

# Omar Rafiq

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## EDUCATION

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**California State University, Fullerton**

*Bachelor of Science in Computer Science*

Fullerton, CA

May 2026

## EXPERIENCE

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**Undergraduate Research Engineer**

May 2025 – June 2026

*University of Iowa*

- Built full-stack mobile apps in Java/Kotlin to automate wearable sensor data ingestion for a 50+ person Google/NSF-funded clinical study
- Designed scalable NoSQL database using Firebase, optimizing storage and retrieval for 1,000+ daily health metrics
- Saved \$5,000+ in hardware costs by expanding the platform to iOS, enabling participants to use personal devices
- Implemented a multi-stage LLM pipeline with output schemas and guardrails to generate personalized health insights

**Software Engineer Intern**

Sep. 2025 – May 2026

*SonarX | Early-Stage Startup*

- Led end-to-end development of an Agentic pipeline using LangGraph to monitor 10+ blockchain repositories and detect breaking protocol changes before they impact SLAs
- Built a 100-entry benchmark dataset from scratch to evaluate breaking change classification, achieving 90% accuracy across protocol update categories
- Implemented a human feedback loop via Slack reaction signals to continuously retrain the classifier and reduce false positive alerts

**Open Source Contributor**

Nov. 2024 – May 2026

*Jetbrains/Koog, Open Energy Dashboard*

- Implemented Anthropic error signaling in to surface tool call failures and improve agent recovery [PR #1700](#)
- Integrated Moonshot Kimi K2 into Koog's Bedrock client with Converse API validation [PR #1436](#)
- Raised API test coverage by 15% using Mocha/Chai suites across a 100+ contributor codebase [PR #1503](#)
- Hardened 20+ API endpoints against injection and XSS attacks with input validation [PR #1528](#)

**Software Engineer Intern**

May 2024 – Sep. 2024

*The Masjid App*

- Built a prayer timetable system in TypeScript and React used by thousands of mosques to manage schedules and automate notifications
- Optimized state management and API integration patterns, reducing page load times and improving performance

## PROJECTS

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**Event Ticketing System** | *Python, AWS (DynamoDB, SQS, Lambda), Redis, Terraform*

[GitHub](#)

- Prevented race conditions during concurrent reservations using Redis Redlock and DynamoDB conditional writes
- Provisioned 10+ AWS resources with Terraform modules to manage 10+ AWS resources

**Global Conflict Tracker** | *Python, Kafka, Airflow, dbt, PostgreSQL, TypeScript*

[GitHub](#)

- Built Airflow-orchestrated ELT pipelines with a custom Kafka publish operator to ingest/stream event data from multiple heterogeneous sources into a centralized data store
- Modeled data using 3-layer dbt transformation pipeline with dedupe, severity scoring, and full lineage tracking

**DayChart** | *TypeScript, React, Firebase, GitHub Actions*

[GitHub](#) | [Live Demo](#)

- Shipped a time-blocking app to 90+ registered users with a serverless Firebase backend and OAuth authentication
- Established CI/CD pipeline with testing and deployment via GitHub Actions

## TECHNICAL SKILLS

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**Languages:** Python, TypeScript, JavaScript, Java, Go, C++, SQL

**Frameworks:** React, Node.js, FastAPI, Spring Boot, LangChain, LangGraph

**Cloud & Tools:** AWS, GCP, Azure, Docker, Terraform, GitHub Actions, PostgreSQL, Redis, Kafka

**Certifications:** AWS Solutions Architect Associate, Oracle GenAI Professional