

Kaushik Pal

Software Engineer | Backend | Cloud | GenAI

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SKILLS

- **Languages:** Python, Java, JavaScript, TypeScript
- **Backend & Frontend:** Spring Boot, FastAPI, Flask, Angular
- **Databases & Distributed Systems:** PostgreSQL, MySQL, Oracle DB, SQLite, Redis, Caffeine, MongoDB, Kafka, RabbitMQ, Protobuf
- **Cloud & DevOps:** AWS, Oracle Cloud, NGINX, Splunk, Netdata, Backblaze
- **GenAI:** Amazon Bedrock, Spring AI, RAG, Prompt Engineering, Multi-Agent Systems

WORK EXPERIENCE

Associate Consultant

Capgemini | May 2025 – Present

AI-Powered Manual PDFs to XML *Tech:* Python, AWS Lambda/ECS/SQS/S3, bedrock API

- Architected an event-driven ingestion pipeline where S3 uploads trigger Lambda orchestration and parallel ECS tasks for OCR preprocessing, feeding a staged LLM inference layer that generates per-page XML and auto-repairs cross-page merge inconsistencies – converting 20-page manuals in ~6–7 min end-to-end.
- Led a 6-person team as senior developer, owning core pipeline architecture and scaling design across AWS ECS, Lambda, and CloudFormation-defined infrastructure.

Offline Aircraft Engine Repair Manual App *Tech:* Java, Spring Boot

- Co-developed Spring Boot backend processing ~1GB packages in ~15 min for an offline Vue.js/Electron app; implemented SQLite FTS5 search (<50ms) across ~5,000 documents, caching, and streaming.
- Automated cross-platform CI/CD via AWS CodeBuild, packaging Windows/MacOs builds with bundled JRE to S3; extended backend to support LAN mode for mobile/tablet manual access.

Senior Analyst

Capgemini | May 2024 – May 2025

Aerospace legal hold platform *Tech:* Java, Spring Boot, Angular

- Migrated EC2 batch workloads to AWS Lambda, reducing runtime from ~12 min to ~4 min and lowering compute costs; built automated rollback workflows and Splunk observability across Spring Boot/Angular and Flask apps.

PERSONAL PROJECTS

DNSFilt – Distributed DNS Resolver

[Website 1](#) | [Website 2](#) | [GitHub](#)

Tech: Java, Spring Boot, Kafka, Protobuf, Redis, Docker, NGINX, Angular, Python

- Built a high-throughput distributed DNS resolver with Java 25 virtual threads, achieving ~20ms p95 latency and 50,000+ QPS/node via a multi-tier caching pipeline (L1, L2 Cache) and NGINX PROXY Protocol support for accurate client IPs.
- Designed a real-time analytics pipeline using Kafka + Protobuf/Zstd (97%+ compression) to roll up telemetry into Oracle DB, with a Python orchestrator for zero-downtime rolling upgrades.

TripBrain – AI Travel Planner

[Website 1](#) | [Website 2](#) | [GitHub](#)

Tech: Java, Spring Boot, Angular, Qdrant, Redis, Gemini/Groq, Docker, NGINX

- Built a full-stack AI travel planner generating structured day-by-day itineraries in under 5 minutes via a multi-step agent pipeline with RAG over user-uploaded documents.
- Designed a resilient multi-LLM orchestration layer (4-model Gemini load balancing, Groq fallback, bulkhead rate limiting) with zero-downtime blue-green deploys and automated CI/CD.

EDUCATION

Dr. B. C. Roy Engineering College

B.E./B.Tech, Computer Science & Engineering

2019–2023

CGPA: 9.61/10

CERTIFICATIONS & ACHIEVEMENTS

- AWS Certified Developer – Associate [View Cert](#)
- Microsoft Certified: Azure AI Apps and Agents Developer Associate [View Cert](#)
- Athropic Claude Certified Developer – Fundamentals [View Cert](#)
- LeetCode Knight – 1900+ Contest Rating [View Profile](#)
- Security Research: Responsibly reported a critical vulnerability in an internal RAG application.
- Capgemini CSR Contributor: Educational mentorship and technical assistance for underprivileged students.