

Saad Mufti

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Objective

Computer engineering major with an appetite for hard problems. Diverse background in embedded, web, and cloud software development. Driven to learn more, with graduate level ML coursework, and consistent success in FTC robotics at the national level.

Education

Georgia Institute of Technology | Atlanta, GA

Bachelor of Science in Computer Engineering, GPA N/A

August 2022 – Present

Expected Graduation: May 2024

Worcester Polytechnic Institute | Worcester, MA

Transfer with 90 Credit Hours, GPA 4.0 / 4.0

August 2021 – June 2022

Skills

Programming: Java, Python, C, JavaScript/Node.js, SQL, MATLAB, Swift, Kotlin, Verilog/VHDL

Platforms: Linux (Ubuntu, Debian, WSL), AWS (EC2, Load Balancing), GCP (Cloud Run, Firebase, Cloud Functions, App Engine)

Hardware: Raspberry Pi, ARM mbed microcontroller, LaunchPad, FPGAs, oscilloscope, logic analyzer, TI MSP430, Arduino

Software: Android Studio, XCode, Altera Quartus II, Git/GitHub, Flask, React.js, Docker, Express.js

Communication: Design proposals, technical/consulting reports, white papers, presentations (large and small audiences)

Experience

Yousefi Lab @ WPI | Worcester, MA

June – August 2022

Reinforcement Learning and Data Pipeline Researcher

- Researched and validated a reinforcement learning model that fit design requirements, and assisted in its development using the TensorFlow framework.
- Orchestrated development of a data pipeline using GCP tools (Pub/Sub, Dataflow, BigQuery, Vertex AI) to ingest, preprocess, and store neural data for training and running inference on a developed RL model.

Shoptaki Inc. | New York City, NY (Remote)

August 2021 – August 2022

Fullstack Engineer (Began as SWE Intern)

- Led full-stack (frontend + backend) development of a demo website for newcomers in data science, using ReactJS, Flask, Express, and Arango DB.
- Implemented CD pipelines in various development workflows using GitHub Actions and GCP Cloud Run/Build, minimizing errors in manual deployment.
- Assisted cloud migration of various AWS services to GCP with little to no impact to service or user experience.

Worcester Islamic Center | Worcester, MA

May – July 2020

Intern

- Spearheaded development of a native mobile app on Android (Kotlin) and iOS (Swift) to consolidate a non-profit's event and service information, using Firebase database tools and APIs from Facebook and Google Maps.
- Assisted in creating various graphic designs to communicate events using Adobe CC (Illustrator, Photoshop) and Office (Publisher) products.

Relevant Coursework

Data Structures and Analysis of Algorithms: Implementing and evaluating time complexity of Arrays, ArrayLists, Binary Search Trees (BSTs), Linked Lists, Stacks. Analysis of Graph based algorithms, searching/sorting algorithms, Dynamic programming, NP-Completeness, Linear Programming, Cryptography.

Machine Learning (WPI, Graduate Level): Markov Chains, Maximum Likelihood Estimation, Graphical Models, Gaussian Processes, Neural Networks, Reinforcement Learning, and building a deep mathematical foundation to understand them.

Programming HW/SW Systems: Design principles of procedural/sequential programming, C, and MIPS Assembly. Focus on performance and storage requirements of the target application and hardware platform.

Embedded Computing in Engineering Design: Embedded system design with C, microprocessor and microcontroller architecture, program development and debugging tools for a small target processor, hardware/software dependencies, use of memory mapped peripherals, design of event driven software, time and resource management, applications case studies.