Adiras Sahu

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Summary

2025 Graduate with professional experience in high-stakes financial data environments. Specializes in architecting Autonomous Multi-Agent Systems, RAG Pipelines, and Scalable Cloud Infrastructure (AWS/Docker). Combines strong algorithmic intuition with a pragmatic approach to Data Science and System Design. Focused on delivering clean, maintainable code that translates complex data into high-impact business intelligence.

Experience

Software Engineering, Nomura Services, *Mumbai | July 2025-Present*
- Engineered robust **SSIS** packages to orchestrate complex **ETL processes**, integrating terabytes of data from disparate sources into a centralized **Data Warehouse**, ensuring 99.9% data accuracy.
- Spearheaded **MSSQL** performance tuning initiatives by leveraging **In-Memory OLTP tables** and optimizing indexing strategies, resulting in a 40% reduction in query execution time.
- Architected and managed multidimensional **OLAP cubes** using **SSAS**, enabling rapid slice-and-dice analysis and supporting critical business intelligence reporting.
- Authored and optimized over 30 complex **T-SQL stored procedures**, triggers, and user-defined functions to automate business logic and streamline high-volume data manipulation.
- Led **database schema design** and normalization efforts, translating business requirements into scalable data models within the **BI Tech Stack**.

Software Engineering Intern, Nomura Services, *Mumbai | Jan 2025 – June 2025*
- Designed and deployed a **RAG-based natural language query system** over Confluence using **Langchain**, **Weaviate**, and **local LLMs**—enabling scalable internal **knowledge graph** retrieval with hybrid search, reranking, and semantic context preservation.
- Constructed a **Semantic Natural Language Interface to Elasticsearch** using **Langchain** to convert user queries into DSL and return **AI-generated analytical insights**—enabling contextual understanding and interpretation of data beyond raw querying.
- Built a robust **Python-based data pipeline** to batch-transfer large volumes of data (GBs) to Elasticsearch on regular intervals, ensuring efficient indexing and scalability.
- Engineered a **React + AG Grid dashboard** on top of Elasticsearch to empower users with advanced data exploration—supporting keyword search, wildcard queries, aggregations, filters, and partial matches without direct SQL access.
- Created an **AI-powered SQL assistant** that converts natural language to **SQL**, validates queries, understands intent semantically, summarizes batch results, and visualizes insights—bridging the gap between non-technical users and complex databases.

Projects

Adaptive Machine Translation with Fine-Tuned Mistral 7B *| Jan'25*
*Fine-tuned Mistral 7B for **real-time** medical MT, enhancing contextual adaptability at **inference**.*
- Used hybrid **Prompting (zero- & one-shot with fuzzy matches)** to improve domain-specific terminology and style consistency.
- Trained on a compact **20k-segment dataset** simulating real-world translation scenarios.
- Improved **in-context learning and dynamic translation** adaptation through minimal, targeted fine-tuning.
- Optimized for **low-latency**, domain-sensitive applications such as healthcare

FIMA Financial Market Intelligence Agent *| Scikit-learn, Docker, AWS, ChromaDB | Oct'25*
Multi-Agent LLM- System Financial Trading Agent
- **Architected an autonomous Multi-Agent System (MAS)** using **Google ADK** and **LangChain**, orchestrating five specialized agents (Research, Analysis, Sentiment, Prediction, Reporting) to autonomously synthesize real-time market strategies.
- **Engineered a Retrieval-Augmented Generation (RAG) pipeline** utilizing **ChromaDB** for vector storage and **Google Gemini** embeddings, reduced hallucination rates by grounding LLM responses in indexed financial documents and **real-time** news APIs.
- Developed a **hybrid predictive engine** combining **quantitative ML models** (Scikit-learn Random Forest) with qualitative LLM reasoning to forecast stock trends, generating confidence intervals and risk assessments based on technical indicators (**RSI**, **MACD**).
- Deployed a **scalable microservices architecture** on **AWS ECS (Fargate)** using **Docker** and **CloudFormation** (IaC) built a high-concurrency **FastAPI** backend with async/await patterns and a reactive **Streamlit** frontend for interactive data visualization.

Education

Shri Govindram Seksaria Institute of Technology and Science, Indore *| 2021- 2025*
Bachelor of Technology in Information Technology | 75.60%

Achievement & Coursework

Hackathon: All India Finalist at **Nomura Services India Pvt Ltd's - KakushIN 8.0, 2024**, held at the Mumbai office.
Solved **750+ DSA** questions across the platform: **Leetcode**, **GeeksForGeeks**, **Codechef** and **HackerEarth**

Positions of Responsibility

Training and Placement Manager – SGSITS, Indore *| Sept 2022 – June 2025*
> *Central Placement Coordinator (CPC) & Placement Manager*
- **Leading campus recruitment initiatives** and serving as the key liaison between the institute and corporate recruitment teams.
- Directs and **Manages a Team of 20+ Managers & 40+ Coordinators**, overseeing the **planning and execution of all Placement Cell activities**, engages with **top-tier companies** to facilitate high-quality placements

Technical Head - #Include *| March 2023 - June 2025*
- Spearheaded the club's technical operations, leading a team of 12 members to successfully execute Events in areas like web development and competitive programming.