Food Reviews

Sentiment Analysis + UAP Review

Food Reviews Sentiment Analysis is an application designed to analyze and classify customer reviews about food. As a developer, you are tasked to build a program that analyzes and distinguishes between positive and negative sentiments.

Follow the requirements below.

1. Check for Existing Model
   - The application will check if a "model.pickle" file exists in the directory.
     1) If it exists, the application will load the model and display the 5 most informative features.
     2) If it doesn't exist, the application will:
        - a. Train the model using Naive Bayes Classifier from the dataset "updated_dataset.csv".
        - b. Preprocess the data by tokenizing, removing stopwords, symbols, and numbers, and lemmatizing/stemming the words.
        - c. Classify reviews as either Positive or Negative.
        - d. Show the 5 most informative features and the training accuracy.
        - e. Save the model as "model.pickle".

2. Application Menu
   - The application will present the user with three options:
     1) Write Your Review: Prompt the user to enter a review (at least 2 words). Save the review.
     2) Analyze Your Review:
        - If no review is saved, display a message and return to the main menu.
        - If a review exists, preprocess it (removing unwanted characters), perform POS tagging, and display synonyms and antonyms for each word
     3) View Restaurant Recommendation
        - Check whether there is review or not
        - If no review, then show empty message and redirect back to main menu
        - Should support one text representation or word embedding techniques for feature extraction, choose from TF-IDF, Word2Vec, or languange models such as unigram, bigram, or trigram.
        - The selected technique will be applied during the recommendation process to calculate cosine similarities between user queries and dataset
        - Calculate the cosine similarities between queries and datasets
        - Display top 3 restaurant from the cosine similarities results sorted in ascending order
     4) View NER

- Display entity tags such as geopolitical entities, organizations, and languanges along with the corresponding entity items present in the document.

5) Exit