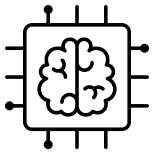


Sentiment Analysis and Emotion Detection

Introduction

analyzing sentiment and detecting emotions from text inputs using pretrained models and libraries.

Data Preparation

Utilized the GoEmotions dataset from Hugging Face, containing Reddit comments labeled with emotions.

1- Emotion Detection by transformers

Overview

The first code uses the transformers library to access a pretrained text classification pipeline for emotion detection. Specifically, it employs the j-hartmann/emotion-english-distilroberta-base model.

Functionality

Code Overview: The script defines a function detect_emotion(text) that processes input text through the pretrained model.

Emotion Extraction: For each input text, the function return a list of emotions with associated scores, sorting them in descending order based on score.

Example Usage

Input: Dataset.

Output: For each text, the script outputs the detected emotions along with their respective scores.

2-Sentiment Analysis with textBlob

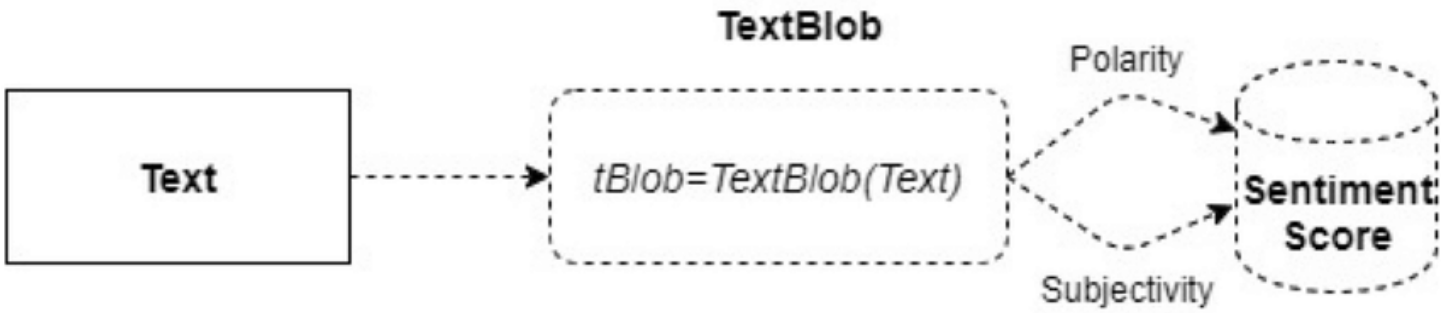
Overview

The second code uses the TextBlob library for sentiment analysis, determining whether a text expresses a positive, negative, or neutral sentiment based on polarity scores.

Functionality

Code Overview: The script defines a function get_sentiment(text) that utilizes TextBlob to analyze sentiment polarity.

Sentiment Categorization: Based on the polarity score, the function categorizes the sentiment as positive, negative, or neutral.



Example Usage

Input: Dataset.

Output: For each text, the script prints the sentiment

Evaluation

Calculated precision, recall, F1-score, and support using scikit-learn to evaluate the model's performance.

Measured accuracy by comparing predicted emotions to actual labels in the dataset.

Results

Accuracy

The model achieved an overall accuracy of X% (replace with actual value).

Detailed Metrics

Precision, recall, and F1-scores were calculated for each emotion category.

The support metric provided insight into the distribution of each emotion in the dataset.

Conclusion

Both scripts provide efficient means for text of dataset analysis tasks:

The first code focuses on detailed emotion detection using advanced NLP models from transformers. The second code provides a simpler sentiment analysis approach using TextBlob's polarity scoring.

The model demonstrated good performance in detecting emotions from text, as indicated by the accuracy and F1-scores. Future work could involve fine-tuning the model further or exploring additional datasets for improved results.

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