

Abhinav Bajpai

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SUMMARY

Software Engineer with 4+ years in backend systems, microservices, and cloud platforms (AWS, Azure, GCP). Experienced in building scalable Spring Boot and SQL systems at TCS, delivering IoT/energy workflows at Meltek, and developing LLM-powered applications integrating embeddings and semantic search.

EXPERIENCE

Syracuse University

Software Developer Intern

Tech: FastAPI, Streamlit, LlamaIndex, OpenAI, Gemini, PostgreSQL, AWS

Seattle, USA

June 2025 – Present

- Developed a codebase explainer service that reduced developer onboarding time by **30–40%** through repository parsing, metadata extraction, and semantic Q&A with embeddings.
- Implemented caching and metadata persistence, cutting redundant token/API usage by **25–30%** and lowering inference costs.
- Designed a Streamlit UI for repository navigation and onboarding summaries, improving usability and adoption among new developers.
- Strengthened reliability with validation and error handling across pipelines, reducing failed runs by **20%**.

Meltek Inc.

Software Developer Intern

Tech: Python, Pandas, PostgreSQL, Azure Logic Apps, Azure Monitor, Hookdeck, Bubble.io

New York, USA

May 2024 – Aug 2024

- Built IoT device registration workflows, increasing efficiency by **40%** for **1,000+ devices**.
- Engineered Azure Logic Apps pipelines to ingest Enode API data into PostgreSQL, reducing processing time by **30%**.
- Implemented automated monitoring and alerting with Azure Monitor, achieving SOC 2 compliance and cutting manual checks by **50%**.
- Optimized PostgreSQL with UPSERT + CDC, eliminating **80%** duplicate entries and improving query response time by **40%**.
- Integrated Enode APIs across **2,000+ devices**, streamlining ingestion and accessibility by **25%**.
- Reduced database storage costs by **60%** and boosted query performance by **50%** using an event-driven storage model.

Tata Consultancy Services

Software Developer

Tech: Java, Spring Boot, Spring Batch, PL/pgSQL, PostgreSQL, Oracle, Microservices

Lucknow, India

May 2019 – June 2023

- Refactored Spring Batch jobs and PL/pgSQL procedures in a large-scale LMS, enabling automated scheduling and improving maintainability.
- Designed and delivered modular Spring Boot microservices with PostgreSQL, ensuring scalable, high-throughput data handling.
- Re-architected schemas and indexing, reducing peak query execution time by **25%** under high traffic.
- Led ETL of global learner datasets, enabling personalization and increasing course completion rates by **20%**.
- Engineered internal admin tools including full-text Lucene search and automated Excel-to-database loaders, saving **40%** operations effort.
- Implemented blue-green deployment strategies, eliminating downtime and reducing rollback time from hours to minutes; boosted report generation speed by **80%** with pre-aggregated tables.

TECHNICAL SKILLS

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

Frameworks: Spring Boot, FastAPI, Flask, Angular, React, TensorFlow, Scikit-learn, Pandas, Streamlit

Databases: PostgreSQL, MySQL, Oracle

Cloud and Tools: AWS, Azure Logic Apps, Azure Monitor, GCP, Docker, Jenkins, Git, Kafka, Linux

AI and Data: LLM integration (OpenAI, Gemini), LlamaIndex, Semantic Search, Prompt Engineering

Core CS: Data Structures and Algorithms, Object-Oriented Design, Distributed Systems, Microservices, System Design

EDUCATION

Syracuse University

MS in Computer Science

May 2025

GPA: 3.64/4.0

REVA University

BTech in Computer Science

May 2019

GPA: 8.16/10.0