

# SOUVIK GHOSH

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## EDUCATION

### Heritage Institute Of Technology

Bachelor of Technology in Computer Science & Business Systems - (CGPA: 7.53)

Kolkata, India

Oct. 2021 – Jun. 2025

### Bankura Banga Vidyalay

WBCHSE(XII) - (Percentage: 89%)

Bankura, India

Feb. 2020 – Mar. 2021

## TECHNICAL SKILLS

**Languages:** Java, SQL, JavaScript, HTML, CSS, Shell Scripting (Bash).

**Frontend & Backend Frameworks:** Spring Boot, Microservices, RESTful API Design, Node.js, Express, React.js

**Databases:** MySQL, MongoDB (NoSQL), Oracle, Relational Schema Design.

**Testing:** JUnit (Unit Testing), Postman (API Testing & Debugging).

**Tools & Dev Practices:** Git, Linux, Maven, Nginx, AWS(EC2), IntelliJ, Agile/Scrum, SDLC, Debugging.

**Core CS:** Data Structures & Algorithms, Object-Oriented Programming, Multithreading, Complexity Analysis, DBMS, Operating System, Computer Networks.

## EXPERIENCE

### MERN Stack Developer Intern

Jun 2024 – Jul 2024

Ardent Computech Pvt.Ltd.

Kolkata, India

- Developed & optimized a cloud-hosted **SaaS** platform, engineering both **frontend (React)** & **backend (Node.js, REST APIs)** with a focus on maintainable architecture & technical solution alternatives.
- Implemented **secure authentication** using **JWT-based** role-based access control, ensuring data integrity & strict security across client-facing applications
- Collaborated with **cross-functional teams** in an Agile environment to deliver features through **code reviews & sprint planning**, utilizing **Postman** for server-side **debugging** & API testing to improve system stability.

## PROJECTS

### Insurance Management System | [Github](#) | *React, Spring Boot Microservices, MySQL, Maven*

Dec 2024

- Architected a **distributed microservice-based system** using *Spring Boot*, & REST API design principles.
- Designed robust **inter-service communication** using *OpenFeign* & API Gateway patterns.
- Implemented secure authentication, **relational schemas** design, & transactional data handling.
- Ensured **system reliability** by developing comprehensive **unit tests using JUnit** to validate core business logic.

### BloodLink | [Github](#) | *React, Node, MongoDB, Git*

May 2025

- Built a scalable, real-time blood donation platform as part of a team, connecting patients with nearby blood banks.
- Integrated **geolocation & proximity-based search** ( $\leq 7 \text{ km radius}$ ) using *MongoDB geospatial queries* & *Google Maps API*, optimizing performance for real-time data retrieval.
- Enforced secure **3-tier access control** (*admin, hospital, recipient*) to maintain system-wide data security.

### Clype | [Github](#) | *Live* | *Next.js, Spring Boot, WebRTC, WebSockets, AWS, NGINX*

Jan 2026

- Designed and built a production-grade**, privacy-first real-time communication platform supporting peer-to-peer **chat, voice, & video** calls with fully encrypted media and zero server-side media handling.
- Architected a scalable signaling backend using **Spring Boot & WebSockets**, **deployed on AWS EC2** behind **NGINX** with HTTPS/WSS & **automated CI/CD** for reliable, zero-downtime deployments
- Built a **multi-window frontend** using *Next.js* & *Tailwind*, featuring window management, **drag isolation**, & persistent media state without disrupting live sessions.
- Deployed** & integrated the full stack **across AWS & Vercel** with environment-based configuration, reverse-proxy routing, & real-world network resilience.

## ACHIEVEMENTS & ACTIVITIES

**Open Source:** *Netflix Eureka*—Optimized delta-sync processing (PR #1602) by decoupling **ADDED & MODIFIED** instance logic, improving state accuracy & registration reliability in distributed environments.

**J.P. Morgan Chase & Co. Software Engineering Simulation on Forage:** Engineered a Spring Boot microservice for high-volume message processing, implementing Spring Data JPA for transactional persistence & integrating external REST APIs to validate complex financial workflows.

**Smart India Hackathon (2023):** Proposed a digital workflow solution to improve **team coordination & efficiency**.

**DSA Practice:** Solved **250+** DSA problems on LeetCode (*arrays, strings, LinkedList, recursion, DP, Graph, & Tree*).

**Certifications:** *J.P. Morgan* Software Engineering Simulation, & *Udemy* FullStack Web Development [[Certificates](#)].