

KOUSTAV SARKAR

Kolkata, West Bengal

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Koustav Sarkar

Ksarkarupes

Leetcode

GeeksForGeeks

EDUCATION

National Institute of Technology

Master of Computer Application - **CGPA - 8.55**

08 2024 – Present

Raipur, India

University of Petroleum and Energy Studies

Bachelor of Computer Application - **CGPA - 8.23**

08 2020 – 05 2023

Dehradun, India

PROJECTS

HealthConnect | Java 17, Spring Boot, Microservices, Next.js, Docker, PostgreSQL 12 2025 – Present

- Architected a domain-driven **Microservices architecture** (User, Appointment, Notification) using **Spring Cloud**, implementing **API Gateway** and **Service Discovery** for seamless inter-service routing.
- Engineered a resilient communication layer using **OpenFeign**, preventing cascading failures; incorporated **RabbitMQ** for asynchronous event-driven email notifications.
- Optimized Doctor Dashboard performance by 98% (reducing DB queries from 70 to 1 per request) by implementing a **Batch Fetching Strategy** and in-memory slot calculation to solve N+1 bottlenecks.
- Secured the platform using **Spring Security** and **JWT** with Role-Based Access Control (RBAC), and merged **Spring AI (HuggingFace)** to provide intelligent health insights and automated medical query responses.
- Developed a type-safe frontend using **Next.js 14** and **ShadcnUI**, featuring a complex slot-booking engine with ISO-8601 timezone synchronization and **Framer Motion** for high-retention onboarding flows.
- Containerized the entire ecosystem using **Docker** and managed persistence with **PostgreSQL**, utilizing **Spring Data JPA** for complex filtered searches across doctor directories.

Job Portal | React, Tailwind CSS, Material UI, Vite, Spring Boot, MySQL, Maven, Lombok 05 2025

- Developed a full-stack job portal enabling role-based access for employers and job seekers.
- Built core functionalities such as job posting, application management, and user-specific dashboards.
- Designed a clean and responsive UI using Tailwind CSS and Material UI, powered by Vite for fast performance.
- Created RESTful APIs with Spring Boot, utilizing JPA and MySQL for robust data management.
- [Live site here](#)

EXPERIENCE

ANM

01 2023 – 11 2023

Associate Automation Engineer

Faridabad, India

- Led cross-functional teams to deploy bots with 80% increased efficiency.
- Streamlined automation processes, boosting operational efficiency and system uptime by 30%.
- Engineered and deployed a live AI bot supporting customer inquiries, reducing response time by 40% and increasing customer satisfaction scores by 25% within the first three months of implementation.
- Documented workflows and created solutions to enhance automation scalability and performance.

Phemesoft

06 2022 – 08 2022

Summer Intern

Remote

- Integrated a real-time traffic control system using Java and Arduino, reducing vehicle idle time by 40%.
- Implemented IR sensor-driven dynamic signaling, cutting wait times and lowering emissions.

SKILLS

Languages: Java 21, Python 3, C, HTML5, CSS3, SQL

Databases: MySQL, Oracle 10G, PostgreSQL

Developer Tools: GitHub, IntelliJ, Visual Studio Code

Technologies/Frameworks: SpringBoot, REST APIs, Git, RabbitMQ, OpenFeign, Docker, PyTorch, TensorFlow, Keras, Numpy, Pandas

Concepts: Agile/Scrum, Object-Oriented Programming, Data Structures & Algorithms, MVC Architecture

Operating Systems: Linux (Ubuntu 24.04.1), Windows 11

Soft Skills: Communication, Cross-functional Team Leadership, Delivered projects ahead of schedule, Presented technical solutions to clients, ensuring clear understanding and fast adoption