

# Gulshan Kumar

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## 📁 PROJECTS

### Agentic RAG

Built an Agentic RAG system that combines retrieval-augmented generation with autonomous agent capabilities, enabling dynamic multi step reasoning and context aware responses over custom knowledge bases.

### RAG based Chatbot - Medicare

Created an AI chatbot utilizing Retrieval Augmented Generation (RAG) and Gemini API to manage inquiries effectively. Improved user experience by delivering intuitive, automated responses and real time support.

### AI Research Agent

A specialized AI research application with two specialized agents: IT Research Agent and Pharmaceutical Research Agent. Built with Django, LangChain, LangGraph, and LangSmith that use the RAG and web search to find the information for the report generation.

### Autonomous Finance Agent

An AI agent that goes beyond reporting financial data - it interprets and reasons through it. Built with GPT-4o and a LangGraph ReAct loop, it integrates 11 financial tools, a causal chain engine (Macro News → Sector → Stock → Portfolio P&L), LLM-as-a-Judge self-evaluation, and real-time SSE streaming with Langfuse observability.

### AI Powered Calorie Burn Prediction and Management Tool

Developed a Flask web application with XGBoost for predicting exercise calorie burn from a Kaggle dataset. Integrated a Bootstrap-based UI, containerized the application using Docker.

### Synthetic Data Generation using NLP

- **Data Preprocessing:** Cleaned and enhanced a dataset of 16,669 product reviews using standard scaling, text lemmatization, and word count analysis.
- **Model Development:** Created a custom deep learning model with attention mechanisms and Bidirectional LSTM layers to generate coherent product reviews.
- **Review Generation:** Implemented the model to generate high-quality product reviews.

### Fine tuned T5 Model for Text Summarization

Implemented and trained a T5 small model on the CNN/DailyMail dataset for text summarization tasks, utilizing the Hugging Face Transformers and PyTorch..

## 🎓 EDUCATION

### Bachelor of Engineering in Computer Science University of Jammu

2026 | Jammu, India

## 📅 EXPERIENCE

### Python AI Developer (Full time) Swordfield Technologies Private limited

04/2025 – 09/2025 | WFH

- Developed a RAG based chatbot with Langchain and Open AI API with agentic capabilities for the platform.
- Integrated features such as database querying, app information search, keyword analysis, app tracking management, and automated task execution.
- Implemented API integrations and built modules for summary and performance report generation.

### Freelancer

10/2025 – Present

Working on client's projects based on Machine Learning, Prediction models, Langchain, LangGraph, etc.

## 🧠 SKILLS

### Data science, Machine learning and Deep learning

Python, Supervised and unsupervised algorithms, Neural Networks, ANN, CNN, RNN, LSTM, Feature engineering, NLP, Transformers, Fine Tuning etc.

### Generative AI - Agentic AI

LLMs, RAG, Vector DBs, A2A, MCP, Langchain, LangGraph, LangSmith, AI Agents, Fine tuning LLM, Open source LLMs.

### Retrieval Augmented Generation - RAG

Indexing, Retrieval, Reranking, Vector DB, LLMs, Langchain, LangGraph, LangSmith, Evaluation

### Python and Frameworks

Python, Scikit-learn, Numpy, Pandas, NLTK, Langchain, Langgraph, Streamlit, Django, FastAPI, etc.

## 📄 CERTIFICATIONS

- Machine learning, Deep learning & NLP specialization
- Professional Agentic AI (NCP AAI) - Manifold Learning

## 🏠 ORGANIZATIONS

### GeeksforGeeks Technical writer

01/2023 – 05/2023

- Authored 23+ technical articles on computer science.

### Chegg India Subject Matter Expert

05/2023 – 11/2024

- Solved 400+ questions in probability and statistics.