

Hamza Ali

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Professional Summary

Java backend developer focused on Spring Boot, secure REST APIs, and backend systems with real deployment behavior. Built backend-heavy projects involving retrieval augmented generation, vector search, Spring AI, MongoDB request logging, Kafka-based event flows, gRPC service communication, JWT authentication, Docker, and Azure VM deployment. Seeking a Java/Spring Boot backend internship where system design, implementation depth, and clean service boundaries matter.

Experience

React Native Internship

May 2025 – Jul 2025

Octaloo Technologies I-11, Islamabad

- Worked in a 5-member development team to **design and deliver a mobile application** under the guidance of a team lead and senior developers.
- Developed application features in React Native and integrated **API consumption, state management, and user-facing workflows**.
- Collaborated with backend services to verify **authentication behavior, data consistency, and client-server interaction paths**.
- Participated in **code reviews, feature discussions, and debugging sessions**, building practical experience with team-based software delivery.

Projects

SofiCheck – RAG-Based FYP Similarity Checker

Mar 2026 – Apr 2026

Java, Spring Boot, Spring AI, Qdrant, MongoDB, ONNX Embeddings, Groq, React, TypeScript, Vite, Azure VM, Vercel

Links: github.com/Hamza-ali1223/sofichack-frontend | sofichack-frontend.vercel.app

- Built a Spring Boot RAG service that checks proposed final year project ideas against archived department catalogues using **semantic retrieval before LLM generation**.
- Implemented catalogue ingestion from PDF resources into Qdrant, generating **local ONNX transformer embeddings** for project titles, abstracts, technologies, and page metadata.
- Integrated Groq-hosted chat models through Spring AI's OpenAI-compatible client to return **structured similarity ratings, similar historical projects, and concise explanations**.
- Added request observability through a Spring AI advisor that records **request date, request time, and token usage** into MongoDB.
- Deployed the backend on an Azure VM for a **30-day live trial** and served **187 project-check requests with 200 OK responses**, exceeding the expected batch usage of roughly 50 FYP ideas.
- Built the React and TypeScript frontend with backend health checks, **draft autosave and browser-local query history**, parsed similarity result cards, raw response inspection, and a Vercel deployment.

PulseTrack Patient System

Nov 2025 – Dec 2025

Java, Spring Boot, Microservices, Kafka, gRPC, Spring Security, JWT, Docker, PostgreSQL

Code: github.com/Hamza-ali1223/PulseTrack_Patient-Production-Backend

- Designed a distributed healthcare backend where patient creation triggers **billing, analytics, and notification workflows** through event-driven service communication.
- Separated core operations into independent Spring Boot services to improve **fault isolation** and reduce the risk of one failing workflow blocking the full system.
- Used Apache Kafka for **asynchronous downstream processing** so patient-related events could be consumed without blocking user-facing API requests.
- Implemented gRPC service communication for internal interactions that required **explicit contracts and efficient service-to-service calls**.
- Centralized authentication and request routing with JWT-based security to enforce **consistent access control at the system boundary**.
- Containerized services with Docker and validated behavior under **concurrent request patterns** to identify bottlenecks before deployment-style usage.

Docspot – Appointment and Real-Time Communication App

Jun 2025 – Jul 2025

React Native, Spring Boot, MongoDB, REST APIs, Authentication

Code: github.com/Hamza-ali1223/Docspot-Backend | github.com/Hamza-ali1223/Docspot-Application

- Developed and delivered a mobile appointment application during an on-site internship to **digitize scheduling and reduce manual coordination** between users.
- Built a Spring Boot backend to centralize **appointment data, authentication, and client-server workflows** with MongoDB persistence.
- Integrated **real-time calling functionality** to support direct user communication inside the application instead of relying on external tools.
- Delivered the project within the internship timeline while collaborating with **backend and mobile development contributors**.

Leadership Experience

Hackathon Winner

Oct 2025

AWS OctoberFest Team Lead

- Led the **Lowkey Legends team** during a hackathon project, coordinating feature ownership and managing execution across contributors.
- Designed and implemented a **Spring Boot backend with MySQL and Flyway migrations**, then containerized the application using **Docker multi-stage builds and Docker Compose**.
- Integrated the team's work within the **hackathon timeline** and contributed to a successful final submission.

Education

Mehran University of Engineering and Technology

Aug 2023 – Oct 2027

B.E. Software Engineering, CGPA: 3.28 Jamshoro, Sindh, Pakistan

Skills

Programming Languages: Java, Python, JavaScript, TypeScript

Backend Frameworks and APIs: Spring Boot, Spring Security, Spring AI, Hibernate ORM, Spring Data JPA, REST APIs, gRPC, FastAPI

Architecture and Messaging: Microservices, Monolithic Architecture, Event-Driven Architecture, Retrieval Augmented Generation, Kafka

Databases and Search: PostgreSQL, MySQL, MongoDB, Qdrant Vector Store

DevOps and Deployment: Docker, Docker Compose, Azure VM deployment, Flyway migrations, Vercel

Frontend and Mobile: React, React Native, Vite, Tailwind CSS, Redux, TanStack Query

Tools: Git, GitHub, Swagger/OpenAPI, Postman, Maven, npm

Strengths: Systems thinking, technical ownership, structured problem solving, collaborative leadership, clear technical communication