

# Sarim Aleem

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## EDUCATION

### University of Texas at Austin

Austin, TX | May 2024

B.S. COMPUTER SCIENCE, MINOR ARABIC, GPA: 3.83

**Coursework:** Data Structures, Algorithms, Computer Architecture, Operating Systems, Distributed Systems, Compilers, Computer Networks, Intro to Machine Learning

## WORK EXPERIENCE

### FUJITSU | SOFTWARE DEVELOPMENT INTERN

Dallas TX | Jun 2022 – Aug 2022

- Developed custom webclient to store network topology data in Configuration Persistent Storage database using Java Spring
- (alternative?) Migrated network element data storage platform from MongoDB to CPS using Java Spring
- Configured Docker files so microservices can communicate with each other in docker-compose
- (alternative?) Configured network bridge in Docker files in order for microservices to communicate with each other
- Migrated topological discovery of network elements from direct drivers to a software defined network controller
- Created bash scripts to automate container deployment and test REST endpoints
- Used Java reactive streams to load balance client requests from frontend and ensure requests are nonblocking (sounds fancier than it is)

### BAYLOR COLLEGE OF MEDICINE | RESEARCH ASSISTANT (RA)

Houston, TX | Jan 2021 - August 2021

- Created computer vision model in C++ to fit ellipses to pupils of mice, improving speed over deep learning model by 50x
- (alternative?) Created computer vision model in c++ to analyze mice pupil dialation size, faster than deep learning model by 50x
- Programmed Tkinter GUI to edit audio files based on signal patterns and spectrogram
- Developed Python library to analyze pupil dilation of mice
- Analyzed and Visualized Data with Pandas and Matplotlib

## PROJECTS

### MARKDOWN BASED CONTENT MANAGEMENT SYSTEM

GO, TYPESCRIPT, EXPRESS, MONGODB

- Created web server where users can upload markdown content using Go based Command line app
- Deployed Web server using GCP that converts markdown to HTML accessible through REST endpoints

### DISTRIBUTED KEY-VALUE STORE WITH LOAD BALANCING

JAVA, DISTRIBUTED SYSTEMS

- Created linearizable distributed key value Store which replicates data with fault tolerance using Paxos.
- Load balanced key/value workloads using sharded Paxos based replica groups

### PINTOS OPERATING SYSTEM

C, CONCURRENCY, OPERATING SYSTEMS

- Implemented Operating System with Thread Priority Scheduling, System Calls, Virtual Memory, and EXT based File System
- Debugged race conditions, deadlocks, memory errors, and other bugs using GDB

### MULTIPLAYER GOMOKU WITH AI

JAVASCRIPT, EXPRESS, WEB SOCKETS

- Created multiplayer website with communication through websockets
- Implemented single player mode with AI using Minimax with Alpha Beta Pruning for

### SORTING WEBSITE

REACT.JS, FIREBASE

- Created website to visualize sorting algorithms using React.js, deployed using firebase

## SKILLS

**Languages:** Java, C, C++, Python, Bash, SQL

**Web Development:** React, JavaScript, TypeScript, HTML/CSS, Express, Node

**Technology:** Git, SQL, Docker, L<sup>A</sup>T<sub>E</sub>X, MongoDB, Spring

## ACTIVITIES

**Central Texas Model United Nations** Organized Model UN conference for highschoolers across Texas

**Advancing UT Technology** Team leader for social media website to connect UT students

**Texas Judo** Participated in Judo contests