Mental Health Chatbot Using NLP for Emotional Support

Abstract:
Mental health is an area where AI can provide significant support by offering real-time emotional assistance. This project aims to develop a **Mental Health Chatbot** using **Natural Language Processing (NLP)** to offer emotional support and manage mental health issues such as stress, anxiety, and depression.

Methodology:
The chatbot will be designed to recognize emotions in user inputs using **sentiment analysis**, **text classification**, and **emotion detection models**. It will offer empathetic responses, validate user feelings, and suggest coping mechanisms, mindfulness exercises, and cognitive behavioral therapy (CBT) techniques. The system will also be capable of detecting severe distress or suicidal thoughts and, if necessary, direct users to professional help. Using deep learning models like **LSTM (Long Short-Term Memory)** networks and **transformers**, the chatbot will generate context-aware, compassionate responses.

Outcome:
The mental health chatbot is expected to provide accessible, anonymous emotional support, particularly for individuals who might hesitate to seek face-to-face help. The expected outcome is an improvement in users' emotional well-being by offering a non-judgmental space for individuals to express their concerns. Additionally, the system will help reduce the burden on mental health professionals by offering preliminary assistance before more specialized care