AI / ML CHATBOT

Internship Project

PROJECT TITLE

- **Project:** AI / ML Q&A Chatbot using Vector Store

- **Intern Name:** Manisha Rachewad

- **Internship Platform:** Elevance Skills

- **Duration:** 3 Feb 2026 – 9 Feb 2026

PROJECT OVERVIEW

- Designed and developed an end-to-end AI/ML chatbot
- Used semantic search for accurate question answering
- Built incrementally across 6 internship tasks
- Demonstrated live chatbot functionality using Streamlit

TASK 1 – SIMPLE AI CHATBOT

- Created basic chatbot architecture using Python
- Prepared text-based dataset for AI/ML questions
- Implemented simple Q&A response flow
- Verified chatbot responses with sample queries

TASK 2 – VECTOR STORE INTEGRATION

- Implemented Sentence Transformers for embeddings
- Generated vector representations of text data
- Stored embeddings using FAISS vector database
- Enabled semantic similarity-based retrieval

TASK 3 – MEDICAL Q&A CHATBOT

- Added medical dataset (diabetes, symptoms, health topics)
- Rebuilt vector store with medical knowledge
- Tested chatbot accuracy for healthcare-related queries
- Ensured data-driven and factual responses

TASK 4 – MULTILINGUAL SUPPORT

- Added language selection: English, Hindi, Marathi
- Integrated automatic translation pipeline
- Converted user queries to English for processing
- Returned answers in the selected user language

TASK 5 – SENTIMENT-AWARE CHATBOT

- Implemented sentiment detection logic
- Classified user input as positive, negative, or neutral
- Added empathetic responses for negative sentiment
- Preserved factual accuracy for medical information

TASK 6 – DEPLOYMENT & LIVE DEMO

- Built interactive UI using Streamlit
- Successfully ran chatbot using streamlit run app.py
- Demonstrated chatbot live via screen sharing
- Uploaded complete project to GitHub with documentation

TECHNOLOGIES USED :

- **Programming Language:** Python
- **Libraries:**
  - Sentence Transformers
  - FAISS
  - Streamlit
  - TextBlob
  - Deep Translator
- **Tools:** VS Code, GitHub

CHALLENGES & SOLUTIONS :

- **Challenges Faced**
- Environment and dependency compatibility issues
- FAISS and NLP library installation errors
- File path and dataset linking problems
- Sentiment misclassification for medical queries
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- **Solutions Implemented**
- Activated correct Conda environment
- Reinstalled and validated required libraries
- Corrected dataset paths and rebuilt vector store
- Applied rule-based sentiment handling

FINAL OUTCOME :

- Fully functional AI/ML chatbot developed
- Accurate semantic search using vector database
- Multilingual and sentiment-aware responses enabled
- Live demonstration completed successfully
- Project hosted and documented on GitHub

CONCLUSION :

- Internship tasks completed successfully
- Gained hands-on experience in NLP and AI systems
- Built a scalable and real-world chatbot application
- Project is ready for evaluation, certification, and interviews

THANK YOU

Thank you for the opportunity

Open to feedback and discussion