

Ashita Bansal

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PROFESSIONAL EXPERIENCE

JP Morgan Chase & Co. | Software Engineer (Backend and Infrastructure Engineer) | Aug 24 – Present

- Spearheaded the migration of on-premises workloads to a cloud-native, event-driven ingestion platform (**AWS Glue, Airflow, Kafka**), **slashing VSI compute costs by 99%** while enabling scalable data processing.
- Developed an **MCP-based** internal operations server to provide critical infrastructure visibility, **reducing production query resolution time by 90%** for **20+** stakeholders by exposing real-time operational insights.
- Modernized high-volume Query Service architecture by migrating legacy components to **Spring MVC**, guaranteeing **99.9%** uptime for **300+** critical workflows while systematically reducing technical debt.
- Architected robust end-to-end **ETL pipelines** utilizing **EventBridge** and **Lambda** to trigger **Airflow** workflows; processed **10GB+** raw files from **S3** to **Apache Iceberg**, **reducing latency to <120 seconds** via advanced partition pruning and **Parquet** vectorization.
- Deployed a robust blue/green deployment framework with rigorous validation and CI/CD integration, ensuring near-zero-downtime releases and minimizing production risk.
- Systematized certificate lifecycle management using **Lambda** and **AWS Secrets Manager**, eliminating **100%** of manual renewal overhead across all production services.
- Collaborated on system design, production debugging, and architecture reviews for cloud migration and backend modernization initiatives supporting **300+** dependent workflows.

JP Morgan Chase & Co. | Software Engineering Intern (Backend Engineer) | Jan 23 – June 23

- Engineered high-performance features across **Java, Spring Boot, and React**, boosting module throughput by **25%**.
- Spearheaded the migration of multiple applications from Java 8 to Java 17, upgrading Maven dependencies to enhance security, compatibility, and long-term maintainability.
- Hardened **30+** microservices by resolving **100+** critical vulnerabilities via **Raven** and **Fortify** scans, while expanding **JUnit/Mockito** test suites to bolster regression coverage.
- Revitalized CI/CD pipelines to streamline deployment, reducing integration wait times by **40%** and increasing release frequency by **2x**.

TECHNICAL SKILLS

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

Backend: Spring Boot, Spring MVC, FastAPI, REST APIs, Microservices, Maven, JUnit, Mockito

Cloud & Infrastructure: AWS (Glue, Lambda, S3, Athena, EventBridge, MSK/Kafka, CloudWatch), Airflow, Docker, Redis

Data & AI: Event-Driven Architecture, ETL Pipelines, PostgreSQL, Query Optimization, Semantic Search, Vector Databases, RAG, LLMs, Vector Search, Embeddings, AI Agents

DevOps & Reliability: Jenkins, GitHub Actions, Spinnaker, Terraform, CI/CD, Blue-Green Deployments, Fortify, Raven, AWS Secrets Manager, Code Reviews, Production Debugging, Observability

PROJECTS

Compliance & Document Review Platform | Python, FastAPI, PostgreSQL, Redis, Vector DB, OpenAI, Docker

- Constructed an AI-powered compliance review platform using **RAG** and **LLMs**, **slashing contract processing time by 75%** for legal and compliance teams.
- Designed high-throughput ingestion and semantic retrieval pipelines for large-scale document datasets, achieving **<150 ms** latency on complex queries.
- Facilitated automated compliance validation and risk detection workflows using **FastAPI, PostgreSQL, and Redis**, **reducing manual review effort by 70%** while enabling scalable, concurrent analysis of complex regulatory documents.
- Authored comprehensive observability and audit-tracking modules, identifying system bottlenecks and reducing debugging time by **50%**.

AI Financial Research & Market Intelligence Agent | Python, FastAPI, PostgreSQL, Vector DB, OpenAI, Docker

- **Engineered** an AI-powered financial research platform that aggregates market data, earnings reports, regulatory filings, and financial news, enabling comprehensive investment analysis through a unified interface.
- **Implemented** RAG workflows for financial Q&A, company analysis, and automated research summarization using **vector search, embeddings, and large language models**.
- **Designed** and scaled semantic search and retrieval systems for **10,000+** financial documents using **FastAPI** and **Vector Databases**; optimized retrieval and caching mechanisms to improve AI response accuracy and source attribution.
- **Optimized** retrieval, ranking, and caching mechanisms while implementing **source attribution frameworks** to improve response quality, platform reliability, and traceability of AI-generated insights.

EDUCATION

Punjab Engineering College | B.Tech Computer Science Engineering with Minor Specialization in Mathematics June 2024
Coursework: Artificial Intelligence, Machine Learning, Operating System, Networks GPA:8.13/10