

# NEHA RANA

AI/ML Enthusiasts | Problem Solver | Web Developer

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## PROJECTS

### 🔗 Multimind Chatbot

using Python, Langchain, Streamlit, Prompt Engineering, LLM

Multimindbot is a chatbot designed to assist users in finding specific content without having to search through the entire website. It is specially tailored for the college admission counseling process and keeps a record of the chat history for the current session. The application is created using Rag-langchain and Streamlit. The language model used is **Llama2**, which is open source, instead of using the API key for the LLM, compared with GPT-3.5, GooglePalm, and Ollama. **Llama2** provides accurate results. For the desired output generation, I use prompt engineering. Users can chat with the bot or discuss uploaded documents and inquire about specific queries based on the content of the document.

### 🔗 Cloth Recommendation

Using Data mining, Content-based filtering, NLP

We created a cloth recommendation system using content-based filtering and represented cloth tags numerically with Bag of Words and Word2Vec. For Word2Vec, we used TF-IDF to weight individual word vectors. To optimize, we used Sparse Cosine similarity to improve complexity. We avoided impractical space and time overhead on low-end devices by dynamically calculating similarity at query time.

### 🔗 University Chatbot System

using Python, Django, Web Development

Its primary purpose is to resolve student queries. It also reduces the human efforts of attending to hundreds of students with repetitive doubts. We made our own dataset for Nirma University in JSON format. We have developed a website using Django and a model developed using NLP and FNN. **Features-** Authentication module for safe log-in/sign-up. After sign-up, new users will receive a confirmation email. They can then chat with the AI-bot using a fully interactive interface. Dataset: 📁 Dataset1 📁 Dataset2

### 🔗 AI Content detector

Using Streamlit, Data Visualization, NLP, Machine Learning

I developed a tool in Streamlit, to check for AI content in text and users can replace AI-generated words by checking reviews. The tool uses AI content detection based on NLP concepts. I created a second model to increase the efficiency of the tool. It was trained on AI-human text data and achieved 95% accuracy using CountVec-torizer, Tfidf-Transformer, and multinomial naive Bayes.

## ONGOING PROJECT

**Status: In Progress** I'm leading a team to develop an educational chatbot for the Department of Technical Education of Gujarat. The chatbot will provide admission and counseling-related information to students, support both Gujarati and English languages, and analyze documents and images uploaded by users. We've finished the chat model for the console and are now developing the mobile app and web interface.

## EDUCATION

### B.Tech in Computer Science and Engineering

Institute of Technology, Nirma University

📅 Oct 2021 – July 2025

CGPA - 7.31

### Class 12

Knowledge high school

Percentage- 92.92

## SKILLS

C, C++, OOP, DSA, DBMS, Python, Web Development, NLP, LLM, Django, Langchain, MySQL, Streamlit, Flask, FastAPI, Git, Problem Solving, Team Management, Leadership, Art/Painting, Creativity, Active Learner, Communication, Time management, Java

## COURSE WORK

CN, ML, DL, Data Mining, Software Engineering

## ACHIEVEMENTS

Codeforces Rank 2705 in Codeforces Round 948 Div2

Max Rating : 993

🔗 SSIP New India Vibrant Hackathon'23

Certificate of finalist

🔗 All India Women Only Hackathon'23

Certificate of finalist

🔗 Online National Level Mined Hackathon

🔗 Software Engineering Virtual Experience Program by Goldman Sachs

🔗 Advanced Learning Algorithms by DeepLearning.AI-from coursera

🔗 Unsupervised Learning, Recommenders, Reinforcement Learning by DeepLearning.AI-from coursera

🔗 Foundations of User Experience (UX) Design by Google

🔗 Python for Data Science from Infosys