

# SUBHADIP MUKHERJEE

**Software Engineer** (Kolkata, West Bengal, India)

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## Summary

Software Engineer with 4+ years of experience in building high-performance applications using Java and modern frameworks. Proven expertise in designing and developing scalable, resilient, and maintainable systems, delivering business-critical solutions. Strong problem solver with hands-on experience in microservices, reactive programming, and event-driven architectures.

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## Experience

### Software Engineer

March 2021 - January 2025

Tata Consultancy Services

Kolkata, West Bengal

Tech Stack :- J2EE, JSP, Oracle Sql, JBOSS.

- **Crafted intuitive UI components** using **JSP**, enhancing user interaction and overall application usability.
  - **Developed reusable utility methods** in **Java** to streamline development and code maintainability.
  - **Developed** Batch Jobs, stored procedures and functions in **Sql**, to enhance data manipulation and processing.
  - **Utilized JDBC and JPA** for seamless database interaction within the application.
  - **Revamped** existing features and fixed critical bugs, **elevating system performance** and user satisfaction.
  - **Accelerated query performance** by implementing effective **indexing and joining techniques**, resulting in faster data retrieval and improved overall application **responsiveness**.
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### Software Engineer

January 2025 - Present

Infosys

Kolkata, West Bengal

Tech Stack :- Spring Boot, Reactive Java, PostgreSQL, Apache Kafka.

- **Architected and delivered event-driven microservices** using **Spring Boot, Reactive Java, and Apache Kafka**, enabling **real-time data processing** and ensuring system scalability for **10K+ concurrent users with 99.9% uptime**.
  - **Implemented high-throughput messaging pipelines** with **Kafka** (producers, consumers, partitions, consumer groups), optimizing throughput and ensuring fault tolerance with proper retry and error-handling strategies.
  - **Designed and enforced API standards** across teams, leveraging **Spring annotations & REST best practices** to deliver modular, maintainable, and reusable APIs.
  - **Optimized database layer** by designing efficient schemas, implementing **indexing strategies**, and fine-tuning complex SQL queries, **reducing query execution time**.
  - **Drove performance tuning & observability initiatives** using monitoring, and backpressure strategies in **Reactive Streams** to ensure predictable latency under load.
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## Skills

**Programming** - Javascript, Java(Core and Reactive).

**Frameworks/Library** - Spring Boot, J2EE.

**Databases** - Oracle Sql, MongoDB.

**Build Tools** - Apache Ant, Maven.

**Version Control** - TortoiseGit, Git.

**Others** - Docker, JUnit, RESTful Web Services, JPA/JDBC, Apache Kafka, Websocket, JSP, Thymeleaf.

## Projects

### **Auth Service** | *Spring Boot, PostgreSQL, WebClient*

- **Developed a comprehensive authentication microservice** with custom JWT-based security implementation, handling user registration, authentication, and session management for secure access control.
- **Engineered custom Spring Security architecture** by implementing JWT filters and overriding authentication provider classes to create a tailored security framework aligned with business requirements.
- **Built scalable user management service** enabling profile updates and personal information management with role-based access control and data validation.
- **Implemented secure inter-service communication** using Spring WebClient for REST API integration, ensuring encrypted data transmission and proper error handling.

### **Insurance Web Application** | *J2EE, JSP, Oracle SQL*

- **Designed and implemented user-friendly UI components** using **JSP**, significantly improving **user experience** and **application accessibility**.
- Built **modular and reusable utility functions** in **Java**, aiding in **efficient development** and simplifying **future maintenance**.
- Created and **optimized batch processes, stored procedures, and SQL functions** to handle **complex data processing** tasks effectively.
- Leveraged **JDBC and JPA** to facilitate **efficient and reliable communication** between the application and the **database**.
- **Boosted database performance** by applying **advanced indexing strategies** and **optimized joins**, leading to quicker **query execution** and enhanced **application speed**.

### **Education Management System** | *Reactive Java, Thymeleaf, WebClient, H2, Websocket, Apache Kafka*

- **Designed and implemented an event-driven education management platform** using **Reactive Java & Kafka**, enabling **real-time scheduling, notifications, and class progress tracking**.
  - **Built a scheduling engine** that ensured **conflict-free allocation** of classes across students and faculties, enforcing slot validation and preventing double bookings.
  - **Implemented reactive email notifications** with **JavaMailSender**, sending automated updates for class scheduling, progress reports, and course completion.
  - **Engineered advanced search capabilities** (by date, time, or both) with efficient query handling using **Reactive DB Client & H2 file-based persistence**.
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## Education

Modern Institute of Engineering and Technology — B.TECH in ECE

AUGUST 2016 - JUNE 2020, Bandel, West Bengal, India. CGPA - 7.6

Chandannagar Banga Vidyalaya — WBCHSE in Science

JUNE 2014 - JULY 2016, West Bengal, India. % - 69

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## Achievements

- Earned Beyond Performance Award for exceptional client-side contributions.
  - Delivery Excellence Award for on-time delivery with approx **50% less bugs & escalations**.
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