Mohammed Zaid

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EDUCATION

University of California, San Diego   **La Jolla, California**
B.S. - Mathematics & Computer Science   *Expected Graduation, June 2026*
Relevant Coursework: Advanced Data Structures, Software Engineering, Supervised Machine Learning, Components and Design Techniques for Digital Systems, Foundation in Numerical Analysis, Discrete Mathematics

WORK & LEADERSHIP EXPERIENCE

VEX Robotics   **Lake Elsinore, CA**
Founder & President   *June 2021 - July 2022*
- Formed an organization of 100+ members and served as a mentor, motivator, and team-builder.
- Programmed 1,200+ lines of C for autonomous object manipulation, integrating precise motor control.
- Applied advanced sensor fusion and path planning techniques to optimize robotic task execution.
- Served as lead driver in 20+ test sessions, boosting speed 35% and reducing errors 30%.

UCSD Associated Students   **La Jolla, CA**
Campus-Wide Senator   *April 2025 - Present*
- Managed $8M operational budget with rigorous oversight and efficient resource optimization.
- Developed innovative targeted funding initiatives to support key campus priorities effectively.
- Directed comprehensive systems for 600+ student organizations with streamlined approval protocols.
- Enhanced overall club operations and student engagement through efficient resource allocation.

PROJECTS

FIFA Rankings & Political Corruption Analysis | *Pandas, Matplotlib, Statistical Modeling, Data Analysis*
- Executed robust pipeline development through Python and modeling, revealing FIFA ranking trends.
- Delivered analysis of CPI, press freedom, and GDP via workflows, uncovering corruption links.
- Produced political-sports insights via advanced visualizations, exposing state-sponsored sportswashing.
- Generated long-term correlation findings via metrics, highlighting governance impacts on football.

IoT Botnet Detection System | *Python, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, Machine Learning*
- Engineered scalable ML pipeline through UCI N-BaIoT preprocessing, enabling analysis of 7M+ records.
- Improved dataset solidity by removing 157k+ duplicates and fixing imbalance, boosting fairness by 92%.
- Reached 99.96% accuracy through Decision Tree training with tuned depth, reducing errors to only 86.
- Validated intrusion detection via correlation heatmaps on 205k test samples, ensuring scalable deployment.

Islamic Prayer Reminder | *HTML, CSS, JavaScript, Aladhan API, Open-Meteo API, Web UI/UX*
- Extended to 100+ users by developing a prayer app delivering real-time responsive functionality.
- Ameliorated prayer-time accuracy by 98% using Aladhan and Open-Meteo APIs.
- Boosted engagement by 65% with dynamic dhikr, interactive Hadith, and dark mode.
- Increased resource usage by 70% by embedding guides and Quranic verses.

SyncDocs | *React, TipTap, Node.js, Yjs, WebSockets, HTML, CSS, JSON, TypeScript, npm, Docker, Vite*
- Enabled seamless editing for 100+ users through React, TipTap, Node.js, Yjs, with sub-100ms latency.
- Implemented scalable collaboration via Redis-backed presence, ensuring multi-user synchronization.
- Enhanced usability via dark-mode UI and CI/CD pipelines, streamlining deployment processes.
- Achieved local accessibility through containerized microservices and cloud-native design.

SKILLS

Languages: Python, Java, JavaScript, MATLAB, C, C++
Libraries & Tools: React, Tailwind CSS, Next.js, Git, Node.js, Firebase, Figma, HTML, CSS, Pandas, Matplotlib
Platforms: Linux, MacOS, Microsoft
Managerial Skills: Project management, team leadership, workflow optimization, strategic thinking, user-centered design, accessibility, quality assurance, version control, data integrity, cross-functional collaboration