

News Sentiment Analysis Tool

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About The project

SentimentSpectrum is a web application designed to help users quickly understand the emotional tone of daily headlines by analyzing news articles related to user-defined topics. It leverages Natural Language Processing (NLP) to assess the sentiment of news articles and classify them as positive, negative, or neutral. This project aims to provide a user-friendly platform for news sentiment analysis and categorization.

Features

- Text Sentiment Analysis: Users can input any text, and the application will analyze its sentiment, providing feedback on whether the sentiment is positive, negative, or neutral.
- Topic-Based News Analysis: Users can input a topic, and the application will fetch relevant news articles, analyze their sentiment, and present the results.
- Visual Data Representation: Sentiment analysis results are displayed using interactive bar charts, making it easy to comprehend the overall sentiment of articles.

Getting Started

Configuration

To use the NewsAPI service, you'll need to obtain an API key by signing up on the [NewsAPI website](#). Once you have the key:

1. Create a config.py file in the root folder.
2. Add the following line to config.py:

```
API_KEY = '<Your_NewsAPI_Key>'
```

Replace <Your_NewsAPI_Key> with your actual API key.

How to Run

1. Clone the Repository: Clone the repository to your local system using git clone <repository_url>.
2. Install Dependencies: Use a virtual environment and install the required packages:

```
pip install -r requirements.txt
```
3. Run the Application: Start the Flask application:

```
flask run
```
4. Access the Application: Open a web browser and navigate to interact with the application.

Technologies Used

- Flask web framework (Python)
- HTML5 for website structure, Bootstrap and CSS3 for styling
- Chartjs for data visualization
- Natural Language Toolkit (NLTK) for tokenization and lemmatization