Sarim Aleem

281-904-5071 | sarimaleem99@gmail.com | linkedin.com/in/sarim-aleem | github.com/sarimaleem

Education

University of Texas at Austin Dec 2023

Bachelor of Science in Computer Science, Minor in Arabic *GPA: 3.86/4.0*

- **Relevant Coursework**: Distributed Computing, Operating Systems, Computer Graphics, Natural Language Processing, Machine Learning, Computer Networks, Algorithms, Compilers, Computer Architecture
- **Teaching Assistant**: Elements of Computers and Programming

Experience

Adobe May 2023 – Aug 2023

Software Engineer Intern *San Jose, CA*

- Created a real time distributed ML pipeline to store and retrieve fine-tune layers for 15,000+ models
- Developed a fastAPI webserver that asynchronously executes training and inference jobs
- Integrated PostgreSQL to store metadata about asynchronous jobs and fine-tune layers
- Benchmarked multiple caching strategies for efficient storage and retrieval of fine-tune layers, including: Redis, Azure Blob Storage, native file system, and interprocess shared memory buffer
- Containerized application using Docker and deployed scalably with Kubernetes

Fujitsu Network Communications Jun 2022 – Aug 2022

Software Engineer Intern *Dallas, TX*

- Developed web client in Java Spring to migrate network element data to CPS database from MongoDB
- Created CPS database schema to store NETCONF/RESTCONF data in YANG
- Configured network bridge in Docker files to enable cross-communication between 15+ microservices
- Migrated southbound interface from direct drivers to a software defined network controller
- Wrote shell scripts to automate container deployment and test REST endpoints

Baylor College of Medicine Jan 2021 – Aug 2021

Research Intern *Houston, TX*

- Built computer vision model in C++ to analyze mice pupil dilation size, 50x fasterthan deep learning model
- Programmed Tkinter GUI to edit audio files based on signal patterns and spectrogram
- Developed Python library to analyze and visualize pupil dilation of mice using Pandas and Matplotlib

Projects

Fluid Simulator | *C++, OpenGL*

- Implementation of 2D fluid simulator for incompressible fluids by using simplified model of Navier-Stokes
- Visualized velocity fields by creating real time vector field graph

Distributed Key-Value Store with Load Balancing | *Java, Distributed Systems*

- Created linearizable key value store that replicates data with fault tolerance using paxos
- Load balanced key-value workloads using sharded paxos replica groups

Multithreaded Ray Tracer | *C++*

- Implemented Whitted-style raytracer in C++
- Accelerated Ray tracer with K-d Trees and multithreading

Neural Network Transformer Encoder | *Python, PyTorch*

- Implemented transfomer encoder from scratch using PyTorch
- Measured entropy of transformer by using perplexity

Technical Skills

Languages: Java, Typescript/Javascript, C, C++, Python, Bash, SQL, HTML/CSS
Technology: MongoDB, PostgreSQL, Azure, Docker, Spring, Numpy, PyTorch

Activities

Texas Wrestling: Competed in wrestling tournaments
Central Texas Model UN: Helped organize Model UN conference for high schoolers