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Project Report: Sentimental Analysis

1. Introduction

The goal of our project is to perform sentiment analysis of a dataset containing Food Reviews. We evaluated the ratings given by reviewers ranging from 1-5 stars with 1 star being worst and 5 being best. We used Sentiment Intensity Analyzer, also known as Vader's Algorithm from NLTK which is an NLP library and a transfer learning model, roBERTa.

2. Dataset

The dataset is an extraction of Amazon fine food reviews in a (.CSV) file. The dataset comprises multiple columns such as ProductID, UserID, Score(1-5), Summary, and Text.

3. Models

- NLTK Sentiment Intensity Analyzer(Vader's Algorithm)

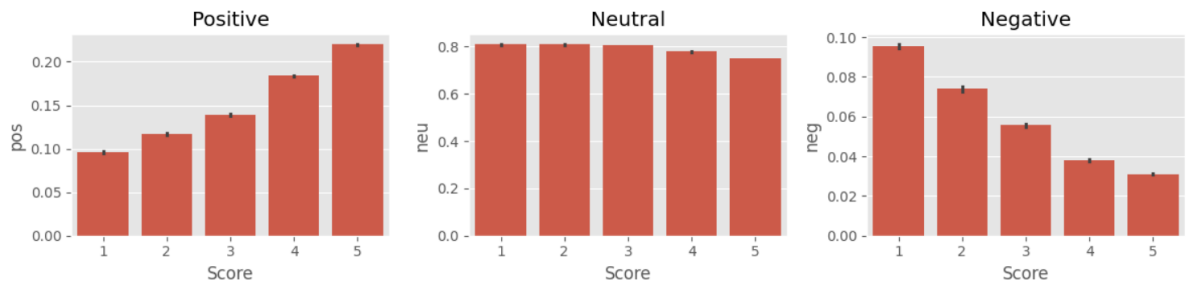
The Vader's algorithm uses a "bag of words" approach where stop words are removed and each word is scored and combined to a total score.

- Roberta Pre-Trained Model(Transfer Learning Model)

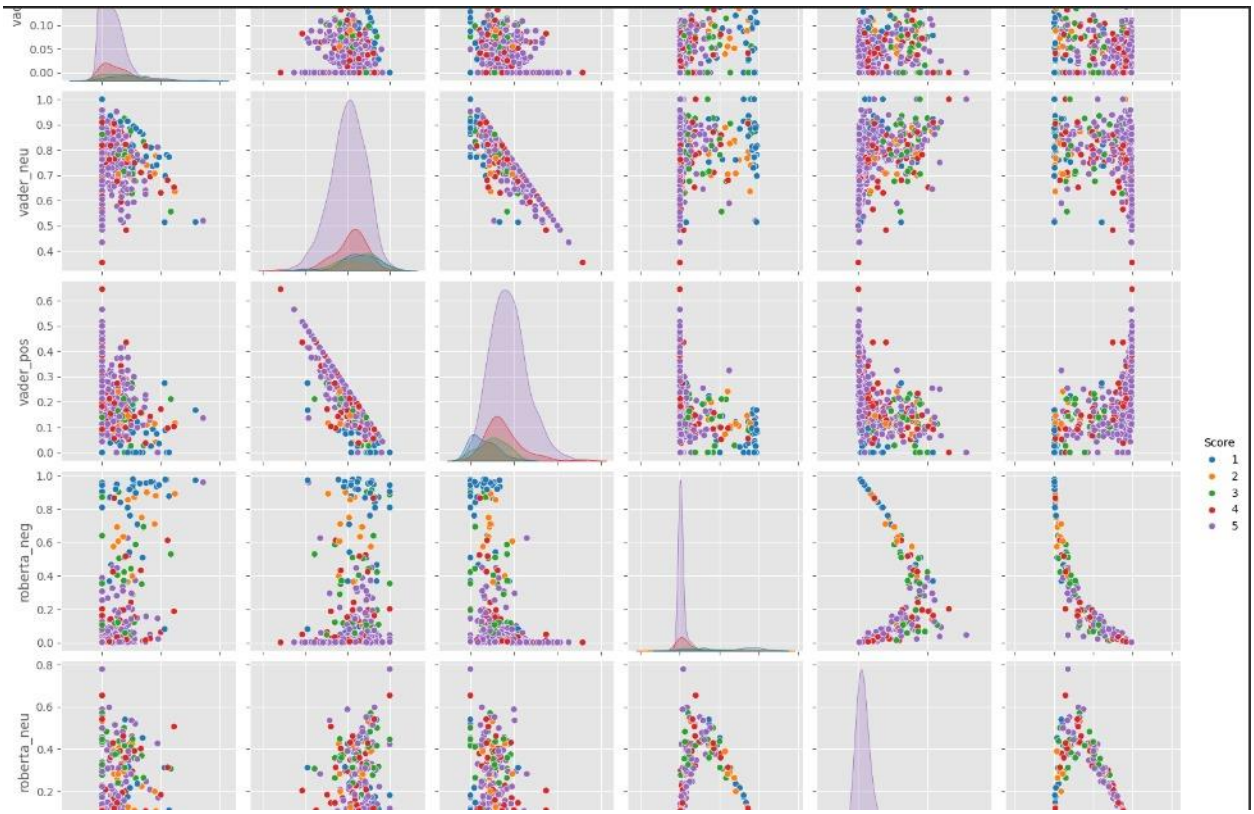
Roberta is a model trained for a large collection of data

4. Results

Both models are rating the given reviews into three categories. Namely, positive, neutral, and negative.



After getting the results, we made comparisons of both models using Seaborn for visualization.



5. Conclusions

In this project we used the Varder's Algorithm and Roberts Transfer Learning Model to carry out sentimental analysis. Both models showed robust performance. But Roberta returned results with a comparatively higher accuracy