

Sentiment Analysis Program Documentation

This document provides an overview and usage guide for the text analysis program implemented in Python. The program is designed to analyze articles by performing text cleaning, sentiment analysis, aspect-based sentiment analysis, and keyword extraction. Below are the details of each component and instructions on how to run the program effectively.

Program Components

1. Text Cleaning (`clean_text`):

- Cleans the text by removing unnecessary characters, converting to lowercase, and handling common contractions.

2. Article Processing (`clean_article`):

- Processes article texts by cleaning, removing stop words, and applying lemmatization using the SpaCy English model.

3. Sentiment Analysis (`analyze_mood`):

- Determines the mood of the article using the VADER sentiment analyzer.

4. Aspect-Based Sentiment Analysis (`aspect_sentiment_analysis`):

- Extracts aspects from the article and evaluates their sentiment, considering both positive and negative sentiments.

5. Keyword Extraction (`find_connections`):

- Identifies key themes within an article using TF-IDF for keyword extraction.

6. Main Functionality (`main`):

- Takes article input from the user, performs analysis using the aforementioned functions, and displays the results.

Usage Guide

1. Run the Program in Google Colab:

- Open Google Colab and create a new notebook.
- Copy and paste the provided code into a code cell in the Colab notebook.

2. Install Required Libraries:

- Ensure that the following libraries are installed in the Colab environment:

!pip install pandas spacy nltk scikit-learn

3. Load Spacy Model:

- The program requires the SpaCy English model. Load the model by executing the following command in a code cell

!python -m spacy download en_core_web_sm

4. Run the Program:

- Execute the main function by running the code cell containing the `main()` function.

5. Input Article:

- Upon running the program, you'll be prompted to input the article text. Enter or paste the article text and press Enter.

6. View Analysis Results:

- Once the article is provided, the program will perform various analyses and display the results, including the cleaned article, mood rating, aspect analysis, and themes.

Conclusion

This text analysis program provides a comprehensive suite of tools for analyzing textual data, ranging from basic cleaning and sentiment analysis to more advanced aspect-based sentiment analysis and keyword extraction. By following the provided instructions, users can efficiently analyze articles and extract valuable insights from textual data using this program in a Google Colab environment.

Output:

```
Please input the article text: Whether you dip it, drizzle it, or put it on chicken nuggets or french fries, McDonald's sauce assortment is expanding this fall. The fast food chain announce
Cleaned Article:
dip drizzle chicken nugget french fry mcdonald sauce assortment expand fall fast food chain announce tuesday add new limitededition sauce menu week new sauce mcdonald sweet spicy jam mcdon

Mood Rating: Positive

Aspect Analysis:
chicken nugget french fry mcdonald sauce assortment expand: Positive
fast food chain announce: Neutral
new sauce mcdonald sweet spicy jam mcdonald mambosauce: Positive
king: Neutral
whopper lawsuit allege burger small: Negative
judge mcdonald new sauce new limitededition duo sweet spicy jam chain describe breakfastinspire jammy red pepper dipping sauce tonguenumbing szechuan peppercorn kick: Positive
apple cider vinegar cayenne pepper mambosauce describe mcd tomatobase sweet spicy vinegary sauce inspire washington dc area: Positive
staple company: Neutral
new sauce: Neutral
incredible taste flavor: Neutral
community country: Neutral
tariq hassan chief mark customer experience officer chain: Neutral
news release: Neutral
live intersection flavor: Neutral
customer crave hassan: Neutral
mcd: Neutral
@santanakeish @misslegarda @natelovlogs @blackgirlsexploredc: Neutral
mic big sauce fan food content creator authentic reaction: Positive
drizzle dip bite hassan: Neutral
creator @mreat @sharidyonne @santanakeish @misslegarda @natelovlogs @blackgirlsexploredc natalie neysa: Neutral
senior correspondent usa: Neutral
platform: Neutral
twitter: Neutral

Themes: sauce, say, new
```

Notebook Link:

[Notebook Link](#)