Ankur Gangwar

Java Backend Engineer

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Summary

Backend engineer with 4+ years building and owning production services: rewards wallets on append-only ledgers, payment and payout flows, log ingestion pipelines and retrieval-augmented AI services. Primary stack is Java and Spring Boot with PostgreSQL, Redis, MongoDB, Elasticsearch and message queues. Looking for an SDE-2 backend role at a product company.

Technical Skills

Languages: Java, SQL

Frameworks and APIs: Spring Boot, Spring Data JPA, Spring Data MongoDB, Spring Cloud Gateway, Spring Kafka, REST

Datastores and Search: PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch

Messaging and Pipelines: Apache Kafka, AWS SQS, Logstash, dead-letter queues

Cloud, Build and Testing: AWS S3, Docker, Docker Compose, Maven, Linux, Selenium, TestNG, ExtentReports

AI and LLM: RAG, vector search, embeddings, Llama 3.1, Gemma, Cloudflare Workers AI, OpenAI SDK, MCP, Claude Code

Work Experience

Centre for Development of Advanced Computing (C-DAC), Noida **Oct 2024 - Present**
Project Engineer *Uttar Pradesh, India*

- Owned the **system design** of a rewards wallet on an **append-only ledger**, guaranteeing **exactly-once processing** under retries, crashes and concurrency via **idempotency** keys, **pessimistic row locking**, **optimistic locking** and **reconciliation**.
- Diagnosed and fixed a race that let parallel credits bypass the daily earning cap by replacing read-then-increment with an **atomic Redis reservation**; proved the fix with duplicate-fire tests on real PostgreSQL and Redis plus a negative control.
- Developed the ad campaign backend: campaign lifecycle, publishing gated by **device-bound step-up authorization**, presigned **direct-to-storage** uploads with queued transcoding, signed playback URLs and timezone-bucketed analytics.
- Built the payments and payouts service: gateways behind one adapter interface, **idempotent** ledger entries, a **payout state machine** that returns coins on failure, and scheduled payouts that are safe to re-run.
- Shipped a **retrieval-augmented** assistant on a **ports-and-adapters** design with swappable vector-store and inference providers, answers grounded strictly in retrieved facts, streamed responses and a router that skips needless query rewrites.
- Delivered a modular platform backend (wallet-signature sign-in, marketplace orders, leaderboards, referrals) with per-client **rate limiting**, moving third-party and on-chain work to **queue-backed workers** so latency stays independent of external APIs.
- Engineered a config-driven **end-to-end test framework in Java** (Selenium, TestNG) reused across products, with thread-isolated sessions, API-seeded data and retries limited to transient faults so **real defects are never masked**.

Centre for Development of Advanced Computing (C-DAC), Mohali **Jan 2023 - Oct 2024**
Project Engineer *Punjab, India*

- Implemented an **S3 input source** in Logstash whose resumption survives restarts without re-ingesting processed objects.
- Hardened Logstash **grok and dissect parsers** for multiple log formats, routing unparseable events to a **quarantine index** instead of dropping them, with index templates that declare field types at write time.
- Designed device-type Elasticsearch partitions with **time-based rollover**, so investigations search one partition, not every daily index.
- Designed an **SQS-buffered aggregation layer** so cross-center reports depend on one aggregated view instead of every center's cluster, with at-least-once delivery, backpressure and dead-letter isolation.

Surya Fintech Pvt. Ltd. **Jan 2022 - Jan 2023**
Software Development Engineer - 1 *Bengaluru, Karnataka, India*

- Rebuilt a multi-file **CSV correlation job** to read each file once through a hash index instead of re-scanning per row.
- Wrote **SQL join queries** across wide, many-column bank tables to produce the required output datasets.

Projects

E-Commerce Microservices | *Java 21, Spring Boot, Kafka, MySQL, MongoDB* github.com/Sheldon1999/E-Commerce-app

- Event-driven backend: product, inventory, order and notification services behind an API gateway, talking over **Kafka**.

Leafrune | *Rust, Tauri, llama.cpp, ONNX, sqlite-vec* ankurgangwar.com/products/leafrune

- PDF reader published on the **Microsoft Store** (and macOS) with a **fully offline RAG** assistant: 256-token passages are **embedded on-device** (ONNX) and ranked by **cosine similarity** in sqlite-vec; Gemma 4 E2B answers via **llama.cpp** and **cites its passages**.
- Built an **LLM evaluation harness** that runs a question set through the app's real pipeline per model, recording answers, cited pages, step timings and peak memory; models unload after 2 idle minutes and a new embedding model triggers re-indexing; 289 tests.

Cloudinary Shell (cldsh) | *Node.js, Model Context Protocol, npm* ankurgangwar.com/products/cloudinary-shell

- Open-source **MCP server** on npm (**493 downloads**) that gives AI agents such as Claude and Cursor 11 Cloudinary tools over JSON-RPC 2.0, with read-only, destructive and idempotent **tool annotations** and protocol-version negotiation.
- **Agent guardrails**: destructive calls return a preview plus a **single-use, 5-minute confirmation token** bound to the exact arguments, file access is limited to client-shared roots, and a read-only mode exposes only safe tools; 190+ tests.

Education

MJP Rohilkhand University **2017 - 2021**
B.Tech, Computer Science and Information Technology *Bareilly, Uttar Pradesh, India*