Nikhil Rai

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Summary

Full-stack Developer with **2.5+ years** of experience building **scalable backend systems** and modern web apps serving **10M+ users**. Specialized in **Java**, **Spring**, **Kafka**, and **AWS**, with experience in **TypeScript**, **Node.js**, and **React**.

Experience

Limeroad   *Gurgaon*
Software Development Engineer 2   *Nov 2022 – present*

Search and Recommendation System
- Led 4-engineer team building scalable semantic search & recommendation engine for **5M+ products** at **50K+ RPM**.
- Architected and **migrated legacy Solr** to a distributed cloud setup with **HTTP-proxy caching** using Varnish and **real-time updates** using Kafka, reducing response times to **sub-30 ms** (75% improvement).
- Boosted search **CTR by 20%** using hybrid **vector search** (text + image embeddings) and **L2R** model for ranking.
- **Optimized infra costs by 50%** with an auto-scaling strategy leveraging **AWS spot instances** for the Solr cluster.

Competitive Pricing Intelligence System
- Built pricing intelligence system monitoring **500K+ SKUs** daily across **5+ competitors** for price parity actions.
- **Designed distributed scraping pipeline** using **Apache Airflow DAGs**, **Node.js/Puppeteer**, and auto-scaling EC2 fleet (0-10 instances), reducing processing time from **24 hours to 4 hours** with **99.2% reliability**.
- Implemented product discovery with **Google Lens API** & React-based validation tool, achieving **95% automation**.
- **Delivered BI reports** with insights, powering **₹2M+ annual revenue** through price parity & vendor negotiations.

Server-2-Server Payment Service & Integration
- Built **payment-gateway agnostic** service with Spring framework and strategy pattern, supporting **5+ providers**.
- **Enhanced system resilience** with **circuit breakers**, reducing failures by 90% and achieving a **99.2% success rate**.
- Optimized payment flows with **Server-Sent Events**, **reducing server load by 23%** and improved user experience.
- Introduced the **'Pay with Rewards'** feature, boosting **checkout conversions by 8%** and **retention by 15%**.
- Built seamless payment UI with live status tracking and failover flows, **increasing successful checkouts by 5%**.

Technical Skills

Backend Development: Java, Spring, Hibernate/JPA, Node.js, Python, Kafka, RabbitMQ, REST APIs, Microservices

Databases & Caching: MySQL, Amazon Redshift, MongoDB, Redis, Aerospike, Apache Solr, Varnish, ZooKeeper

Cloud & Infrastructure: AWS (EC2, Lambda, RDS, S3, API Gateway, SNS), Docker, Nginx, NewRelic, Jenkins CI/CD

Frontend Technologies: React, TypeScript, JavaScript (ES6+), Next.js, Jest, HTML5, CSS3, Tailwind CSS

Education

Delhi Technological University   *New Delhi*
B.Tech in Mechanical Engineering (Minor in Computer Engineering)   *July 2019 – June 2023*
- CGPA: **9.30/10.00**, ranked **3rd** in the Department

Achievements

- Awarded **Best Innovator** at **Limeroad** for leading **Search & Recommendation**, boosting user engagement by **20%**.
- **SIH finalist** for building a Deep learning based maritime **search & rescue** solution for the **Indian Coast Guard**.