Debjyoti Chakraborty

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EXPERIENCE

Software Engineer, Tech Mahindra March 2024 – Present
Stack: Java, JavaScript, GraphQL, REST APIs, GitHub Actions, Buddy CI/CD

- **Refactored platform data-fetching layer to GraphQL**, eliminating over-fetching REST calls to cut API payload size by **40%** and lower response latency by **~300ms**.
- **Automated CI/CD pipelines via GitHub Actions and Buddy**, introducing parallelized build and automated test suites that reduced release deployment time by **~40%**.
- **Optimized web core vitals to 90+ Google PageSpeed** score, reducing Largest Contentful Paint (LCP) by **~35%** via aggressive asset chunking, script deferred loading, and edge caching strategies.
- **Architected asynchronous webhook ingestion handlers** for an e-commerce platform, reliably syncing inventory and order lifecycles across **3PL fulfillment services** under peak flash-sale bursts of **10k+ req/sec** with zero message loss.
- **Engineered modular micro-components** across **50+ product variants** using **Strategy** and **Factory** patterns to decouple localized pricing and inventory logic, reducing boilerplate code by **~35%**.

PROJECTS

Bloom Filter Username Checker | Java, Spring Boot, Bloom Filter, PostgreSQL, Redis | Github | Medium | Live Demo

- Designed and built a production inspired username availability service using a **Bloom Filter** to **eliminate unnecessary database lookups**, **reducing** database query **load by ~93%** for non-existent usernames.
- Pre-seeded the filter with **100K+ usernames** and **implemented O(1)** probabilistic membership checks, significantly improving lookup latency and system throughput under concurrent traffic.
- Developed RESTful APIs using Spring Boot, integrating the Bloom Filter with a persistent PostgreSQL datastore while handling false-positive tradeoffs through database verification in a **production-inspired architecture**.

Horizontally Sharded Wallet System | Java, Spring Boot, PostgreSQL, Saga Pattern | Github | Medium | Live Demo

- **Architected** a horizontally scalable wallet system partitioning PostgreSQL via Spring's **AbstractRoutingDataSource** and **ThreadLocal** context holders, dynamically routing queries to target database shards based on account partition keys.
- **Orchestrated cross-shard transfers via the Saga pattern and 64-bit Snowflake IDs**, coordinating compensating workflows to maintain eventual consistency without blocking ACID transactions.
- **Eliminated double-spending and write race conditions** under concurrent load by enforcing pessimistic row-level locking (PESSIMISTIC_WRITE) and strict balance invariant checks during source debiting.

SKILLS

- Languages: Java, Go, Python, JavaScript
- Backend & Frameworks: Spring Boot, Hibernate/JPA, REST APIs, GraphQL
- Databases & Caching: Redis, PostgreSQL, MySQL
- Cloud & DevOps: Docker, AWS (Certified Cloud Practitioner), CI/CD (GitHub Actions)
- Web Technologies: React.js, HTML5, CSS3
- Core Concepts: Data Structures, Operating Systems, Networking, System Design

ACHIEVEMENTS & CERTIFICATIONS

- Solved 1000+ Data Structures and Algorithm problems across LeetCode and GeeksForGeeks, earning the 365 Days Consistency Badge.
- **AWS Certified Cloud Practitioner**, validated cloud-native infrastructure and distributed systems knowledge.
- Core member of **CODE8 CLUB**, led and mentored 150+ students across 3 flagship hackathons like HackMaze, Dare to Debug, and BlindCode.

EDUCATION

Dr. BC Roy Engineering College August 2019 – June 2023
B.Tech in Information Technology CGPA: 8.74 / 10