

# CHAPALA NAVEEN KUMAR

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GitHub — Portfolio — LinkedIn

## PROFESSIONAL SUMMARY

AI Engineer specializing in Generative AI, LLM applications, RAG systems, and end-to-end ML/DL development. Experienced in architecting scalable AI microservices, vector search pipelines, and multi-agent reasoning frameworks. Proficient in Python, TensorFlow, FastAPI, LangChain, LangGraph, Azure, Docker, and modern MLOps workflows.

## EDUCATION

### SIMATS Engineering College, Chennai

B.Tech in Computer Science (AI & ML)

Coursework: Machine Learning, Deep Learning, NLP, DBMS, Data Structures

Jul 2024 – Jul 2028

CGPA: 8.8/10

## SKILLS

**Programming:** Python, C

**AI & ML:** Machine Learning Algorithms, Deep Learning, NLP, RAG, LLM Agents, Transformers

**Frameworks:** TensorFlow, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, NLTK, LangChain, LangGraph, LangSmith

**Backend:** FastAPI, Flask, REST APIs, streamlit

**Cloud & MLOps:** Azure, Docker, GitHub Actions, MLflow, BentoML, Gunicorn

**Databases:** SQL, SQLite3

**Vector DBs:** Pinecone, FAISS

**Tools:** Git, Postman, Streamlit, VS Code, Linux, Hugging Face

## PROJECTS

### Diabetes Risk Prediction System — Live Web App

**Tech Stack:** Python, Scikit-learn, TensorFlow, FastAPI, Azure, Groq LLM, Hugging Face

- Built a clinical risk model achieving 85–92% accuracy.
- Designed dashboards with probability scoring and insights.
- Integrated Groq LLM for structured medical interpretation.
- Deployed using Flask.

### AI Stock Price Forecasting Platform — Live Web App

**Tech Stack:** LSTM, TensorFlow, Flask, Finnhub API, Twelve Data API

- Developed a 1–30 days LSTM forecasting model (70–80% accuracy).
- Implemented RSI, MACD, EMA, SMA and sentiment indicators.
- Designed real-time charts with auto-refresh trading signals.
- Containerized and deployed via Flask backend.

### Perplexity Clone — Multi-Mode AI Search Assistant (Live Web App)

**Tech Stack:** LangChain, Langgraph, FastAPI, Groq LLMs, HF Embeddings, Streamlit

- Built modes: Web Search, RAG, Agentic, Deep Research, Analysis, Summary, Product Mvp, and Video.
- Implemented retrieval pipelines with HF embeddings.
- Added contextual grounding, citations, and persistent chat memory.
- Built a fast Streamlit UI with clean workflows.

## LEADERSHIP & COLLABORATION

- Led a 6-member team in the Smart India Hackathon.
- Participated in national AI hackathons and coding contests.
- Contributed to open-source ML/AI repositories.

## HONORS & CERTIFICATIONS

- Oracle OCI — Generative AI Professional (2025)
- Best Student Award — Wisdom Path Foundation (2025)
- Participant — India's Biggest GenAI Buildathon (NxtWave)
- Completed ML, DL, NLP Bootcamp (Udemy)