Satyam Kumar
Aspiring AI Engineer — GenAI, RAG & LLM Systems

 Bhagalpur, Bihar +91-6202961437 ksatyam215@gmail.com

 LinkedIn   **GitHub**

Summary

Aspiring AI Engineer and MCA student at IIT Patna with hands-on experience in building end-to-end Generative AI systems. Specialized in Retrieval-Augmented Generation (RAG), agent-based architectures, and LLM-powered applications using LangChain and Groq LLaMA models. Experienced in vector search, multi-tool reasoning, and history-aware conversational systems, backed by a strong foundation in Data Structures & Algorithms.

Technical Skills

Programming: Python, C++, SQL, Java (basic)
Core CS: Data Structures & Algorithms, Problem Solving

Machine Learning & Deep Learning: Supervised & Unsupervised Learning, Classification, Regression, CNN, RNN, LSTM, Feature Engineering, Model Training & Evaluation, scikit-learn, NLP fundamentals

Generative AI & LLMs: LangChain (LCEL), Groq LLaMA 3.1/3.3, Hugging Face, Prompt Engineering, Retrieval-Augmented Generation (RAG), Vector Embeddings

Agents & Tooling: ReAct Agents, Multi-tool Agents, History-aware Retrieval, LLMMathChain, Tool Calling

Vector Search: Chroma, FAISS, Semantic Similarity Search

NLP Applications: Summarization (Stuff / Map-Reduce), Sentiment Analysis, PDF / Web / YouTube Processing

Frameworks & Tools: Streamlit, FastAPI, LangSmith
Data Utilities: Pandas, NumPy

Projects

Conversational RAG-based Q&A System with PDF Upload   GitHub
- Designed a history-aware RAG pipeline using LangChain with Chroma vector store.
- Implemented multi-PDF ingestion, chunking, and contextual query reformulation.
- Integrated Groq-hosted LLaMA models with session-based chat memory.

AI Research Agent with Web Search   GitHub
- Developed a ReAct-based agent integrating DuckDuckGo, Wikipedia, and ArXiv tools.
- Enabled tool-based reasoning and streaming responses.

Text-to-Math Problem Solver & Data Search Assistant   GitHub
- Built an agent-driven system for step-by-step mathematical reasoning using LLMMathChain.

URL & YouTube Content Summarization System   GitHub
- Implemented adaptive Stuff and Map-Reduce summarization pipelines.

Q&A Chatbot with Groq LLM   GitHub
- Built a configurable chatbot with prompt pipelines and Streamlit UI.

Education

Indian Institute of Technology Patna
Master of Computer Applications (MCA)   Ongoing

Marwari College
Bachelor of Computer Applications (BCA)   69.47%

Class XII   75%

Certifications

Oracle OCI AI Foundations Associate
Generative AI with LangChain & Hugging Face (Udemy)
Kaggle – 5 Day AI Agents Program
Google AI Essentials Specialization (Coursera)