

Kshitiz Raj

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EXPERIENCE

Software Engineer – BA4

Mar 2025 – Current

Barclays Bank PLC

Pune, IN

- Migrated **CI/CD pipelines** for ~10 repositories to **AWS** deployments using **CloudFormation** and **Service Catalog**, moving from **Bitbucket Stash** to **GitLab** with reusable common pipeline components.
- Developed and maintained **GraphQL APIs** using **Node.js**, enabling efficient data aggregation and flexible client-side consumption.
- Implemented secure authentication and authorization using **JWT tokens**, enforcing access controls and session integrity across application layers.
- Designed and optimized **complex SQL queries** and **stored procedures** in **SQL Server** to support high-volume reporting workflows with improved performance and reliability.
- Deployed and operated UI and API services on **Red Hat OpenShift** across multiple clusters, ensuring scalability, availability, and environment consistency.

Technical Graduate Developer – BA3

Jul 2024 – Feb 2025

Barclays Bank PLC

Pune, IN

- Built and deployed predictive ML models (XGBoost, LightGBM)** to forecast project health and **RAG (Red/Amber/Green)** status, improving accuracy from **82% to 96%** and achieving **91% precision**, reducing false-positive risk alerts.
- Executed end-to-end data science workflows – EDA, feature engineering, **hypothesis testing**, and **statistical validation** – to identify key project risk indicators from historical, time-series, and categorical data.
- Optimized ML training pipelines**, reducing **training time by 63%** (4 hrs to 1.5 hrs) through efficient feature pipelines, model tuning, and **stratified k-fold cross-validation**.

PROJECTS

Jarvis | Python, Google ADK, LangChain, Pinecone, FastAPI, A2A

Feb 2025 – Building

- Designed a **governed multi-agent AI system** using Google ADK, with a centralized root agent handling planning, delegation, and session-level context management.
- Built **parallel and sequential agent pipelines** for healthcare and financial reasoning, combining **RAG-based retrieval** with explicit aggregation and validation stages.

WorkSync | TurboRepo, Express, Kafka, PostgreSQL, Prisma, Supabase, Next.js

Oct 2025

- Engineered a **modular, event-driven automation platform** enabling user-defined workflows triggered by real-time system and external events.
- Designed a **Kafka-based event pipeline** for scalable workflow orchestration and asynchronous task execution across distributed services.
- Implemented a **secure, multi-tenant backend** using PostgreSQL, Prisma, and Supabase Authentication for access control and tenant isolation.

TECHNICAL SKILLS

Programming: Python, TypeScript, JavaScript, C/C++

Applied AI: Google ADK, AWS Bedrock, AWS AgentCore, LangChain, LangGraph, A2A, ReAct Tool Use, RAG, Prompt Engineering, NLP (TF-IDF), Vector Databases, AWS Strands, MCP-style Context Propagation

Backend & Distributed Systems: FastAPI, Node.js, Express.js, REST APIs, Redux, JWT, OAuth 2.0, Event-Driven Architecture, WebSockets, Kafka

Data & Storage: PostgreSQL, MySQL, MongoDB, Redis, Prisma ORM, Supabase

Cloud, DevOps & Reliability: AWS, Docker, Red Hat OpenShift, CI/CD (GitLab), ELK Stack, Monitoring

Frontend: React.js, Next.js, Vite, Tailwind CSS, HTML/CSS

CERTIFICATIONS & COURSES

Barclays: Agentic AI Digital Credential, Gen AI Digital Credential

Google: Build Intelligent Agents with ADK, Agents Intensive Capstone Project

Other: 100xDevs Full Stack Development (Levels 0–1 & 1–100), NPTEL – Data Science for Engineers, Red Hat – Enterprise Linux Fundamentals

EDUCATION

SRM Institute of Science & Technology

Chennai, TN

B.Tech in Computer Science & Engineering

2020 – 2024

- CGPA: 9.05/10

Delhi Public School

Bokaro Steel City, JH

AISSE (12th): 90.20% | AISSE (10th): 88.4%

2017 – 2020