

# Aditya Sugandhi

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## SUMMARY

Backend Software Engineer with 5+ years building **scalable data platforms** and **cloud-native systems**. Expert in **Java, Python, and distributed architectures** with production experience in **Kafka, Kubernetes, and AI/ML integration**. Proven track record designing high-throughput data pipelines processing **millions of events daily**.

## TECHNICAL SKILLS

- Languages:** Java, Python, SQL, TypeScript, JavaScript, Scala, Go (familiar)
- Backend & APIs:** Spring Boot, FastAPI, Node.js, RESTful Services, gRPC, GraphQL, Microservices Architecture
- Data Platform:** Apache Kafka, Apache Flink, RabbitMQ, ETL/ELT Pipelines, Data Modeling, Database Design
- Databases:** PostgreSQL, Oracle Database, MongoDB, Redis, OpenSearch, Pinecone, Vector Databases
- Cloud & Infrastructure:** AWS (EKS, Lambda, S3), OCI, Kubernetes, Docker, Terraform, CI/CD (Jenkins, GitHub Actions)
- AI/ML & NLP:** LLMs (GPT, Llama), RAG Pipelines, Semantic Search, Embedding Models, NLP, Prompt Engineering

## WORK EXPERIENCE

### Full-Stack Software Engineer

Florida State University

Nov 2024 – Present  
Tallahassee, FL

- Architected **high-throughput data platform** with **Python/FastAPI** backend processing **real-time telemetry** from **35K+ IoT devices**; designed **37 RESTful API endpoints** with **WebSocket streaming** for low-latency data ingestion.
- Built **scalable backend infrastructure** with **data modeling** for complex asset relationships; implemented **semantic search** using **NLP and embedding models** enabling conversational data retrieval across **172+ networks**.
- Integrated **GenAI capabilities** with **LLMs** and **RAG pipelines** for intelligent data summarization; reduced manual analysis time by **40%** through AI-powered insights on structured and unstructured data.
- Implemented **distributed tracing** and **monitoring dashboards** using **Grafana/CloudWatch**; ensured **99.2% system accuracy** through robust error handling and automated alerting pipelines.

### Software Engineer - Data Platform

Prof. Olmo Zavala Romero — FSU

Jan 2023 – Aug 2024  
Tallahassee, FL

- Designed **distributed data processing system** using **Python** and **Apache Spark** on **Kubernetes** clusters; built **ETL pipelines** ingesting and transforming **1TB+** datasets with **fault-tolerant architecture**.
- Implemented **data pipeline orchestration** with automated scheduling; optimized **SQL queries** and **database design** reducing pipeline runtime by **50%** while maintaining data integrity.
- Built **real-time monitoring infrastructure** with **Prometheus/Grafana**; created **data access controls** and compliance reporting ensuring **secure data governance** across distributed teams.

### Software Engineer

Aspire Systems

Oct 2020 – Jul 2022  
Chennai, India

- Led **backend development** of enterprise platform using **Java/Spring Boot** with **microservices architecture**; designed **RESTful APIs** processing **500K+** events/day with **99.5% availability**.
- Architected **event-driven data pipelines** with **Apache Kafka**; implemented **real-time data ingestion** and **async processing** handling **10x traffic spikes** during peak operational hours.
- Built **data modeling layer** for complex entity relationships; designed **PostgreSQL schema** with horizontal sharding supporting **analytics queries** across **50M+** records.
- Mentored **5 junior engineers** on **system design** and **distributed systems** best practices; established code review standards improving team velocity by **25%**.

## PROJECTS

- AI-Powered Clinical Data Platform** — Built **cloud-native GenAI application** with **semantic search** and **NLP capabilities**. Implemented **RAG pipelines** for intelligent document summarization and conversational search. Integrated **vector databases (Pinecone)** for high-performance similarity matching. Tech: **Python, TypeScript, Groq API, OpenSearch, Kubernetes**.
- Real-Time Data Ingestion Platform** — Designed **event-driven architecture** with **Kafka** handling **1M+ events/day**. Built **ETL pipelines** with **data modeling** for complex relationships. Implemented **data access controls** and **compliance monitoring**. Tech: **Java, Spring Boot, Kafka, PostgreSQL, Docker**.
- Distributed Asset Management System** — Architected **microservices platform** processing **real-time telemetry** from IoT sensors. Built **search technologies** with **OpenSearch** for fast data retrieval. Designed **database schema** supporting **time-series analytics**. Tech: **Python, FastAPI, Redis, Kubernetes, Grafana**.

## EDUCATION

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**Florida State University**

M.S. in Computer Science

Tallahassee, FL

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

**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)