Omar Rafiq

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EDUCATION

California State University, Fullerton — Fullerton, CA
Bachelor of Science in Computer Science — *Expected Graduation: May 2026*

EXPERIENCE

Software Engineer (Capstone) — Sep. 2025 – May 2026
SonarX - Blockchain Startup — *Irvine, CA*
- Designed multi-agent workflows in Python with LangChain to monitor 10+ blockchain protocols for real-time detection of protocol updates
- Integrated automated alerting system delivering Slack notifications with severity scores, health metrics, source links, and chain-specific runbooks to streamline incident response workflows

Research Engineer — May 2025 – May 2026
University of Iowa — *Iowa City, IA*
- Developed full-stack mobile apps in Java/Kotlin to automate and sync wearable health metrics to shared family dashboards, providing real-time data visualization for a 50+ person user study, funded by Google and NSF
- Designed scalable NoSQL database using Firebase, optimizing storage and retrieval for 1,000+ daily health metrics
- Expanded development to iOS (Swift), enabling users to use personal devices and reducing costs by over $5,000
- Fine-tuned LLM to transform raw sensor data into personalized health insights with guardrails for safe output

Open Source Contributor — Nov. 2024 – Present
Open Energy Dashboard
- Boosted API test coverage by 15% with Mocha/Chai test suites, strengthening overall code quality PR #1503
- Hardened 20+ API endpoints with input validation, mitigating injection and XSS attacks PR #1528
- Introduced a new testing methodology to standardize parameter validation in a codebase with 100+ contributors

Software Engineer Intern — May 2024 – Sep. 2024
The Masjid App — *Irvine, CA*
- Built prayer timetable system in TypeScript and React, helping thousands of mosques worldwide manage schedules
- Optimized state management and API integration patterns, reducing page load times and improving performance

PROJECTS

Transport Planner | *TypeScript, React, Node.js, Express, Docker* — GitHub | Live Demo
- Developed a full-stack platform to provide real-time carbon cost analysis for multi-modal transportation routes
- Built REST APIs with geocoding, route calculation, and metrics endpoints with error handling and rate limiting
- Containerized with Docker and established CI/CD pipeline with testing and deployment via GitHub Actions

Cloud File Storage App | *Python, AWS (Lambda, DynamoDB, Cognito, Bedrock)* — GitHub
- Built a serverless backend with secure authentication, file management, and AI-driven summarization via Bedrock
- Designed DynamoDB schema to manage user and file metadata, supporting efficient lookups and access control
- Implemented Infrastructure as Code using CloudFormation to provision and manage 10+ AWS resources

Web Crawler | *Go, Goroutines, SQL* — GitHub
- Built concurrent crawler with goroutines to crawl, index, and persist website metadata and page structure to a relational SQL database
- Designed relational schema and wrote queries to support metadata filtering, deduplication, and efficient lookups

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, C++, Go, SQL
Frameworks: React, Next.js, Node.js, Express, FastAPI, Flask, Spring Boot
Cloud & Tools: AWS, GCP, Docker, Git, GitHub Actions, Linux, Postman
Certifications: AWS Solutions Architect Associate, Google Cloud Computing Foundations, Oracle GenAI Professional