

Kshitij Kumar

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PROFESSIONAL SUMMARY

Full Stack Software Engineer with 3 years of experience building scalable, cloud-native **distributed systems**. Specialized in **Java, Python, TypeScript, and AWS architectures**, with deep expertise in **database internals**. Focused on rigorous code quality and **low-latency system** design, with hands-on experience building **Agentic AI** systems.

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, JavaScript, C++, SQL

Backend/Distributed Systems: Spring Boot, FastAPI, Node.js, Apache Kafka, RabbitMQ, Microservices

AI/LLM Engineering: LangGraph, LlamaIndex, Agentic Workflows, PgVector, RAG Pipelines, OpenRouter

Frontend: React, Next.js, Angular, HTML, CSS

Databases: PostgreSQL, MongoDB, Redis, Oracle, MySQL, Snowflake, Elasticsearch

Observability: Telemetry Pipelines, OpenTelemetry, Prometheus, Grafana, Distributed Tracing

Cloud/DevOps: AWS, EC2, SNS, SQS, ECR, ECS, Lambda, DynamoDB, IAM, Docker, Kubernetes, Tomcat, NginX, Maven

PROFESSIONAL EXPERIENCE

Software Engineer

Aug 2021 – Aug 2024

Bangalore, India

Wipro Ltd.

- Engineered a migration pipeline in **Java, Spring Boot**, leveraging Debezium for CDC and **Apache Kafka** to stream updates from sources (Oracle Redo Logs, MySQL Binlogs, PostgreSQL WALs) to diverse targets (PostgreSQL, MSSQL, Snowflake, BigQuery, Redshift).
- Implemented **Dead Letter Queues** to isolate and replay less than 0.5% of failed events and drifted data, preventing pipeline blockage during complex schema conversions.
- Architected a real-time validation software utilizing **LSN**-based watermarking to monitor **Eventual Consistency** and **Replication Lag**, ensuring **99.999%** data integrity across cross-vendor ecosystems.
- Spearheaded the transition to Microservices, implementing an **API Gateway** with granular **Token Bucket** rate limiting policies to prevent Noisy Neighbor issues and DDoS attacks.
- Optimized the **Data Validation** module by combining queries via **Apache Drill** with **CDC stream analysis**, verifying records across 10+ database dialects and reducing validation time by $\sim 31\%$.
- Partnered with a Principal Architect to develop a predictive **DB Selection Framework** from scratch using **Python** and **FastAPI**; the tool analyzed I/O patterns and storage growth to identify optimal migration targets, projecting cloud infrastructure **savings of $\sim 25\%$** .
- Secured stakeholder interest by demonstrating this framework to 10+ potential clients including **ANZ Bank, Mazda, Bank of America, Charles Schwab** and **Ford**.
- Wrote **clean, maintainable, and testable** code following **CI/CD** best practices using **GitHub Actions** and **Git** while **mentoring** and **conducting code reviews** for a team of 2 junior developers.

PROJECTS

K-Docs: A Google Docs Replica

[Link](#)

- Implemented a real-time collaborative editor replicating Google Docs. Used Yjs (**CRDTs**) and WebSockets to enable conflict-free concurrent editing, ensuring eventual consistency and sub-100ms latency for multiple users without central locking.
- Designed a secure document storage layer using PostgreSQL and Node.js, implementing granular Role-Based Access Control (RBAC) within a containerized Docker environment hosted on AWS.

AI Code Reviewer

[Link](#)

- Engineered an event-driven AI agent that consumes GitHub Webhooks via Apache Kafka to scale to 500+ concurrent PRs, utilizing Google Gemini to provide automated Quality Scores (0-100), Security audits, and Code Smell detection directly on Pull Requests. This reduces manual review cycles by 60%.

Vibe Matcher

- Developed a fault-tolerant microservices ecosystem using Spring Cloud and RabbitMQ for asynchronous messaging, integrating Hystrix Circuit Breakers and Spring Security to ensure high availability and secure data access across distributed services.

EDUCATION

State University of New York at Buffalo

New York, USA

Master of Science in Computer Science and Engineering

Aug 2024 – June 2026

Birla Institute of Technology, Mesra

Ranchi, India

Integrated Master of Science in Mathematics and Computing

July 2016 – June 2021