

PIYUSH UPRETI

Software Developer | Data Engineer

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PROFILE SUMMARY

Software Developer with experience building **Data Platforms** and **Backend Services**.

Demonstrated expertise in system design, distributed computing, and building scalable cloud-native platforms adopted across business domains. Leveraging AI and automation tools to enhance developer productivity and streamline data workflows.

SKILLS

Languages & Frameworks: Python, SQL, Flask, FastAPI, Django, PySpark, Pandas

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

Observability & Monitoring: OpenTelemetry, Grafana, Prometheus, Istio, OpenLineage

AI & Automation Tools: LangChain, LangGraph, OTel-based monitoring

System Concepts: Microservices, Distributed Systems, Data Structures & Algorithms

PROFESSIONAL EXPERIENCE

Software Engineer III

Walmart Global Tech India | Bengaluru

Sept 2024 - Present

- Developed the Core 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 SDK with lineage and quarantine tracing, **improving incident resolution time by 50%**.
- Built a multi-agent orchestration service simplifying pipeline generation and deployment using natural language, **reducing manual development by 80%**.
- Co-authored design documents and **led delivery across four backend teams**.

Tech Stack: FastAPI, PySpark, Postgres, Kubernetes, Prometheus, Grafana, Istio, OpenTelemetry, OpenLineage, LangChain

Software Engineer II

Walmart Global Tech India | Bengaluru

June 2022 - Aug 2024

- 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

Walmart Global Tech India | Bengaluru

May 2021 - July 2021

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

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

KEY PROJECTS

Finance Data Lakehouse

- Built the core ETL engine for data lakehouse enabling multi-domain onboarding, runtime validations, Data Quality, and orchestration for FP&A workloads.
- Collaborated with architects to define platform roadmap aiming to support 100M+ monthly records.

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

Unified Data Ingestion Web Service

- Built highly available & fault-tolerant APIs for data ingestion & consumption, 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*

Centralized Logging & Audit Plugin

- 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: *Python, PostgreSQL, OpenTelemetry, OpenLineage, Airflow, PySpark*

Multi-Agent Orchestration Service

- Designed and developed an AI-powered multi-agent orchestration engine for data discovery and ETL automation.
- Reduced platform onboarding effort & enabled autonomous workflow generation.

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

ADDITIONAL PROJECTS

AI-Driven Textile Workflow Manager (Independent)

- Built a real-time order workflow management & AI-powered customer support system for textile ops.
- Demonstrated ability to build applied AI products beyond enterprise domain.

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

Custom Index Builder & Analytics Engine (Independent)

- 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

Trading Systems • Agentic AI • Applied Distributed Computing • Technical Content Writing