

Emotion Detection in Social Media Posts using Deep Learning-based Sentiment Analysis

Project Title:

Emotion Detection in Social Media Posts using Deep Learning-based Sentiment Analysis

Source Code Topic Overview:

This project involves building a Python application that collects social media text data (e.g., tweets), preprocesses the data, and uses a deep learning model (such as LSTM or BERT) to classify the text into specific emotions like joy, anger, sadness, fear, surprise, and disgust.

Main Features of the Code:

1. Data Collection (e.g., using Twitter API or preloaded dataset like Emotion Dataset from Kaggle)
2. Text Preprocessing (tokenization, stopwords removal, lemmatization)
3. Emotion Classification using:
 - Traditional ML (Logistic Regression, SVM)
 - Or Deep Learning (LSTM, GRU, or transformer models like BERT)
4. Visualization:
 - Bar charts of emotion distribution
 - Word clouds per emotion
5. Real-time Sentiment Tracking (Optional): Stream tweets using tweepy and classify in real-time.

Tech Stack:

- Python
- Libraries: pandas, nltk, scikit-learn, tensorflow or transformers (HuggingFace), matplotlib, seaborn

- (Optional) Twitter API (tweepy)