OS.
- Built **AWS** web application that visualizes and tracks satellites; **WebGL Globe** with **AWS Lamba** and **EC2** to build the web app seen here.
- Co-wrote a literature survey on **SIMD** extensions and modern ISA techniques. Currently doing research into a comparative analysis of different **SIMD** extensions currently available.

Personal Projects

- **Python** to create a virtual assistant on a **Raspberry Pi** to summarize daily google calendar tasks, weather, news headlines, and more.
- **Raspberry Pi** and "**Pi-Hole**" to build a network-wide ad blocker for personal use.
- **PyTorch** and **TensorFlow** to build a **CNN** AI image detection model with 80% accuracy and 0.69 F1 score.
- **JavaFX** Connect-4 with two different opponent modes, random placement and "smart AI".

Work Experience

Strike Photonics – *Computer Engineering Intern* — *May 2023 – August 2023*
Strike Photonics is an innovative startup specializing in the development of groundbreaking photonics chips.

- Aided in development of firmware on the custom laser and temperature control board using the **TI MSP430** microcontroller to control the I/O including regulation of laser power. Tools utilized: **Assembly**, **C.**
- Updated the electrical schematic of the Laser Temp Control Board PCB to create the next cycle of the circuit board currently being used.
- Created the company-wide **Git** server through a **Dell PowerEdge R710** with **Ubuntu** 22.04 that is still in use.
- Established a Group Office file storage server for internal application; Consolidated file sharing and distribution to cut cloud-based storage subscription costs.

Chemours – *Electrical Engineering Co-op* — *August 2022 – December 2022*
Chemours is a chemical company manufacturing advanced materials for electronics and semiconductors.

- Led two projects to replace a temperature transmitter and add a flow meter for a water pipe, cutting approx. one hour per day spent on the chemical process.
- Worked with the Distributed Control System and adjusted boiler parameters to improve energy production efficiency by approx. 5% overall
- Aided in developing **PLC** (Programmable Logic Controllers) and its **HMI** (Human-machine interface) to integrate new equipment into the control line.
- Set up and configured a new Rockwell 700 series Variable Frequency Drive.
- **Seeq** to analyze spikes in utility usage and predict future unexpected hikes.

Other Experience

Baha'i Club – *Vice President* — *October 2021- December 2023*

- Created and set up the Baha'i club at Texas A&M, focusing on community service.
- Organized monthly service events in the College Station area, partnering with food banks and conducting

projects for the elderly community.

TAMU IEEE – *Corporate Officer* *August 2022 – May 2023*

- Organized various opportunities for the Engineering student community, including corporate workshops, career development resources, guest speakers, and social networking events.