**README:**

# 💬 Decoding Emotions through Sentiment Analysis of Social Media Conversations

This project explores how to detect and decode human emotions by analyzing sentiment in social media conversations using natural language processing (NLP) and machine learning techniques.

## 🧠 Overview

Social media platforms are rich sources of public opinion and emotional expression. This project aims to build a pipeline that extracts, processes, and classifies emotional sentiment from posts and comments on platforms such as Twitter, Reddit, or Facebook.

## 📌 Objectives

- Extract and preprocess social media text data.

- Perform sentiment and emotion classification (e.g., joy, anger, sadness, fear).

- Visualize emotional trends and insights.

- Explore real-time or near-real-time applications of emotion detection.

## 🛠 Technologies Used

- Python 3.x

- Tweepy / PRAW (for data collection)

- Pandas, NumPy

- NLTK, SpaCy, TextBlob, VADER

- Scikit-learn, TensorFlow / PyTorch

- Matplotlib, Seaborn, Plotly

## 📁 Project Structure

## 🔍 Features

- Real-time or batch collection of social media data

- Text cleaning and preprocessing (tokenization, stopword removal, lemmatization)

- Sentiment analysis using rule-based and ML/DL models

- Emotion classification (multi-class)

- Interactive data visualizations and dashboards

## 📊 Data Sources

- Twitter API (via Tweepy)

- Reddit API (via PRAW)

- Public datasets (e.g., Emotion Dataset, Sentiment140)

## 🤖 Models & Techniques

- VADER (rule-based sentiment analysis)

- TextBlob / NLTK classifiers

- Logistic Regression, Random Forest

- LSTM / BERT for deep learning-based emotion classification

## 🚀 Getting Started

1. \*\*Clone the repository\*\*

```bash

git clone https://github.com/your-username/decoding-emotions.git

cd decoding-emotions