Flipkart Product Review Analyzer Documentation

Overview

The Flipkart Product Reviews Analyzer is a comprehensive system engineered to provide deep insights into product reviews sourced from Flipkart. It consists of a Flask web application (app.py) for user interaction, analysis, and visualization, and a dedicated scraping script (FlipkartReviews.py) responsible for collecting data from Flipkart product review pages.

Flask Web App (app.py)

Features:

Review Comparison: The application facilitates the comparison of average customer ratings with sentiment analysis scores, offering a nuanced understanding of product reception.

Detailed Table: Users gain access to a detailed table displaying crucial product information, including product name, customer rating for the product, customer review and the review summary.

Wordclouds: The app generates visually appealing positive and negative wordclouds, providing an intuitive representation of sentiment distribution within reviews.

Model Training:

The sentiment analysis model embedded in the app is trained on a diverse dataset comprising over 5000 iPhone 14 reviews. Leveraging the NLTK and TextBlob libraries, the model ensures a robust and context-aware sentiment analysis.

Usage:

User interaction: Users can seamlessly input a Flipkart product review page URL through a user-friendly interface.

Analysis Trigger: Initiating the analysis by clicking the “Analyze” button prompts the app to process the input, generating comprehensive insights.

Insights Review: Users can review the comparison results, explore the detailed table, and visually interpret sentiment through the generated wordclouds.

Dependencies:

pandas==2.1.0

tqdm==4.66.1

bs4==0.0.1

wordcloud==1.9.2

nltk==3.8.1

seaborn==0.13.0

Flask==2.2.5

matplotlib==3.8.0

urllib3==1.26.16

Scraping Script (FlipkartReviews.py)

Purpose:

The scraping script is designed to collect raw data from Flipkart product review pages, laying the groundwork for sentiment analysis model training.

Process:

Input Requirement: The script requires the URL of the product reviews page from Flipkart as input.

Data Collection: Leveraging the power of requests and Beautiful Soup, the script systematically scraped product reviews, encompassing essential details such as ratings, reviews and summaries.

Data Processing: The collected raw data undergoes meticulous cleaning and structuring, culminating in the creation of a Pandas DataFrame. Going forward, sentiment analysis score and the sentiment indicating whether ‘positive’, ‘negative’ or ‘neutral’ performed on the review column is included in the DataFrame.

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Workflow

Web app interaction: Users can interact with the Flask web app to initiate the analysis of product reviews.

Data collection: The flask app dynamically collects reviews from Flipkart product pages after the URL is entered by the user.

Model Training: The sentiment analysis model within the web app is trained on the amassed data of the iPhone 14 reviews and ratings, ensuring adaptability and accuracy.

Visualization: Users receive a visually enriched experience through the web app, unravelling comparison, detailed tables, and sentiment distribution visualized through wordclouds.

Installation

Clone Repository: Begin by cloning the repository to your local machine.

Install dependencies: Navigate to your desired folder path and execute the pip install –r requirements.txt to install the necessary dependencies.

Run the app: Launch the Flask app with ‘python app.py’ navigated in your folder path.

Note

Respect Flipkart’s terms of service during the data scraping process.

Contributors

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