Omar Rafiq

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Education

California State University, Fullerton – BS in Computer Science

Expected Graduation: May 2026

Relevant Coursework: Operating Systems, Algorithms, Data Science, Machine Learning, Software Engineering

Experience

Software Developer & Researcher

May 2025 - Dec 2025

National Science Foundation, (Google-Funded Project PI: Dr. Lucas Silva)

- Engineered a distributed health data pipeline (Java/Kotlin) enabling real-time synchronization of 50+ users' health data across wearable devices, improving reliability and scalability.
- Fine-tuned and integrated an LLM within a modular AI assistant, combining prompt-chaining and data-processing pipelines to provide health insights and anomaly detection.
- Deployed scalable cloud infrastructure on GCP to support continuous multi-user data processing and storage of thousands of health metrics daily.
- Expanded development to iOS, enabling users to use personal devices and saving over \$5,000 in hardware costs.

Open Source Contributor

Nov. 2024 - Present

Open Energy Dashboard

- Boosted test coverage by 15% with new Express API test suites, improving production reliability (PR #1503).
- Hardened security across 20+ endpoints via validation, sanitization, and dedicated security testing (PR #1528).
- Collaborated with maintainers through code reviews and documentation updates to ensure long-term maintainability.

Software Engineer Intern

May 2024 - Sep. 2024

The Masjid App

- Shipped a prayer timetable system serving 120K+ mosques worldwide, built with TypeScript and React, improving configuration efficiency for admins.
- Led the end-to-end development of a major feature, from UI design to logic and state handling, ensuring seamless integration with a large production codebase.
- Collaborated with designers and developers to refine UI workflows and accessibility, significantly improving usability for mosque administrators and streamlining their configuration process.

Projects

Transport Planner | Typescript, React, Node.js, Express, Docker | <u>Live Demo</u>

- Built REST APIs with geocoding, route calc, and metrics endpoints, featuring error handling and validation.
- Deployed scalable architecture using Docker containerization and CI/CD pipeline with GitHub Actions

Al Story Generator | Python, FastAPI, React, SQL | Github

- Developed a full-stack interactive game integrating OpenAI LLMs for dynamic story generation, connecting FastAPI backend with React frontend.
- Implemented structured SQLAlchemy models and relational schemas to persist user choices and branching narratives Skills

Programming Languages: Python, TypeScript, JavaScript, Java, C++, SQL

Frameworks/Libraries: React, Next.js, FastAPI, Django, Flask, Spring Boot, Express, Tailwind CSS **Cloud & Tools:** AWS, Google Cloud Platform, Docker, GitHub Actions, Git, Linux, Postman, Bash

Leadership

Al Board Officer, ACM @ CSUF

May 2025 - Present

- Lead AI/ML workshops for 50+ students, helping peers build technical interview skills and industry awareness.
- Coordinate with peers to host coding demonstrations that connect students with real-world applications in tech