Aditya Sugandhi

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SUMMARY

Full-Stack Software Engineer with 5+ years building **AI-powered platforms** and **scalable workflow systems**. Expert in **TypeScript (React, Next.js)** and **Python** with production experience integrating **LLMs**, **RAG pipelines**, and **workflow orchestration**. Delivered AI infrastructure serving **35K+ devices** with **99.2% accuracy**.

TECHNICAL SKILLS

- **Frontend:** React, TypeScript, Next.js, JavaScript, HTML/CSS, Cloudflare Workers, Component Libraries
- **Backend:** Python, FastAPI, Node.js, Java, gRPC, RESTful APIs, GraphQL, Event-Driven Architecture
- **AI/ML:** LLMs (OpenAI, Anthropic, Llama), RAG Pipelines, AI Agents, Embedding Models, Prompt Engineering, Evaluation Harnesses
- **Data & Infrastructure:** PostgreSQL, Redis, MongoDB, Apache Kafka, AWS (EKS, Lambda, S3), Databricks, Vector Stores, Kubernetes
- **Workflow & Orchestration:** Event Schemas, State Management, Retries/Idempotency, SDK Development, CI/CD Pipelines
- **Practices:** HIPAA Compliance Awareness, Security-by-Design, Agile/Scrum, Build-Measure-Learn, Cross-functional Collaboration

WORK EXPERIENCE

Software Engineer II — Nov 2024 – Present
Florida State University — Tallahassee, FL

- Architected **AI workflow orchestration system** using **TypeScript** and **Python**; built **37 RESTful API endpoints** with **real-time WebSocket** streaming serving **35K+ IoT devices** for intelligent automation and monitoring.
- Designed **LLM integration layer** (OpenAI, Anthropic APIs) with **RAG pipelines** and **evaluation harnesses**; implemented **AI-powered analysis tools** reducing manual investigation time by **40%** across engineering teams.
- Built **tool connectors and SDKs** enabling cross-system workflows between internal domains (device management, database operations); standardized **event schemas** and **tool contracts** for consistent developer experience.
- Implemented **state management** with **Redis caching** and **idempotent retry logic** for fault-tolerant AI workflows; achieved **99.2% accuracy** across **172+ networks** with automated compliance monitoring.

Machine Learning Researcher — Jan 2023 – Aug 2024
Prof. Olmo Zavala Romero — FSU — Tallahassee, FL

- Built **AI evaluation pipelines** processing **1TB+ datasets** using **Python** and **Spark**; implemented **vector embeddings** and **semantic search** with **observability dashboards** (Grafana, MLflow) for quality and latency monitoring.
- Developed **workflow orchestration systems** on **Kubernetes** handling **ML inference** at scale; optimized **state management** and **retry patterns** achieving **50% pipeline runtime reduction** with **99% job success rate**.
- Created **Python SDKs** for data processing and **evaluation harnesses**; collaborated with cross-functional teams to iterate from experimentation to production deployment.

Software Engineer I — Oct 2020 – Jul 2022
Aspire Systems — Chennai, India

- Led **full-stack development** using **Java/Spring** backend and **React/TypeScript** frontend; architected **microservices** processing **500K+ events/day** with **Kafka** event streaming and **99.5% availability**.
- Built **observability pipelines** with **Prometheus/Grafana** for real-time monitoring; implemented **distributed tracing** reducing **MTTR by 60%** through automated alerting and debugging interfaces.
- Designed **tool APIs** enabling cross-system integrations (EHR-style data flows, order management); mentored **5 engineers** on **event-driven architecture** and **security-first** coding practices.

Associate Software Engineer — Jun 2019 – Sep 2020
IMPETUS Technologies — Noida, India

- Developed **Python and TypeScript** backend services for real-time data processing; built **RESTful APIs** handling **100K+ daily requests** with **Redis caching** for low-latency responses.
- Implemented **workflow automation tools** using **Node.js** and **Python**; created internal SDKs for data pipeline orchestration supporting engineering team productivity.
- Contributed to **evaluation systems** for data quality monitoring; worked with **PostgreSQL** and **MongoDB** for data storage with focus on **idempotent operations** and **retry logic**.

PROJECTS

- **AI-Powered Resume Optimization Platform** — Built **full-stack AI application** with **TypeScript/Next.js** frontend and **Python** backend. Integrated **LLMs (Llama 3.3 via Groq)**, **RAG pipelines**, and **embedding models** for semantic matching. Implemented **AI evaluation** with quality scoring and **real-time workflow orchestration**. Tech: **TypeScript, React, Next.js, Python, Vector Stores**.
- **Multi-Agent Orchestration System** — Architected **21-node AI workflow** using **LangGraph** for automated research pipelines. Built **tool connectors** for 5+ external APIs, implemented **conditional routing** and **state management** with **observability monitoring**. Tech: **Python, LangGraph, FastAPI, ChromaDB**.
- **AI Developer CLI & SDK** — Developed **TypeScript-based SDK** for Claude API integration enabling autonomous operations. Built **function-calling interfaces** with **retry logic** and **idempotency** for enterprise tooling. Tech: **TypeScript, Node.js, Claude API, MCP Protocol**.

EDUCATION

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

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