Arya Rahmanian

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Education

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

Allen High School Highschool Diploma — May 2019
Final GPA: 4.25 / 5

Technical Skills used on Projects

- Used **PostgreSQL**, **JavaScript**, **JavaFX,** and **Git** in a group programming project to create a database and GUI for a fast-food restaurant.
- Worked with **HTML/CSS** and **JavaScript** in another group project creating a web app that helps users plan a camping trip at a national park using **Agile** development. I was a backend developer for a website using JavaScript to work with several API's. Additionally, I helped with setting up the website hosting using Heroku.
- Used **C++** in data structures and introductory CS courses.
- Worked with **C++** in socket programming using **TCP/IP** protocols.
- Used **Python** in a **Machine Learning** setting. Created a **CNN** using **PyTorch** and **SciKit-learn** with the fashion-mnist dataset classify images of clothing.
- Computer architecture course that worked with **ARM** and **C** on a Raspberry Pi 4.
    - In the same course, I built a single cycle ARM-based processor in **Verilog**.
- Worked with **Xilinx FPGA** boards using **Verilog** and **C** in a digital system design course.
    - Built several **Finite-State-Machines,** one was recreating a stoplight.
- Used **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.
- Used **Seeq** to analyze spikes in utility usage at Chemours and predict future unexpected hikes.
- For my Capstone Project, we built an AWS web application that visualizes and tracks satellites around the globe. Used **WebGL Globe** with **AWS Lamba** and **EC2** to build the web app which can be accessed here.

Work Experience

Strike Photonics – *Computer Engineering Intern* May 2023 – August 2023

Strike Photonics is an innovative startup headquartered in Allen, Texas, specializing in the development of groundbreaking photonics chips utilizing Ramen Technology.

- At Strike, I worked on the firmware on their custom laser and temperature control board using the **TI MSP430** microcontroller to monitor and control all the peripherals such as the temperature on the CCD sensor using thermistors. Additionally, the MSP430 was also used to regulate the laser power to get the desired spectrogram. All the firmware was done in **Assembly** and **C.**
- Made changes to the electrical schematic for their Laser Temp Control Board PCB based on recommendations from the lead engineer I was working with to be sent to the PCB designer.
- Set up and initialized a **Dell PowerEdge R710** with **Ubuntu** 22.04 to be used as a **Git** server to store all the firmware, PCB files, and documentation of all the work complete and in progress.
- Leveraging the existing Ubuntu server, which served as the Git server, I established a Group Office file storage server for internal application, facilitating file sharing and version control functionalities.

Chemours – *Electrical Engineering Co-op* August 2022 – December 2022

A spin off from DuPont, Chemours is a global chemistry company manufacturing of advanced performance materials including Teflon and Nafion to be used in electronics and semiconductors.

- Worked alongside several experienced E&I engineers, shadowing and assisting them in their work.
- Was the lead in two CODs (change of design) projects to replace a temperature transmitter and add a flow meter for a water pipe.
- Learned about the site's automation working with the DCS (Distributed Control System) and adjusting it to help improve efficiency. Additionally, on occasion, worked with setting up a PLC (Programmable Logic Controllers) and its HMI (Human-machine interface) for new equipment.
- Assisted configuring a Rockwell 700 series Variable Frequency Drive.

Whole Foods - *Bakery Team Member* May 2022 – August 2022

- Worked at the coffee bar making drinks for customers.
- Prepared foods to put on sale.
- Engaged with customers to help with picking items from the display case.

Leadership Experience and Activities

Baha'i Club – *Vice President* *October 2021- December 2023*
The Baha'i club at Texas A&M is an organization focusing on serving our community. Once a month, we organize a service project somewhere in the Bryan/College Station area. One of our more recent endeavors was we helped at the local Brazos Valley Food Bank.

TAMU IEEE – *Corporate Officer* *August 2022 – December 2023*
IEEE offers a diverse range of activities tailored to students pursuing Electrical Engineering and Computer Engineering at A&M. These encompass corporate workshops, aiding members in their career development, as well as fostering a sense of community through social gatherings. In my role as one of the corporate officers, I play a pivotal part in liaising with industry partners and coordinating workshops, covering topics such as resume enhancement and discussions on our guest speakers' professional experiences.

Relavant Courses

- Linear Algebra
- Data Structures and Algorithms
- Discrete Math
- Signals and Systems
- Computer Architecture
- Intro to Computer Systems
- Operating Systems
- Programming Languages
- Microprocessor System Design
- Machine Learning
- Information Theory and Learning Algorithms

Relavant Personal Projects

- Created a virtual assistant using **Python** on my Raspberry Pi that texts me every morning with my personal day summary. I would receive a text of the weather for the day, the top news headlines from BBC with links to the articles and worked with my Google Calendar to breakdown my schedule and let me know of any assignments coming up.
- Set up a network-wide ad blocker with my Raspberry Pi and with "Pi-Hole". Configured it with my home network so that all devices on the network won't be seeing ads.
- Built the game "Connect-4" in **JavaFX**