

# Aditya Sugandhi

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## SUMMARY

Software Engineer with 5+ years building AI data platforms and large-scale data infrastructure. Expert in Python, Java, and distributed systems with production experience in data pipeline automation, dataset lifecycle management, and AI/ML workflow orchestration. Delivered platforms processing 50M+ events/day with 99.99% availability.

## TECHNICAL SKILLS

- Languages:** Python, Java, TypeScript/JavaScript, SQL, C#, Go (familiar)
- Data Infrastructure:** Apache Kafka, Spark, InfluxDB (time-series), PostgreSQL, Redis, MongoDB, Vector Stores
- Cloud & Distributed Systems:** AWS (EKS, Lambda, S3), Azure (familiar), Kubernetes, Docker, Microservices
- Data Lifecycle:** ETL Pipelines, Data Ingestion/Validation, PII Handling, Data Lineage, Governance & Compliance
- AI/ML:** LLMs (OpenAI, Anthropic), RAG Pipelines, Training Data Preparation, Embedding Models, MLflow
- Practices:** Event-Driven Architecture, gRPC/REST APIs, CI/CD, Observability (Prometheus/Grafana), Agile/Scrum

## PROJECTS

- AI Data Pipeline Platform** — Built end-to-end data lifecycle system for AI training data using Python/FastAPI. Implemented automated ingestion, validation, PII detection, and lineage tracking. Integrated LLMs (Llama 3.3) for synthetic data generation and RAG pipelines with vector stores. Tech: Python, Kafka, PostgreSQL, ChromaDB.
- Multi-Agent Orchestration System** — Architected 21-node AI workflow using LangGraph for automated research pipelines. Built tool connectors for 5+ external APIs with conditional routing, state management, and observability monitoring. Tech: Python, LangGraph, FastAPI.
- Real-Time Telemetry Analytics** — Designed time-series data pipeline using InfluxDB and Kafka Streams processing 50M+ events/day. Implemented anomaly detection for asset health with P99 latency  $i100ms$ . Tech: Java, Kafka, InfluxDB, Grafana.

## WORK EXPERIENCE

### Software Engineer II

Florida State University — Utility Digital Twin Platform

Nov 2024 – Present  
Tallahassee, FL

- Architected high-throughput data ingestion pipeline using Java and Apache Kafka, processing real-time telemetry from 500K+ IoT sensors (meters, HVAC, cooling coils) with 5M+ daily events for digital twin modeling and predictive maintenance.
- Designed event-driven microservices using Spring Boot and Kubernetes, handling time-series data ingestion with 99.99% availability, supporting asset health monitoring and real-time compliance reporting across 172+ networks.
- Built compliance monitoring service using OPA (Open Policy Agent) scanning 10K+ asset configurations daily against IEEE standards and ISO 55000, generating automated compliance violation reports with 98.5% compliance rate.
- Implemented data governance tooling for PII detection and handling, data lineage tracking, and audit logging; created APIs enabling dataset discovery and secure sharing across 10K+ utility engineers globally.
- Deployed Redis caching for distributed asset state and optimized PostgreSQL horizontal sharding for 500M+ telemetry records, reducing query latency by 45% for time-series analytics dashboards.

### Machine Learning Engineer

Prof. Olmo Zavala Romero — FSU

Jan 2023 – Aug 2024  
Tallahassee, FL

- Built AI data pipelines processing 1TB+ datasets using Python and Spark for ML model training; implemented data validation and quality monitoring with observability dashboards (Grafana, MLflow).
- Developed automated data lifecycle workflows on Kubernetes for dataset ingestion, transformation, and versioning; optimized retry patterns and idempotent processing achieving 50% pipeline runtime reduction.
- Created Python SDKs for training data preparation and synthetic data generation; built evaluation harnesses for model quality assessment with vector embeddings and semantic search capabilities.

### Software Engineer I

Aspire Systems

Oct 2020 – Jul 2022  
Chennai, India

- Led full-stack development using Java/Spring backend; architected data pipelines processing 500K+ events/day with Kafka streaming and PostgreSQL, achieving 99.5% availability for enterprise clients.
- Implemented data governance layer with entitlement management, access controls, and audit logging; built RESTful APIs for dataset registration and metadata discovery across distributed systems.
- Built observability infrastructure with Prometheus/Grafana for pipeline monitoring; implemented distributed tracing reducing MTTR by 60% through automated alerting and debugging interfaces.

### Associate Software Engineer

IMPETUS Technologies

Jun 2019 – Sep 2020  
Noida, India

- Developed Python backend services for data ingestion pipelines; built RESTful APIs handling 100K+ daily requests with Redis caching and data validation for enterprise data platforms.
- Implemented ETL workflows using Python and SQL; created internal tools for data quality monitoring and schema validation supporting data engineering team productivity.

## EDUCATION

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**Florida State University**  
M.S. in Computer Science

Tallahassee, FL

- **Relevant Coursework:** Distributed Systems, Advanced Database Systems, Machine Learning, Data Communications

**SRM Institute of Science & Technology**  
B.Tech. in Computer Science

Chennai, India

## PUBLICATIONS & CERTIFICATIONS

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- Review Classification & False Feedback Detection (IJAST) | AWS Solutions Architect (Udemy, 2024)