# Samuel Reda

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## Summary

Software Engineer with hands-on experience designing and deploying secure, scalable full-stack applications using Java Spring Boot, React.js, PostgreSQL, and AWS. Demonstrated ability to deliver high-performance systems that support 100+ concurrent users, achieve 99.99% transactional integrity, and reduce API latency by 35%. Proficient in building RESTful APIs, implementing CI/CD pipelines, and deploying to containerized cloud environments. Strong grasp of security best practices and agile development. Open to Associate or Junior-level roles across the U.S., and eager to add value to fast-paced, product-driven teams.

## Education

## University of California, San Diego (UCSD)

June 2022

Bachelor of Science, Computer Engineering.

Relevant coursework: Java, JavaScript, Data Structures & Algorithms, Software Engineering, Software Tools and Techniques, Web Development, Theory of Computation, Probability, Computer Networks, Computer Security, Computer Operating Systems, Digital Systems, Data Science, Computer Architecture.

## Certifications

• **Agentic AI** — Udacity Verified Certificate of Completion Credential ID: 34d9944c-633e-11f0-9d95-c3a8d88b7fbf

August 2025

Prompt engineering: crafting clear system- and user-level prompts

Asynchronous Python (asyncio): designing and coordinating multiple agents

**SQLAlchemy** + **pandas:** modeling and querying databases

Data serialization: converting DataFrames and complex objects to JSON-serializable dicts

• Java Web Developer Nanodegree — Udacity Verified Certificate of Completion Credential ID: 35da1f10-2c84-11f0-98a6-13c2cce0dc88

 $July\ 2025$ 

Java Spring Boot: Spring MVC, Servlets, Mybatis, Thymeleaf, Selenium, Mockito

Web Services and APIs: GraphQL, Swagger, REST APIs, Spring Security, Microservices

Data Stores & Persistence: Spring Data JPA, Multitier architecture, Hibernate ORM, DAOs &

DTOs, SQL scripts, Dependency injection

Security and DevOps: Docker, Splunk, Logging, CI/CD, Spring Security

## **Technical Skills**

Languages: Java, JavaScript, TypeScript, C++, Python, HTML, CSS

Frontend: React, Hooks, Context API, Tailwind CSS, Material UI

Backend: Spring Boot, Spring MVC, Spring Security, Hibernate, Apache Airflow, Node.js, Express

Databases: PostgreSQL, MongoDB, MySQL, Sequelize, Mongoose

Cloud/DevOps: AWS (EC2, S3, RDS, Lambda, Amplify), Docker, kubernetes, CI/CD, Nginx, Kafka

Testing: Junit, Jest, Mockito, Selenium

Tools: Git, IntelliJ Ultimate, Mavens, Jenkins, VsCode, Figma, Webpack, Agile

### Work Experience

Full Satck Software Engineer - Freelance / Contract-Based

Sep 2022 - Current

- Engineered and deployed secure RESTful APIs: Developed and deployed secure RESTful APIs using Spring Boot to manage SIM registration workflows for a telecom client, handling over 1,000 user records with 99.99% uptime.
- **Database Design** Designed PostgreSQL schemas and optimized query performance, reducing data retrieval latency by 60%.
- User-Centric Frontend Development: Built role-based React.js admin dashboards supporting 3+ access tiers; improved workflow efficiency by 45%.
- Robust Security Implementation: Implemented JWT + OAuth2 authentication for protected routes and user sessions with zero known security breaches.
- DevOps & Cloud Deployment: Set up CI/CD pipelines with GitHub Actions and Jenkins, reducing deployment time by 90% and increasing release frequency. Dockerized microservices and deployed to AWS EC2 instances with Nginx reverse proxy and monitoring via CloudWatch.

## **Projects**

#### Genetic AI Multi-Agent Order Fulfillment System

Technologies: Python 3.13, Pydantic-AI, SQLite, SQLAlchemy, Pandas, Mermaid, Git

- Architected an **agentic AI** workflow of four autonomous worker agents (Inventory Manager, Quotation Specialist, Sales Processor, Delivery Scheduler) plus an Orchestrator Agent, each exposing domain logic as "tools" via Pydantic-AI.
- Integrated a SQLite backend and Pandas pipelines to track cash flow, inventory levels, historical quotes, and delivery estimates.
- Built a test harness driving 20 realistic quote scenarios end-to-end: achieved 5+ transactions that impacted cash balance, 3+ successful quotes, and graceful handling of out-of-stock failures.
- Delivered clear, customer-facing responses with rationale (stock shortages, discount explanations) while hiding internal errors and PII.

#### Personal Portfolio

Technologies: React, TypeScript, Tailwind CSS, Socket.IO, AWS Amplify

- Attracted over 300+ unique users monthly, with avg. session time of 2+ minutes.
- Built real-time messaging via Socket.IO with sub-100ms latency.
- Deployed using AWS Amplify CI/CD, reducing update time from 10 min to under 1 min.

### Restaurant Ordering System

Technologies: Javascript, Node.js, Express, Stripe, JWT, OAuth2, Nginx, Rate Limiting

- Managed 30+ daily transactions with 99.99% success using Stripe.
- Secured user accounts with JWT & OAuth; no unauthorized access during testing.
- Implemented rate limiting; reduced abuse by 90% during peak testing.

### Task Management Application (PERN Stack)

Technologies: PostgreSQL, Express, React, Node.js, AWS EC2, GitHub Actions

- CRUD app with auth; 100+ daily tasks across 15+ test users.
- Optimized RESTful API, reducing response time by 35%.
- AWS EC2 + Nginx for handling 100+ concurrent users; CI/CD via GitHub Actions.

## E-Commerce Platform (Spring Boot & React)

Technologies: Java Spring Boot, React, PostgreSQL, MyBatis, JWT, JUnit, Selenium

- Engineered a full-stack e-commerce platform supporting 100% authenticated user actions, including registration, login, cart management, and order placement.
- Secured all sensitive operations using JWT-based role-specific access, reducing unauthorized access attempts by 100% in tests.
- Achieved 71%+ code coverage across services and controllers through JUnit unit tests and Selenium endto-end test suites.
- Optimized API response time for cart operations by 40% using efficient state synchronization and RESTful design patterns.

## **Bullet Journal Productivity App**

Technologies: JavaScript, React, Figma, HTML/CSS, Jest

 $School\ Team\ Project\ --\ UX\ Designer\ {\it \& UA}\ Tester$ 

- $\bullet\,$  Designed wireframes and UI flows in Figma that improved task completion by 25% during user testing.
- Executed over 50 test cases, identifying 15+ UI bugs and improving pre-release stability by 90%.
- $\bullet$  Conducted user feedback sessions and implemented design changes that raised user satisfaction scores by 30%