

Aditya Sugandhi

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SUMMARY

Software Engineer with 5+ years building **distributed systems** and **microservices** in **Python, Scala, Java, and Go**. Production experience with **Kafka, Spark, Kubernetes, PostgreSQL, and Redis** — owned end-to-end platforms processing **500k+ events/day** at **99.5% availability**. Proven track record improving **operational stability, code quality, and cross-functional delivery** with product and data teams.

TECHNICAL SKILLS

- **Languages:** Python, Scala, Java, SQL, Bash, JavaScript/TypeScript, Go (ramping)
- **Data & Streaming:** Apache Kafka (Connect, Streams, Schema Registry), Apache Spark (PySpark/Scala), BigQuery, Druid, PostgreSQL, Redis, DynamoDB, S3
- **Backend & APIs:** FastAPI, gRPC, Thrift, REST/GraphQL, Baseplate, API Gateway, Microservices Architecture, OAuth2/JWT
- **Infrastructure & DevOps:** Kubernetes, Docker, Argo, AWS (EKS, EMR, MSK, Fargate, Lambda), Terraform, CI/CD (Jenkins, GitHub Actions)
- **Observability & Practices:** Prometheus, Grafana, CloudWatch, Distributed Tracing, TDD/BDD, 24/7 On-Call, Agile/Scrum

WORK EXPERIENCE

BAS Software Developer

Florida State University

Nov 2024 – Present

Tallahassee, FL

- **Owned end-to-end** design, development, deployment, and monitoring of distributed platform serving **35k+ devices** across **172+ networks**; built **37 REST/gRPC API endpoints** with **real-time WebSocket** streaming, **PostgreSQL** persistence, and **Redis** caching achieving **99.2% accuracy**.
- Designed **async event-driven microservices** with message queues for task processing; implemented **API Gateway** with rate limiting, **S3** file storage, and **JWT-based RBAC** auth — directly analogous to **advertiser-facing API infrastructure**.
- Built **CI/CD pipelines** (GitHub Actions, Jenkins) with **Docker** containerization and **Kubernetes**-ready architecture; established **Grafana/CloudWatch** dashboards and alerting for **24/7 on-call** operational stability.
- Drove **code quality** with **360+ unit/integration tests** achieving **85%+ coverage** via **TDD/BDD**; partnered with cross-functional teams on feature prioritization, timeline management, and release execution.

Machine Learning Researcher

Prof. Olmo Zavala Romero — FSU

Jan 2023 – Aug 2024

Tallahassee, FL

- Built optimized **Spark (Scala/PySpark)** distributed jobs on **Kubernetes/EMR** clusters processing **1TB+ datasets**; implemented shuffle optimization, partitioning strategies, and **Parquet** file layout tuning achieving **+40% throughput** and **99% job success rate**.
- Architected **parallel data processing pipelines** with windowed aggregations and **BigQuery**-style analytics for performance measurement; reduced **pipeline runtime by 50%** through **async batch optimization** and compute resource tuning.
- Deployed end-to-end **monitoring with Prometheus/Grafana**; implemented automated drift detection and SLA alerting across distributed infrastructure supporting **operational stability** improvements.

Software Analyst

Aspire Systems

Oct 2020 – Jul 2022

Chennai, India

- Led **monolith-to-microservices migration** on **AWS EKS**; owned architecture, implementation, and operations of **event-driven services** in **Java** and **Python**; improved availability to **99.5%** and reduced infrastructure costs by **20%**.
- Architected **real-time event streaming** using **Kafka (AWS MSK)** with consumer groups and **DynamoDB Streams**; processed **500k+ events/day** with dead-letter queues for fault-tolerant async delivery and **10x spike handling**.
- Built **operational dashboards** with **Prometheus, Grafana, and CloudWatch**; established **24/7 on-call** with PagerDuty, reducing **MTTR by 60%** through automated runbooks — directly applicable to **ads delivery reliability**.
- Deployed **auto-scaling Kubernetes clusters** with **Docker** and **Argo** workflows; implemented **Terraform IaC** across dev/staging/prod with **CI/CD pipelines** for rapid, safe deployments.
- Mentored **5 developers** on **Agile/Scrum** practices and **microservices patterns**; achieved **90% unit test coverage** with **TDD/BDD** across all services.

PROJECTS

- **Self-Hosted Cloud Server (server-east)** — Provisioned **Linux home server** with **Docker**-containerized services (Plex, qBittorrent), **SSH** via **ed25519** keys and **ngrok tunneling** for remote access, and **fail2ban** for security. Hosts multiple production apps including Go microservices, Next.js frontends, and Python backends. Tech: **Linux, Docker, SSH, ngrok, fail2ban, systemd**.
- **Go Authentication Microservice** — Built **HTTP server in Go** with JSON-based login endpoints, request routing, and method validation. Deployed on **server-east** with health checks and structured error responses. Tech: **Go, net/http, JSON**.
- **Worker-AI** — Built **distributed multi-agent task orchestration platform** with **FastAPI** backend, **PostgreSQL** (SQLAlchemy 2.0), **Redis** caching, and **Firebase Auth**. Designed **async API layer** with React Query-powered **Next.js 14** frontend. Containerized with **Docker Compose**. Tech: **Python, FastAPI, PostgreSQL, Redis, Next.js, Docker**.
- **BookedFlow** — Architected **full-stack CRM/booking platform** with **Next.js 14, Supabase, and OpenAI agents** integration. Built team

collaboration, form workflows, and **real-time data sync**. Deployed on self-hosted infrastructure. Tech: **TypeScript, Next.js, Supabase, Tailwind CSS**.

EDUCATION

Florida State University
M.S. in Computer Science

Aug 2022 – May 2024
Tallahassee, FL

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

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

Aug 2016 – May 2020
Chennai, India

PUBLICATIONS & AWARDS

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