Mohammed Y. Zaid

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EDUCATION

University of California, San Diego — **La Jolla, California**

B.S. - Mathematics & Computer Science — ***GPA: 3.5/4*** — ***Expected Graduation, June 2026***

Relevant Coursework: Advanced Data Structures, Software Engineering, Supervised Machine Learning, Components and Design Techniques for Digital Systems, Foundations in Numerical Analysis, Discrete Mathematics

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 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 by **90%**.

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 by **50%** and reducing errors by **30%**.

PROJECTS

FIFA Rankings & Political Corruption Analysis | ***Python, Numpy, Pandas, Matplotlib, Statistical Modeling***

- Engineered a Python pipeline across **106** countries and **400k+** data points, modeling FIFA trends.
- Automated **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.

IoT Botnet Detection System | ***Python, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, Machine Learning***

- Developed 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.

PrioritiTask | ***Next.js, Tailwind CSS, JSON, Prisma, PostgreSQL, REST APIs, ESLint, PostCSS, Railway***

- Achieved **100%** Railway deploys via **2-stage** Dockerfile, Prisma migrations, **Next.js 14 + Node 18**.
- Ensured **100%** TLS + offline CRUD with Postgres (**Prisma 5**), sslmode=require, localStorage fallback.
- Delivered **6+** UX boosts: loaders, progress bar, Ctrl+K, sorting, chips, animated refresh.
- Enabled **1-cmd**, type-safe builds using **TS 5.5**, ESLint, Prisma generate, Git/GitHub workflow.

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-**10ms** 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++, Typescript

Technologies & Tools: ReactJS, Next.js, Tailwind CSS, Node.js, Firebase, AWS, Docker, Git/GitHub, Figma, HTML5, CSS3, JavaScript (ES6+), TypeScript, RESTful APIs, Pandas, NumPy, Matplotlib, Data Visualization, Cloud Deployment, CI/CD Pipelines, Responsive Design, Cross-Platform Development.

Platforms: Linux, MacOS, Microsoft

Certifications: HackerRank Software Engineer, HackerRank Python developer.