

ANKIT DHAKA

+919351068708 | dhakaankit357@gmail.com | [LinkedIn](#) | [GitHub](#) | [Codeforces](#) | [CodeChef](#) | [LeetCode](#)

Summary

- Backend-focused Software Engineer with an **SDE Internship** at Aakash Technology Innovation Lab building production **Spring Boot** microservices; shipped a production LLM/RAG pipeline (**AutoAdvisor AI**) and a full-stack role-based booking platform (**RoadsideGarage**); backed by **600+ problems solved** across **Codeforces**, **CodeChef**, and **LeetCode** (LeetCode Knight, CodeChef 4★, Codeforces Expert).

Education

Indian Institute of Information Technology Allahabad

B.Tech, Electronics and Communication Engineering

Aug 2022 – May 2026

CGPA: 8.58

Experience

Aakash Technology Innovation Lab

Jan 2026 – June 2026

SDE Intern — *Java, Spring Boot, Spring Security, Kafka, MySQL, AWS S3, Redis, Docker*

Noida

- Spearheaded design and delivery of **20 production REST APIs** using Spring Boot's layered Controller–Service–Repository pattern with **Spring Security**, JWT-based auth, centralised exception handling via **ControllerAdvice**, and Bean Validation slashing API error rates by **30%** and cutting mean time-to-resolution by **40%** across 5 microservice modules.
- Overhauled **15+ high-traffic MySQL queries** through composite indexing, covering indexes, and execution-plan analysis; introduced Spring Data JPA projections and batch-fetch strategies to eliminate N+1 query patterns, yielding **30%** latency reduction and twice transaction throughput under peak load.
- Architected and delivered backend infrastructure for the **Supplementary ID process** on the Phoenix platform — designing Spring Boot service contracts with **Spring Security**-backed access control and seamless downstream integration across **2 services** — reducing end-to-end process complexity by **40%** and enabling secure, scalable student onboarding across multi-centre operations.
- Designed and owned the end-to-end **Pricing Engine** for Aakash courses within the Phoenix pricing service — engineering configurable pricing strategies backed by **Redis** caching and **Spring Cache** abstraction, optimising critical query paths to sub-**100 ms** P99 latency and directly impacting revenue across **thousands of course SKUs**.

Projects

AutoAdvisor AI 🤖 | *Java, Spring Boot, OpenAI GPT-3.5, RAG, Redis, Vector Embeddings, Docker, AWS*

- Engineered a production-grade LLM REST API powered by **OpenAI GPT-3.5 Turbo** with **Retrieval-Augmented Generation (RAG)** and semantic vector embeddings, boosting diagnostic accuracy by **35%** through a modular prompt-engineering pipeline (PromptBuilder, ResponseParser, MetricsTracker).
- Implemented **Redis** caching (24-hr TTL, **~60% cache-hit rate**) and token-bucket rate limiting (**Bucket4j**), cutting average response latency by **35%** and OpenAI API costs by **~40%**.
- Containerised the service with **Docker** and deployed on **AWS ECS** with MDC-based distributed tracing and structured logging, backed by **85% JUnit 5** test coverage for production reliability.

Healthcare AI Assistant 🤖 | *Python, RAG, FAISS, Sentence Transformers, LangChain*

Dec'24 – Jan'25

- Built an end-to-end Retrieval-Augmented Generation (RAG) pipeline leveraging FAISS, Sentence Transformers, and semantic embeddings to index and retrieve information from 47,000+ enterprise documents
- Improved answer accuracy and retrieval precision by 40% using a two-stage retrieval architecture with dense vector retrieval followed by Cross-Encoder re-ranking for semantic relevance optimization
- Accelerated large-scale embedding generation by 60% through vectorized text preprocessing, optimized batch inference, and efficient memory utilization, enabling faster knowledge base updates

RoadsideGarage 🚗 🤖 | *Java, Spring Boot, Spring Security, JWT, Spring Data JPA, H2, JavaScript*

- Built a full-stack, role-based garage booking platform (**Spring Boot**, **Spring Security**, **JWT**-based stateless authentication, **Spring Data JPA**) with fine-grained **RBAC** across three roles — Customer, Employee, and Admin — securing every REST endpoint by role.
- Designed a **capacity-aware auto-assignment engine** matching bookings to available employees in real time and a **geolocation-based garage search** (Haversine distance), covering the full booking lifecycle from creation through status tracking and rating.
- Implemented a layered controller/service/repository architecture with **DTO-based request validation** and RESTful API design, paired with a self-contained **JavaScript** frontend served directly from Spring Boot.

Technical Skills

Languages: Java, C++, JavaScript, SQL, Python

Java Backend: Spring Boot, Spring Security, Spring Data JPA, Hibernate, Spring Cache, Spring AOP, Microservices, REST API Design, JUnit 5, Mockito

AI / ML Backend: LLMs, RAG, Vector Embeddings, Semantic Search, Prompt Engineering, OpenAI API

Databases & Infra: MySQL, MongoDB, Redis, Apache Kafka, AWS (ECS, ECR, S3, EC2, CloudWatch, ALB), Nginx, Git