PIYUSH UPRETI

Software Developer | Data Engineer

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LinkedIn | GitHub | Medium

PROFILE SUMMARY

Software Developer & Data Engineer with experience building platforms, orchestration engines, AI-driven automations, and data systems at enterprise scale. Proven ability in system design, distributed computing, and delivering cloud-native products across business domains.

Drives technical execution, collaborates with cross-functional stakeholders, mentors engineers, and ships reliable systems with measurable outcomes. Experienced in building high-availability platforms, optimizing observability, and enabling intelligent automation powered by AI agents.

SKILLS

Languages & Frameworks: Python, SQL, Flask, FastAPI, Django, PySpark, Pandas, JavaScript, C/C++

Data & Platforms: Azure, Google Cloud, PostgreSQL, Redis, BigQuery, Airflow, Kafka, DataProc, Databricks, Kubernetes

DevOps & Observability: Docker, Prometheus, Grafana, Istio, OpenTelemetry

AI & Automation Tools: LangChain, LangGraph, Phoenix Tracing, Enterprise LLM Gateways, Google Gemini, OpenAI GPTs

Core Engineering: Microservices, Distributed Systems, Agentic AI, Data Structures & Algorithms, Problem Solving

Professional Skills: Architectural thinking, Communication, Adaptability, Cross-Functional Collaboration

PROFESSIONAL EXPERIENCE

Software Engineer III   Sept 2024 - Present
Walmart Global Tech India | Bengaluru

- Built a **Multi-Agent Orchestration Platform** automating pipeline generation and deployment using natural language, **reducing manual development by 80%.**
- Co-authored design documents and **led delivery across four backend teams.**
- Developed the ETL engine powering the Finance Data Lakehouse, enabling **20+ business domains to onboard data and process 100M+ records/month.**
- Designed a Centralized Logging and Audit Platform with lineage, quarantine tracking, and pipeline health visibility, **improving incident resolution time by 50%.**

Tech Stack: LangChain, LangGraph, FastAPI, PySpark, Kafka, BigQuery, Kubernetes, Prometheus, Grafana, Istio, OpenTelemetry, OpenLineage

Software Engineer II   June 2022 - Aug 2024
Walmart Global Tech India | Bengaluru

- Built **event-driven ETL frameworks** for fintech workloads, enhancing reliability and throughput.
- Developed scalable Flask-based backend services achieving **90%+ test coverage** and **95% code quality.**
- Migrated **2000+ pipelines** to managed cloud infrastructure with **zero downtime.**
- Led peer reviews, enforced engineering best practices, and accelerated new hire onboarding.

Tech Stack: Flask, PySpark, REST APIs, Azure, GCS, Databricks, SQL, BigQuery

Software Developer Intern   May 2021 - July 2021
Walmart Global Tech India | Bengaluru

- Developed UI dashboards and backend logic for an HR automation web application.

Tech Stack: React, Redux, Node.js, TypeScript, CosmosDB

KEY PROJECTS

AI-Powered Multi-Agent Data Platform

- Designed and deployed a production-grade orchestration engine coordinating multiple AI agents for data discovery and ETL pipeline generation across environments.
- Integrated intelligent routing, human-in-the-loop approvals, and observability hooks.

Stack: LangChain, LangGraph, FastAPI, Phoenix, Kubernetes, LLM Gateway, OpenTelemetry

Finance Data Lakehouse & ETL Engine

- Built the core ETL engine enabling multi-domain onboarding, runtime validations, Data Quality, and orchestration for FP&A workloads.
- Delivered batch + streaming pipelines supporting 100M+ monthly records.

Stack: PySpark, Kafka, Airflow, Apache Hudi, DataProc, BigQuery

Centralized Logging & Audit Platform

- Designed SDK and data models to instrument lineage and failure tracking across pipelines.
- Delivered data lineage observability and quarantined-record traces for 1000+ pipelines.

Stack: PostgreSQL, OpenTelemetry, OpenLineage

Unified Data Ingestion Web Service

- Built ingestion & consumption APIs with multi-cloud support, enabling connectivity to data lakes and warehouse storage systems.
- Reduced production incidents by 80% and improved test coverage to >90%.

Stack: Flask, Kubernetes, Docker, Google Cloud, Azure, BigQuery, Akeyless

ADDITIONAL PROJECTS

AI-Driven Textile Workflow Manager

- Built a real-time order management system for factory operations and customer support.
- Integrated Gmail + Gemini AI agent to extract order context and auto-respond to emails.

Stack: Flask, SocketIO, SQLAlchemy, SQLite, Gmail API, Google Gemini

Custom Index Builder & Analytics Engine

- Full-stack solution for constructing stock indices, automated ingestion, performance analytics, and export workflows.
- Added modular architecture, Redis caching, FastAPI APIs and Docker packaging.

Stack: FastAPI, Redis, Pandas, SQLite, Docker

EDUCATION

Indian Institute of Technology (BHU), Varanasi
B.Tech in Electronics Engineering | 2018 - 2022

HONORS & ACHIEVEMENTS

AIR 2304 in IIT JEE (Advanced), 2018

INTERESTS

AI systems　·　automation platforms　·　trading analytics　·　distributed systems　·　writing technical blogs