SYED ALI MUJTABA

Backend Software Engineer — Java/Spring Boot Microservices & Payment APIs for Global Banking Platforms

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TECHNICAL SKILLS

Backend: Java, Spring Boot, Spring Framework, REST APIs, OpenAPI, Microservices, API Orchestration (PAPI), Spring Data JPA

Reactive & Distributed: RxJava, Reactive Programming, Asynchronous Processing, Distributed Systems, Retry/Timeout/Error Handling

Security: OAuth 2.0, JWT, B2B Authentication, Token-Based Authentication, CVE Remediation (Open-Source Dependencies)

Cloud & DevOps: Kubernetes, Docker/Podman, Kong API Gateway, Jenkins, CI/CD, Git, GitHub, Cloud-Native Systems

Testing & Monitoring: JUnit, Mockito, Postman, Splunk, AppDynamics | **Languages:** Java, Python, SQL, C++, Bash

AI / GenAI: GitHub Copilot (Custom Agents), FastAPI, LangChain, Gemini API, Agentic Workflows, Tool Calling

EXPERIENCE

Software Engineer — HSBC Technology India

July 2024 - Present

- Grew from core REST API development into owning **multi-service orchestration** — building **Java/Spring Boot REST APIs, microservices and API orchestration / Process API flows** live in production across **4 markets**: India, Singapore, UAE and the UK.
- Built **GitHub Copilot custom agents** that migrate Java APIs from **JDK 8 to JDK 21**, fix **critical (CVSS 9+) open-source dependency vulnerabilities**, or do both in one run. The migration agent is now used across the team, with rollout to other teams planned.
- Integrating the agents into a **Jenkins pipeline** (Python driver + Jenkins script) to power a planned one-click upgrade-and-fix UI.
- Engineered a **Python + Splunk** log-analysis utility that cut API failure investigation time by 50–75%, later adopted by other teams.
- Caught and flagged **10 production issues** in a year on a formal **on-call rotation** using **Splunk** and **AppDynamics**.
- Owned backend workflows for HSBC's **MENAT Corporate Cards mobile app** — live in production at scale — spanning card summary/details, block/unblock, lost/stolen reporting, PIN management and transaction processing, in a **5-engineer UAE** team.
- Onboarded, trained and mentored new/lateral joiners, and reviewed pull requests from peer and junior developers.
- Secured service-to-service authentication for banking and payment APIs using **OAuth 2.0/JWT** and B2B token-based authentication.
- Led backend work for the **Mule-to-Kong API gateway migration**, fixing routing/integration issues and validating each rollout.

Key Project: Visa Click-to-Pay (UK)

Java, Spring Boot, RxJava, OAuth/JWT, Kubernetes, Jenkins

- Built the **Java/Spring Boot** backend for **Visa Click-to-Pay** in-app card-provisioning (UK) within a **5-member API team**, orchestrating customer eligibility, enrollment and payment instrument provisioning across **3 services — CDM, RPS and Visa**.
- Orchestrated customer identifiers (**ECID**) across a **4-stage** service flow — customer-data retrieval, card-system integration, Visa data retrieval and backend status updates — using **RxJava** for reactive processing with retry, timeout and error handling.
- Validated the flow with **JUnit and Mockito** component tests, mocking **Visa, CDM and RPS** to cover business-logic and error paths.

PROJECTS

Vehicle Parking Management System

Python, Flask, SQLAlchemy, SQLite, Redis, Celery, Vue 3, REST APIs, JWT — GitHub

- Independently extended an **IIT Madras MAD2** (Modern Application Development II) course project into a full-stack system with **25+ REST APIs** (Flask-RESTful), **JWT auth and role-based access control (RBAC)** across separate admin and user flows.
- Introduced **Redis caching** with TTL-based invalidation, graceful fallback when Redis is down, and X-Cache HIT/MISS status headers.
- Architected a **Celery async task system** (Redis broker) for scheduled reminders (Celery Beat, Google Chat + SMTP delivery), automated PDF reports (ReportLab), and CSV exports via a **4-state job-state machine** (pending → running → completed/failed).

Data Analyst Agent — Agentic Code-Generation System

Python, FastAPI, LangChain, Gemini API — GitHub

- Independently designed an agentic system that writes, runs and validates Python code to answer questions on uploaded data, using **LangChain tool calling**, multi model fallback and **sandboxed subprocess execution** with timeouts and JSON parsing.
- Hardened it with **4 layers of failure handling**: retries, quota-aware key rotation, model degradation and code-error recovery.

EDUCATION

B.Tech in Computer Engineering — Jamia Millia Islamia

2020 - 2024

Faculty of Engineering & Technology, New Delhi — CGPA: 9.54 / 10 — Top 5% of Batch — Merit Scholarship Recipient

Diploma in Data Science & Programming — IIT Madras (Online)

2023 - 2025

CGPA: 8.34 / 10 — Focus: Data Science, Programming, Cloud & Applied Statistics — completed alongside the full-time HSBC role

CERTIFICATIONS

Oracle Certified Java SE 8 Programmer (2024), Databricks Certified Data Engineer Associate (2025), Python Institute PCAP (2025)