# Mohammed Zaid

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## EDUCATION

**University of California, San Diego**                                  **June 2026**
*B.S. - Mathematics & Computer Science*
**Relevant Coursework:** Advanced Data Structures, Software Engineering, Supervised Machine Learning, Components and Design Techniques for Digital Systems, Introduction to Numerical Analysis, Modern Algebra II

## WORK & LEADERSHIP EXPERIENCE

**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 effectively support key campus priorities.
- Directed comprehensive systems for 600+ student organizations with streamlined approval protocols.
- Enhanced overall club operations and student engagement through efficient resource allocation.

**VEX Robotics**                                           **Lake Elsinore, CA**
*Founder & President*                                        *June 2021 - July 2022*

- 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%.
- Architected control systems with OOP, creating UML diagrams and detailed system specifications.

## 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***

- Reached 100+ users by developing a prayer app delivering real-time responsive functionality.
- Improved 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.

## TECHNICAL SKILLS

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