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| **Lab Task:** 9 |

# Task 6: Sentiment Analysis Chatbot

## 1. Introduction

This project implements a **Flask-based sentiment analysis chatbot** using **NLTK's Sentiment Intensity Analyzer (VADER)**.

Users input text, and the chatbot provides **real-time sentiment feedback** (positive, negative, or neutral).

## 2. Technologies Used

- **Python** (Flask, NLTK)
- **HTML, CSS** (for frontend UI)
- **Natural Language Processing (NLP)**

## 3. Implementation

- **Sentiment Analysis:** Uses **VADER** to classify text sentiment.
- **Flask Backend:** Handles user input, processes sentiment, and maintains chat history.
- **Frontend UI:** A simple **dark-themed chat interface** displaying messages in a conversational format.

## 4. Results

The chatbot provides **real-time sentiment analysis** with a seamless conversation experience. **Chat history is retained**, improving usability.

## 5. Output

# Sentiment ChatBot

You: hi

Chatbot: 🟡 Neutral Sentiment

You: good morning

Chatbot: 🟢 Positive Sentiment

You: i am having a bad day

Chatbot: 🔴 Negative Sentiment

You: good luck

Chatbot: 🟢 Positive Sentiment

Type a message...

Send