Aditya Sugandhi

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SUMMARY

Backend Software Engineer with 5+ years building **scalable data-intensive distributed systems** in **Java, Python, and Go**. Production experience designing **real-time and batch data pipelines** with **Kafka, Spark, and Hive** powering data-driven decision platforms. Proven track record in **distributed backend systems**, **SQL/NoSQL storage** (PostgreSQL, Cassandra), and **Kubernetes-orchestrated microservices** with **99.5% availability**.

TECHNICAL SKILLS

- **Languages:** Java, Python, Go, Scala, C++, SQL, JavaScript/TypeScript, Bash
- **Data Infrastructure:** Apache Kafka, Apache Spark (PySpark/Scala), Hive, Presto, HDFS, Apache Flink, Batch & Streaming Pipelines
- **Databases & Storage:** PostgreSQL, MySQL, Cassandra, Redis, MongoDB, InfluxDB, Columnar Storage, Query Optimization
- **Backend & APIs:** Spring Boot, Spring Framework, FastAPI, gRPC/Protobuf, REST APIs, Event-Driven Microservices, Async Messaging
- **Cloud & Infrastructure:** Kubernetes (EKS/AKS), Docker, Helm, AWS (EKS, EMR, MSK, S3, Lambda), Terraform, CI/CD (GitHub Actions, Jenkins)
- **Practices:** Distributed Systems Design, Monitoring (Prometheus, Grafana), Distributed Tracing, TDD, Code Review, Agile/Scrum, Technical Documentation

WORK EXPERIENCE

Software Developer Nov 2024 – Present
Florida State University Tallahassee, FL

- Designed **distributed backend systems** with **37 REST API endpoints** in **Python** integrating with **third-party platforms**; serves **35K+ devices** across **172+ networks** with **real-time data streaming** via **WebSockets** and **99.2% system accuracy**.
- Architected **event-driven data pipeline** with **async messaging** for real-time device telemetry ingestion; implemented **PostgreSQL** storage with **Redis caching layer**, reducing query latency by **45%** for **15+ engineering teams**.
- Built **monitoring and observability infrastructure** using **Grafana/CloudWatch** with custom dashboards and alerting; reduced **mean time to resolution by 60%** through systematic **root cause analysis** and **distributed tracing**.
- Owned **CI/CD pipelines** on **GitHub Actions** for automated testing, code validation, and multi-environment deployments; established **code review standards** and **comprehensive documentation** adopted across the engineering organization.

Software Engineer - Data Platform Jan 2023 – Aug 2024
Prof. Olmo Zavala Romero — FSU Tallahassee, FL

- Built **distributed data processing engine** using **Java/Scala** and **Apache Spark** on **Kubernetes** clusters; implemented custom **shuffle partitioning**, **Hive-compatible query optimization**, and **batch aggregation pipelines** achieving **+40% throughput** over **1TB+ datasets**.
- Developed **real-time and batch data pipelines** with **Kafka** streaming and windowed aggregations; reduced **pipeline runtime by 50%** through **concurrent optimization**, efficient **data partitioning**, and **columnar storage** for large-scale analytical queries.
- Implemented **vector embedding pipelines** for semantic search using Transformers; deployed **query engine** processing **1,000+ documents** with **95% accuracy** and **sub-200ms retrieval latency**; monitored via **Grafana/MLflow** with automated drift detection.

Software Analyst Oct 2020 – Jul 2022
Aspire Systems Chennai, India

- Led development of **enterprise backend platform** using **Java/Spring Boot** with **event-driven microservices**; built **Kafka-based async messaging** processing **500K+ events/day** with **Cassandra** and **PostgreSQL** storage, maintaining **99.5% availability**.
- Designed **data-driven backend systems** with **Spring Framework** and **low-latency REST APIs**; implemented **fault-tolerant delivery** with dead-letter queues and **exactly-once semantics** handling **10x traffic spikes** during peak loads.
- Built **monitoring and alerting infrastructure** using **Prometheus** and **Grafana**; **troubleshot production defects** through **distributed tracing** and structured logging, reducing **MTTR by 60%** with **strong availability SLAs**.
- Collaborated within **cross-functional teams** alongside Product, Data Science, and QE; mentored **5 engineers** on **coding best practices** and **test-driven development**; achieved **90% test coverage** with comprehensive **documentation**.

PROJECTS

- **Multi-Modal Data Pipeline (Kafka/Spark/Hive)** GitHub — Built **distributed real-time data ingestion pipeline** using **Kafka** and **Spark Streaming** on **Kubernetes** with **Helm** charts. Implemented **batch and streaming processing** with **Hive-compatible storage** and **Presto query layer**, processing **10K+ events/sec** with sub-second latency. Tech: **Java, Scala, Kafka, Spark, Hive, Kubernetes, Docker**.
- **AI-Powered Resume Optimization Platform** GitHub — Built **full-stack data application** with **Next.js** backend and **React/TypeScript** frontend. Integrated **LLMs**, **embedding models**, and **vector search** for intelligent document analysis. Implemented **semantic matching** with cosine similarity scoring. Tech: **TypeScript, Python, Next.js, Groq API, Vector Embeddings**.
- **Distributed Graph Algorithm Engine (C++)** GitHub — Implemented **graph algorithm engine in C++** for maximal clique discovery in probabilistic networks. Built custom **pruning strategies** and **indexing optimizations** with efficient **data structures** for large-scale graph processing. Tech: **C++, Python, Makefile**.

EDUCATION

Florida State University
M.S. in Computer Science — Tallahassee, FL

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

SRM Institute of Science & Technology
B.Tech. in Computer Science — Chennai, India

PUBLICATIONS & AWARDS

- Review Classification & False Feedback Detection (IJAST)
- 2nd Place, SRM University Hackathon (2019)
- AWS Solutions Architect Course (Udemy, 2024)