

Food Reviews Sentiment Analysis

Task Description

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.

- If it exists, the application will load the model and display the 5 most informative features.

- If it doesn't exist, the application will:

- a. Train the model using Naive Bayes Classifier from the dataset "food_reviews.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.

- Show the sentiment (positive/negative) of the review.

3. Exit: Terminate the application.