

# 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

Teaching Assistant: Elements of Computers/Programming

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 webclient in Java Spring to migrate network element data to CPS database from MongoDB
- 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 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

### BAYLOR COLLEGE OF MEDICINE | RESEARCH INTERN

Houston, TX | Jan 2021 - August 2021

- Built computer vision model in C++ to analyze mice pupil dialation size, 50x faster than 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

### 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 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

## SKILLS

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

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

Technology: Git, SQL, Docker,  $\LaTeX$ , 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