Mohammed Y. Zaid

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EDUCATION

University of California, San Diego   **La Jolla, California**
B.S. in Mathematics & Computer Science - GPA: 3.50, Dean's Honors   ***Expected Graduation, June 2026***
Relevant Coursework: Algorithmic Design and Analysis, Computer Systems Organization, Operating Systems, Software Engineering, Networks and Communications, Digital Architecture, Computation and Hardware Acceleration

EXPERIENCE

Muslim Tech Collaborative   **La Jolla, CA**
Vice President   *April 2024 - Present*
- Constructed **10+** full-stack apps using **React/Node.js**, applying agile sprints to boost member skills.
- Developed **ML pipelines** with TensorFlow, streamlining preprocessing and training to reach **99%** accuracy.
- Led more than **30** collaborative projects, enforcing **Git/Agile practices** to cut delivery time by **35%**.
- Facilitated **10+** resume workshops, creating ATS-ready templates that improved internship callbacks by **30%**.

VEX Robotics   **Lake Elsinore, CA**
Founder & President   *June 2021 - July 2022*
- Formed an organization of **150+** 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 **data-driven** tuning to boost robotic precision by 50% and cut operational errors by 30%.
- **Troubleshot embedded** control systems and optimized performance for high-speed robot operation.

PROJECTS

To-Do Management System   *August 2025 - Present*
- Achieved **100%** Railway deploys via a 2-stage Dockerfile, Prisma migrations, **Next.js 14** with **Node 18**.
- Ensured **100%** TLS-encrypted CRUD operations with Postgres, sslmode=require to maintain functionality.
- Delivered **6+** UX boosts with loaders, progress bar, Ctrl+K, sorting, and chips to streamline the experience.
- Enabled **1-cmd**, type-safe builds using **TS 5.5**, ESLint, Prisma generate, **Git/GitHub workflow**.

IoT Botnet Detection System   *August 2025 - September 2025*
- Refined scalable ML pipeline via 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.

FIFA Rankings & Political Corruption Analysis   *March 2025 - June 2025*
- Engineered a Python pipeline across **106** countries and **400k+** data points, modeling FIFA trends.
- Automated more than **1M** CPI, press freedom, and GDP transformations, uncovering corruption ranking links.
- Built **25+** dynamic visualizations and **3 K-Means** clusters, exposing state-sponsored sportswashing.
- Executed large-scale regression analysis on **100+** models, confirming governance's impact on football.

Live Google Document Workspace   *September 2024 - December 2025*
- Enabled real-time collaboration for **100+** users using React, TipTap, Node.js, and Yjs (**10** ms latency).
- Deployed Redis-backed presence tracking to maintain multi-user synchronization and state consistency.
- Enhanced usability with dark-mode UI, automated **CI/CD principles**, and cloud-native containerization.
- Experimented with GenAI-powered editing tools to improve productivity and reduce manual review time.

SKILLS

Programming Languages: Python, Java, TypeScript, C++, C, JavaScript, Go, MATLAB
Frameworks/Technologies: React.js, Next.js 14, Node.js, Tailwind CSS, Redis, Prisma, TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib
Cloud & DevOps: AWS (EC2, S3, Lambda), Docker, CI/CD Pipelines, Linux, Microservices, Railway
Databases: PostgreSQL, SQL, NoSQL
Development Practices: Agile, SDLC, Debugging & Troubleshooting, Distributed Systems, Operational Excellence
Certifications: HackerRank - Advanced Python developer, Advanced SQL, Advanced Go, Advanced JavaScript