NALIN MAHAJAN

UT Master CS Student

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EXPERIENCE

Summer SDE Intern

Amazon Web Services

May-Aug 2022 Seattle, WA

- Implemented and tested production ready and highly requested features for Application Load Balancer as an intern for the Elastic Load Balancing team. Utilized low level networking constructs with emphasis on TCP/TLS and the HTTP/2 protocols.

Summer R&D Intern

Trend Micro

Jun-Aug 2021 Austin, TX

- Spearheaded a PoC that shifted cloud services to a local on premise environment; utilizing Java EE, SpringBoot, Gradle, Tomcat/Apache Servers, and AWS. Accelerated plugin development on company services through the use of Swagger Templates and JS.

Peer Mentor

UT Austin

2020-2021 Austin, TX

- Encouraged and supported Freshmen College students to enter research as a part of the FRI program by providing guidance as a peer mentor.
- Engaged in ground breaking research as an undergraduate student conducted in the BWI Lab with a focus on the topic of HRI (Human-Robot Interaction).

Freshman Research Initiative

UT Austin Tides

2019-2021 Austin, TX

- Conducted research in the autonomous robotic stream. Learned to use ROS, C++, openCV and some ML tools such as tensorflow.

Westwood Warrior Robotics

Westwood High School

Sept. 2015 – May 2019 Austin, TX

- Engaged in networking with various local businesses and corporations in order to secure sponsors as well as grant money to run the team.
- Lead in programming in charge of designing and implementing programs to be run on the robots through a variety of software layers such as RobotC and Java frameworks. Projects were made by a team which utilized GIT as our preferred method of version control.

EDUCATION

Integrated Masters CS and BS Math

UT Austin

2019-2023 Austin, TX

- GPA: 3.98

PROJECTS

AIO Recursive File Copy on Linux

- A Project built in C using the aio and the new io_uring libraries to implement asynchronous recursive file copy by leveraging low level Linux optimizations.

SPH Demo

- A computer graphics demo written in C++ that implements a simplified version of SPH (Smoothed Particle Hydrodynamics) that simulates fluid as particles.

PoC running cloud services in Tomcat

- In order to reduce overhead I developed a PoC system for deploying cloud services to a Tomcat Server allowing all services to run containerized in a single JVM.

NBAToday Website

- Created a website as a team that supported stat tracking for the NBA. Utilizing react, Flask and postgresql.

Anticipatory Motion

- Created a VR environment that utilizes eye tracking and body tracking to identify cues for human pathing.

Natural Language Parser in C++

- An application that translates natural language utterances into lambda calculus expressions written in C++.

Point Cloud Stream Compresser

- A tool written in C++ integrated with ROS and OpenCV that compresses real time point cloud data.

CNN Fruit Recognition

- A CNN based classifier built in both Tensorflow and Pytorch that was trained on the fruit 360 database.

TECHNICAL SKILLS

- Versed in Python, C++, C, Java.
- Web Dev: JS, HTML, CSS, Flask, PostgreSQL, NGINX
- Experience with Gradle, Jave EE, SpringBoot

SOFTWARE SKILLS

- AWS CLI/SDK/CDK, Google Cloud Platform
- Data tools: numpy, Tensorflow, OpenCV, PyTorch
- GIT and other forms of version control