

SHARIF ABUSAD

AI / ML Engineer | Generative AI & LLM Applications

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PROFESSIONAL SUMMARY

AI/ML Engineer with hands-on experience designing and deploying end-to-end machine learning and generative AI systems. Skilled in building production-oriented applications using FastAPI, LangChain, LangGraph, and Retrieval-Augmented Generation (RAG) architectures, spanning conversational AI, semantic search, recommendation engines, and time-series forecasting. Strong foundation in deep learning, NLP, and software engineering practices including version control, containerization, and API design. Focused on translating research-grade models into reliable, scalable applications that solve real business problems.

CORE COMPETENCIES

- Machine Learning
- Deep Learning
- Natural Language Processing
- Generative AI
- Retrieval-Augmented Generation (RAG)
- LLM Application Development
- AI Agents & Agentic Workflows
- Prompt Engineering
- Vector Search & Embeddings
- API Design (FastAPI)
- Model Evaluation & Optimization
- MLOps Fundamentals (Docker, Git)

TECHNICAL SKILLS

Programming Languages: Python, SQL

Machine Learning: Regression, Classification, Clustering, Feature Engineering, Model Evaluation, Hyperparameter Tuning, Scikit-learn, Ensemble Learning, XGBoost

Deep Learning: TensorFlow, Keras, ANN, CNN, LSTM, LSTM Variants

NLP: Text Preprocessing, Tokenization, Sentence Transformers, Semantic Search

Generative AI / LLMs: LangChain, LangGraph, Retrieval-Augmented Generation (RAG), AI Agents, Prompt Engineering, Hugging Face, Whisper

Backend Development: FastAPI, REST APIs

Databases & Vector Stores: SQLite, ChromaDB, FAISS

Data Science Libraries: Pandas, NumPy, Matplotlib, Seaborn

Tools & DevOps: Git, GitHub, Docker, VS Code, Jupyter Notebook

PROJECTS

DocMind — Intelligent RAG Chatbot

Technologies: Python, FastAPI, LangChain, LangGraph, Hugging Face, FAISS, SQLite, Streamlit

- Designed and built an enterprise-grade Retrieval-Augmented Generation (RAG) chatbot that enables users to query large document sets in natural language and receive grounded, context-aware answers.
- Implemented semantic document retrieval with FAISS vector search and Hugging Face embeddings, improving relevance of retrieved passages over traditional keyword search.
- Architected multi-turn conversational memory using LangGraph workflows, allowing the assistant to maintain context across extended interactions.
- Built a FastAPI backend exposing modular endpoints for ingestion, retrieval, and chat, paired with an interactive Streamlit front end for real-time use.
- Added streaming token responses, automated PDF ingestion, and tool-calling capabilities to support dynamic, multi-step user queries.

Meeting Intelligence — AI Video Assistant

Technologies: Python, Whisper, ChromaDB, LangChain, FastAPI

- Built an AI-powered meeting assistant that ingests YouTube videos and meeting recordings and converts them into structured, searchable knowledge.
- Used OpenAI Whisper for automatic speech-to-text transcription and LangChain pipelines to generate concise meeting summaries and structured notes.
- Extracted key action items, decisions, and open questions from transcripts, reducing manual review time for long recordings.
- Enabled semantic search and RAG-based question answering over transcripts using ChromaDB, allowing users to query recordings conversationally.
- Developed scalable, modular backend APIs with FastAPI to support ingestion, transcription, and retrieval workflows independently.

AI Blog Writing Agent

Technologies: LangGraph, LangChain, FastAPI, LLMs

- Designed an autonomous multi-agent content generation system that automates research, drafting, SEO optimization, and editorial refinement.
- Implemented modular, graph-based agent workflows in LangGraph, with dedicated agents for research, writing, and review to improve output quality and consistency.
- Automated keyword research and on-page SEO recommendations to improve the discoverability of generated content.
- Configured the pipeline to export polished, publication-ready Markdown articles, reducing manual editing effort for end users.

AtmoSense — AI Weather Forecasting System

Technologies: TensorFlow, XGBoost, FastAPI, Open-Meteo API

- Built a hybrid weather forecasting platform combining classical machine learning and deep learning models for multi-target prediction.
- Trained an XGBoost classifier to predict rainfall likelihood and a Bidirectional LSTM network to forecast temperature trends from historical time-series data.
- Integrated live weather data from the Open-Meteo API with automatic location detection to deliver localized, up-to-date forecasts.
- Delivered hourly and weekly forecast views through a responsive dashboard backed by a FastAPI service layer.

CineMatch — Movie Recommendation System

Technologies: Python, Streamlit, FastAPI, Scikit-learn, TMDB API

- Built a content-based movie recommendation engine that suggests similar titles based on plot, genre, and metadata similarity.
- Implemented TF-IDF vectorization and cosine similarity scoring to rank and retrieve the most relevant recommendations for a given title.

- Integrated the TMDB API to enrich recommendations with movie posters, ratings, and metadata for a richer user experience.
- Developed a responsive Streamlit interface backed by a FastAPI service for fast, interactive recommendation retrieval.

Quora Duplicate Question Pair Detection

Technologies: Python, NLP, Scikit-learn

- Built an NLP classification model to detect semantically duplicate question pairs, addressing a real-world information-retrieval problem.
- Engineered text-similarity features (TF-IDF, token overlap, fuzzy-matching statistics) to strengthen the signal available to the classifier.
- Trained and evaluated a binary classification model, comparing multiple algorithms to select the best-performing configuration.
- Improved semantic similarity detection accuracy through iterative feature engineering and preprocessing refinements.

EDUCATION

Master of Computer Applications (Specialization in AI/ML)

Pursuing

Lovely Professional University

Bachelor of Computer (CGPA 8.8)

2023-2026

Shibli National College

PERSONAL DETAILS

- Name: Sharif Abusad
- Date of Birth: 24 July 2004
- Location: Delhi, India
- Languages: English, Hindi
- Nationality: Indian

DECLARATION

I hereby declare that the information provided above is true and correct to the best of my knowledge.

Place: Delhi

Date: _____

(Sharif Abusad)