

Aaditya Pal

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SUMMARY

Software Engineer with **3+ years of experience** building **scalable distributed systems** and **AI-driven pipelines**, skilled in **C++, Java, Golang, Spring Boot**, and **AWS/GCP**. Experienced in designing **high-availability, low-latency systems** using **Kafka, Redis**, and **SQL**, with hands-on experience in **LLM applications, RAG pipelines**, and **vector search**.

TECHNICAL SKILLS

Languages : C++, Java, Go, Kotlin

Frameworks : Spring Boot, Spring, GRPC, Express Js, React Js

DevOps and API Tools : Git, Docker, Kubernetes, Postman, Swagger

Database management : MySQL, MongoDB, Postgres

AI / ML : Machine Learning, PyTorch, Time Series Forecasting (TFT), Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Prompt Engineering, Embeddings (Sentence Transformers), Semantic Search

Cloud and Security Tools : Google Cloud Platform (GCP), Amazon Web Services (AWS)

Systems and Concepts : Distributed Systems, Microservices, Event-Driven Architecture, REST APIs, SOLID Principles

EXPERIENCE

Software Engineer | Razorpay

March 2025 – Present

- Integrated Amazon Pay Later and Amazon Link & Pay Wallets into Razorpay's platform using **Golang, gRPC, and PostgreSQL**, enabling secure tokenized payment flows and supporting 50K+ daily transactions with 99.9% success rate in production
- Worked on **Kubernetes (K8s)** infrastructure to onboard critical services like Tokens Service, contributing to 3x traffic handling capacity and reducing service downtime by 30%
- Designed and implemented a secure, event-driven NPCI callback system using Transactional Outbox and **Kafka CDC**, ensuring zero data loss and improving callback reliability from 98.5% to 99.99%
- Developed NPCI integration layer with XML protocol validation, handling 100K+ requests/day and reducing integration failures by 30–35% through robust validation and retry mechanisms
- Engineered offer systems for Air India including No-Cost EMI, Instant Discounts, and dynamic Haul-Type Offers, contributing to a 12–15% increase in conversion rate during promotional campaigns
- Enhanced Razorpay Standard Checkout by implementing custom merchant address handling, reducing checkout failures by 20% and improving merchant onboarding efficiency by 25–30%

Software Engineer | Moveinsync

Nov 2024 – March 2025

- Designed, implemented, and owned a scalable payment microservice for food booking for Moveinsync and Workinsync modules, enabling seamless integration with multiple payment gateways. Utilized **Spring Boot, Kafka, Postgres, Elasticsearch, and Multithreading** to ensure high performance, and developed test suites for robust validation.
- Refactored and migrated past booking data of Workinsync using **Spring Boot, Bash scripts, and Postgres** with database partitioning and sharding for 40% faster query.
- Successfully migrated multiple services to the latest Java version, including comprehensive refactoring to enhance performance and maintainability.

Associate Software Engineer | Nomura

August 2023 – Oct 2024

- Developed a proxy service to implement message routing to multiple queues using **Spring Boot, Apache Camel, ActiveMQ, and Postgres**, enhancing the reliability and efficiency of inter-service communication.
- Designed RESTful endpoints with **Spring Boot** to facilitate communication between microservices, ensuring seamless integration and interaction. Additionally, configured cache using **Redis**, improving microservices communication efficiency.
- Created a reporting and audit service using **Elasticsearch, ActiveMQ, and Spring Boot**. Introduced multithreading for enhanced performance and scalability, enabling efficient data retrieval and real-time message processing for audit logs and reports.

EDUCATION

Sikkim Manipal Institute of Technology

BTech in Computer Science & Engineering | GPA : 8.9

August 2019 – August 2023

PROJECTS

AlphaMind | FastAPI, PyTorch, TFT, LLM, RAG, ChromaDB, Sentence Transformers

2026

- Built a distributed AI system for stock prediction and natural-language Q&A using a **3-microservice architecture** (Scraper, Model, RAG).
- Implemented **Temporal Fusion Transformer (TFT)** for multi-horizon time-series forecasting with real-time feature pipelines.
- Developed a **RAG pipeline** leveraging **vector database (ChromaDB)** and embeddings (**Sentence Transformers**) for context-aware retrieval.
- Integrated **LLM (Ollama/Llama)** with dynamic context assembly and **semantic search** over vector embeddings.
- Designed **hybrid retrieval system** combining live APIs and vector DB fallback to optimize latency and response accuracy.