Saalim Abdi

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EDUCATION

University of California San Diego   San Diego, CA
B.S. in Computer Engineering   *Sep. 2024 – Present*
- **Relevant Coursework:** Data Structures & Algorithms, Digital Logic Design, Computer Organization, Discrete Mathematics, Object-Oriented Programming, Computer Graphics

University of California San Diego   San Diego, CA
M.S. in Computer Engineering   *Expected June 2027*

WORK/LEADERSHIP EXPERIENCE

Tutor   May 2020 – Present
Kumon Math and Reading Center   *San Diego, CA*
- Instructed a diverse group of K-12 students in mathematical concepts ranging from foundational arithmetic to advanced topics including Algebra, Geometry, and Pre-Calculus.
- Provided targeted one-on-one guidance to clarify complex problems, adapting teaching methodologies to suit individual student learning styles and paces.
- Evaluated student progress through meticulous grading of assignments, offering constructive feedback to reinforce key STEM principles and build academic confidence.

SECRETARY — Muslim Student Association   Feb 2023 – May 2024
San Diego Mesa College   *San Diego, CA*
- Maintained accurate records of all board meetings, including minutes, official documents, and notes
- Created and maintained a centralized archive of organizational documents, improving information accessibility and onboarding for new members
- Collaborated with cross-functional teams (event organizers, exec board, university staff) to plan and execute events, enhancing communication and project planning skills

PROJECTS

IoT Wardrobe Management Dashboard | *FastAPI, SQLite, MQTT, Docker, HTML/CSS/JS*
- Built a **full-stack** dashboard to manage wardrobe IoT devices and monitor **real-time** sensor data.
- Engineered secure user **authentication** and protected routes in the backend with **FastAPI**.
- Integrated **MQTT** for live **ESP32** data streaming and an **AI assistant** via **OpenAI API** to recommend outfits.
- Designed a responsive, **mobile-friendly UI** and deployed the entire application using **Docker**.

HTTP Chat Server | *C, HTTP Protocol, Memory Management*
- Developed a lightweight **HTTP server** in **C from scratch** to handle real-time chat messages and reactions.
- Supported over **100,000+ messages** using efficient **manual memory management** and custom data structures.
- Implemented **HTTP request parsing**, URL decoding, and proper routing to handle various endpoints.
- Ensured **robustness** and prevented memory leaks through meticulous error handling and memory cleanup.

Contact Manager | *HTML, CSS, JavaScript*
- Built a client-side contact manager with full **CRUD** functionality using persistent **browser local storage** .
- Designed an intuitive and **responsive UI** to ensure a seamless user experience across devices.
- Implemented **modular JavaScript** for clean **DOM manipulation** and efficient event handling.
- Deployed the app via **GitHub Pages** with configured static routing and hosting.

TECHNICAL SKILLS

Languages: C, C++, Java, Python, JavaScript, HTML/CSS, SQL
Frameworks & Libraries: React, Node.js, FastAPI, PyTorch, NumPy, Pandas, OpenGL
Developer Tools & Databases: Git, Docker, Linux/Unix, GDB, Makefiles, VS Code, SQLite, PostgreSQL
Systems & Concepts: Computer Architecture, Digital Logic Design, Deep Learning, Computer Graphics