

Mohamed Hussein - Software Engineer

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Professional Experience

Software Engineer

HTMZ Corporation | 2023 - Present

- 2+ years of experience in full-stack software development with a focus on clean, maintainable, and scalable code.
- Proficient in front-end (HTML/CSS/JavaScript/React) and back-end (Java, Node.js) development.
- Skilled in database design and optimization using MySQL, SQL, and data modeling techniques.
- Experienced in cloud deployment using AWS, Docker, and Tomcat for scalable application delivery.
- Strong understanding of secure coding practices, RESTful APIs, and system architecture.
- Committed to testing and code quality, with experience in unit/integration tests and CI/CD pipelines.
- Excellent collaborator in Agile teams, participating in sprint planning, peer code reviews, and cross-functional development.
- Passionate about learning new technologies and solving real-world problems through software.

Education

Bachelor of Science in Computer Science

2021 - 2025

Queens College (City University of New York)

I focused on software engineering, algorithms, database systems, and AI-driven development. Emphasized hands-on learning, project-based work, and a strong foundation in computer science principles.

Skills

- Front-End Development: HTML, CSS, JavaScript, Bootstrap, React
- Back-End Development: Java, Node.js, Express
- Database Engineering: MySQL, SQL, ER Modeling
- Cloud Services: AWS, Apache Tomcat, Docker (basic)
- AI & Automation: Python, Agentic AI (Workshop), API Integration, Shell Scripting
- System Programming: C++, Semaphores, Multithreading
- Tools & Environments: Git, GitHub, VSCode, Eclipse, Linux, Windows

Projects

Huffman Coding in C++

Implemented a complete Huffman Coding algorithm in C++. Constructed an ordered linked list from character-frequency pairs, built a binary tree, generated Huffman codes, and implemented various tree traversals.

K-Means Clustering in C++

Developed a 2D K-Means clustering program in C++ using dynamic arrays. Clustered points into 3, 4, or 5 groups based on centroid proximity.

Java Servlet File Upload System

Built a Java Servlet for handling file uploads, deployed on Apache Tomcat with reverse proxy via Apache HTTP Server.

SQL Query Contribution System

Created a Java application allowing stakeholders to define problems, submit SQL queries, and search stored queries using a remote MySQL database.

Radix Sort in Java

Implemented Radix Sort using linked list queues and hash buckets to handle both positive and negative integers efficiently.

Lexical Analyzer and Syntax Parser in C++

Built a two-phase compiler front-end: lexical analysis using regex, and syntax analysis using recursive-descent parsing.

Dijkstra's Algorithm Path Finder

Solved all-pairs shortest path problem using repeated Dijkstra's algorithm. Parsed input files, computed cost matrices, and traced optimal paths.

Personal Habit Tracker Web App

A full-stack web app that allows users to create, track, and analyze daily/weekly habits. Built with Java, MySQL, HTML/CSS, and deployed on Tomcat.

API Mashup Project (GitHub + JokeAPI)

Node.js app combining GitHub user data with JokeAPI using synchronous HTTP requests and OAuth authentication.

Subterranean Urban Parking (LoRa)

Designed a multi-hop LoRa-based system for smart underground parking, focusing on efficient data routing and low-power communication.

Operating System Simulation in Java

Simulated student-professor interactions using multithreaded Java and binary semaphores to manage access and prevent race conditions.