

YAMIN HOSSAIN

 Yamin's Portfolio

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Professional Summary

AI & Machine Learning Engineer specializing in **LLMs, RAG pipelines, multimodal AI**, and production-grade model deployment. Experienced in building **end-to-end GenAI platforms** for financial analysis, recommendations, and document intelligence using Python, TensorFlow/PyTorch, LangChain, and cloud-native tools. Strong in **data engineering, retrieval systems, scalable backend design**, and creating interactive, high-performance AI applications.

Education

Vellore Institute of Information Technology, Andhra Pradesh

2021 – 2025

B.Tech in Computer Science and Engineering (Data Analytics)

CGPA: 8.36

Relevant Coursework: Data Warehousing & Mining, Mining Massive Datasets, NoSQL Databases, Optimization Techniques, Data Structures & Algorithms, Database Management Systems, Machine Learning Foundations.

Technical Skills

Programming Languages: Python, SQL, JavaScript, TypeScript, R, Java, MATLAB, LaTeX

AI & Machine Learning: TensorFlow, PyTorch, Scikit-Learn, Hugging Face Transformers, NLP, Transfer Learning, LLM Fine-Tuning

GenAI & RAG Systems: LangChain, Vector Databases (Pinecone, FAISS, ChromaDB), BM25, Embeddings, Multi-Model Pipelines

Backend & MLOps: Flask, FastAPI, Docker, GitHub Actions (CI/CD), Apache Hadoop, MLflow, Redis

Data & Databases: MySQL, PostgreSQL, MS SQL Server, MongoDB, Redis

Frontend & Deployment: Next.js, Streamlit, Vercel, Tailwind CSS, shadcn/ui, Framer Motion

Automation: n8n, Make (Integromat)

Recent Projects

FinanceAI: AI-Powered Financial Analysis Platform  | *Next.js, TypeScript, LangChain, Groq API*

March 2025

- Built a full-stack **Next.js + TypeScript** platform for real-time **stock, crypto, and forex intelligence** with dynamic charts using Chart.js and Recharts.
- Integrated **LLaMA 3 via Groq API** and **LangChain** to generate market insights, trend breakdowns, sentiment analysis, and cross-source reasoning over news, Reddit, and macroeconomic data.
- Developed a production-ready UI with **Tailwind CSS, shadcn/ui, Framer Motion** and deployed on **Vercel** with continuous data refresh and high-performance edge functions.

CortexAI: Multi-Model Insights Hub  | *LangChain, LLMs, Streamlit*

January 2025

- Created a **multimodal RAG system** combining LLMs (DeepSeek, Qwen, LLaMA, Mistral) and vision models (BLIP, BLIP-2, GIT) for extracting insights from text, images, and PDFs.
- Engineered a **hybrid retrieval pipeline** using ChromaDB/FAISS for dense search and BM25 for sparse search, ensuring accurate, source-grounded multi-document reasoning.
- Built interactive **Streamlit applications** supporting multimodal chat, document analytics, real-time web search, and research assistance with citation-backed outputs.

ReelSenseAI: AI-Powered Recommendation App  | *Flask, TMDb API, PostgreSQL, Cloudinary*

May 2024

- Developed a **Flask-based media discovery platform** with real-time movie/series lookup using TMDb API, enriched by detailed metadata and genre-based navigation.
- Implemented an **LLM-driven recommendation engine** using Groq API to handle ambiguous titles, new releases, user queries, and generate contextual suggestions with poster retrieval.
- Built user authentication, personalized dashboards, watchlists/wishlists, viewing history, and Cloudinary-backed profile images wrapped in a modern UI using **Tailwind CSS**.

Experience

Code Casa

Feb 2024 – Mar 2024

Data Science Intern

Remote

- Implemented ML models for **email spam and fraud detection**, achieving **97% precision** and **reducing false positives by 22%** using ensemble classifiers and feature selection techniques.
- Designed CNN-based gender and age prediction models, **achieving 92% accuracy**, **reducing classification errors by 12%**, and **optimizing inference time by 20%**.