

# Aditya Sinha

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## EDUCATION

University of Illinois, Urbana-Champaign

IL, USA

**Masters in Computer Science; GPA: 4/4**

Expected Dec 2025

- Coursework: Computer Vision, Cloud Computing, Distributed Systems, Text Mining for LLMs, Parallel Programming
- Graduate Teaching Assistant for the course 'Foundation of Data Curation' with 350+ students
- Graduate Assistant for Software Design Lab - Mentoring 15+ students with Software Design and Architecture

Vellore Institute of Technology

TN, India

**Bachelor of Technology, Computer Science Engineering; GPA: 9.39/10**

Jul 2016 – Sep 2020

- Coursework: Artificial Intelligence, Machine Learning, Natural Language Processing, Image Processing, Software Engineering

## SKILLS

**Languages/Build Tools:** Java, Python, C++, JavaScript, Nodejs, Reactjs, Bash, Git, Maven, CUDA, Jira, Celery, Slurm, RabbitMQ

**Cloud Platforms/Infrastructure:** Kubernetes, Docker, AWS, EC2, SQS, ECS, S3, Lambda, Cloudwatch, GCP, CI/CD, Azure, Linux

**Databases/Big Data:** MySQL, Redis, MongoDB, InfluxDb, VectorDB, Spark, Pyspark, Hive, Airflow, Elasticsearch, Trino

**Machine Learning/Monitoring:** PyTorch, RAG, Langchain, GenAI, Grafana, Prometheus, ElasticSearch, LLM, Sklearn

## PROFESSIONAL EXPERIENCE

Ensaras (AI for Wastewater Treatment SaaS), **Full Stack MLOps Software Engineer Intern**

Mar 2024 – Aug 2024

- Built a scalable **ML pipeline** with automated **monitoring** using **Python, Celery, Django, Terraform, Grafana, and GitHub Actions**, reducing manual efforts by **15%** and boosting productivity.
- Implemented an **LLM-based AI chatbot** using **Langchain, GPT-4o, and AWS** for answering troubleshooting questions by on-site workers, reducing the team's manual efforts and decreasing troubleshooting time by **45%**.

Emiza Technologies (Logistics & Warehousing), **Sr. Software Engineer**

May 2023 – Dec 2023

- Led full lifecycle of Shipment Return Service, from On-site Requirement Collection to Development using **Spring Boot**, and **PostgreSQL** and deployed on **Kubernetes** by creating **Jenkins CI/CD** pipeline, enhancing worker efficiency by **30%**.
- Ideated and Integrated a B2B and B2C Order Cancellation Workflow to the existing system which cut operational inefficiencies by 40%, boosting Customer Satisfaction by **25%**.

Pickrr Technologies (Logistics SaaS, Unicorn startup), **Sr. Software Engineer**

Jan 2022 - May 2023

- Revamped Shipment Tracking Service into **Microservices** Architecture using **Java(Spring Boot), Kafka, and MongoDB**. Enhanced tracking accuracy by **50%** and handled **100M** daily updates with Kafka.
- Proposed an **Automated** shipment status Discrepancy Resolution service, reducing manual workload by **80%**.
- Designed an advanced **ETL pipeline** using **Hadoop, PySpark** and **Airflow** for data correction and migration for a wallet service.
- Led the development of a subscription service using **Java** and **React**; coordinated with a **5-member cross-functional** team (including Engineering, Product Management, and UI/UX) within a **Jira Agile** environment.
- Collaborated across teams to identify shared development needs, creating a generic event scheduling and workflow management service using **SpEL, Redis, Kafka, and RESTful APIs**, reused by **4** different teams.
- **Mentored 10+** interns and Jr SDEs, leading a team to implement critical features across services.

Oyo Rooms (Hospitality, Unicorn Startup), **Sr. Software Engineer**

Dec 2019 - Jan 2022

- Led **migration** of the **monolithic** order management flow to **microservices**, divided into **order, payment, and billing** services, which reduced system complexity, improved **scalability**, and enhanced **fault isolation**, resulting in a **25%** improvement in overall system performance.
- Built a **Payments** microservice integrated with 3rd party Payment gateway; developed a smart payment traffic routing system and deployed on **GCP**, boosting transaction success by **25%**.
- Optimized the booking **API** using **multithreading** and **caching** with **Redis**, and transitioned the cron-based unreserve process to a **Redis distributed lock**, reducing **latency** by **42%**.

## PROJECTS / AWARDS

GenAI for Machine Fault Detection & Actionable Response

Aug 2024 - Present

- Developed a machine fault detection system using **CrewAI, LLM(LLaMA3-70b), LangChain, and AutoGen**.
- Created a proof of concept (**PoC**) that integrates **RAG** for accurate **fault diagnostics** and **real-time** action planning.

LLM Application Hackathon Winner (Ashby Prize in Computational Science, NCSA)

May 2024

- Created a real-time emergency response system using **LangGraph's, LLM(ChatGPT3.5), Multi-Agent** architecture.
- Integrated **HuggingFace's Computer Vision** models, **MongoDB** for data storage, and **Docker** for deployment.