



NLP Model for Analysis of Twitter Sentiments on Google and Apple Products

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Introduction

- With the increasing use of Tweets, companies need to find ways to analyze texts to improve product/service delivery
- Reading *Texts* can be overwhelming, **BUT** each *Word* has a meaning
- Sentiments from Tweets can convey user emotions or experience
- This project explores the effectiveness of using such models, *Thanks to Data Science...*



Business Understanding

- **Overview**

The project is on building a natural language processing (NLP) model that will rate the sentiments of a Tweet based on its content

- **Business Problem**

The company needs to develop a model that will assist in judging people's emotions about brands and products using Tweets on Apple and Google products



Intro cont..

- **Business Aim**

To build a model that predicts customer's emotions on brands and products using their sentiments

- **Business Objectives**

- 1.To find out the overall sentiments on Apple and Google products
- 2.To identify the products with the most positive and negative sentiments
- 3.To establish how the negative sentiments would be improved

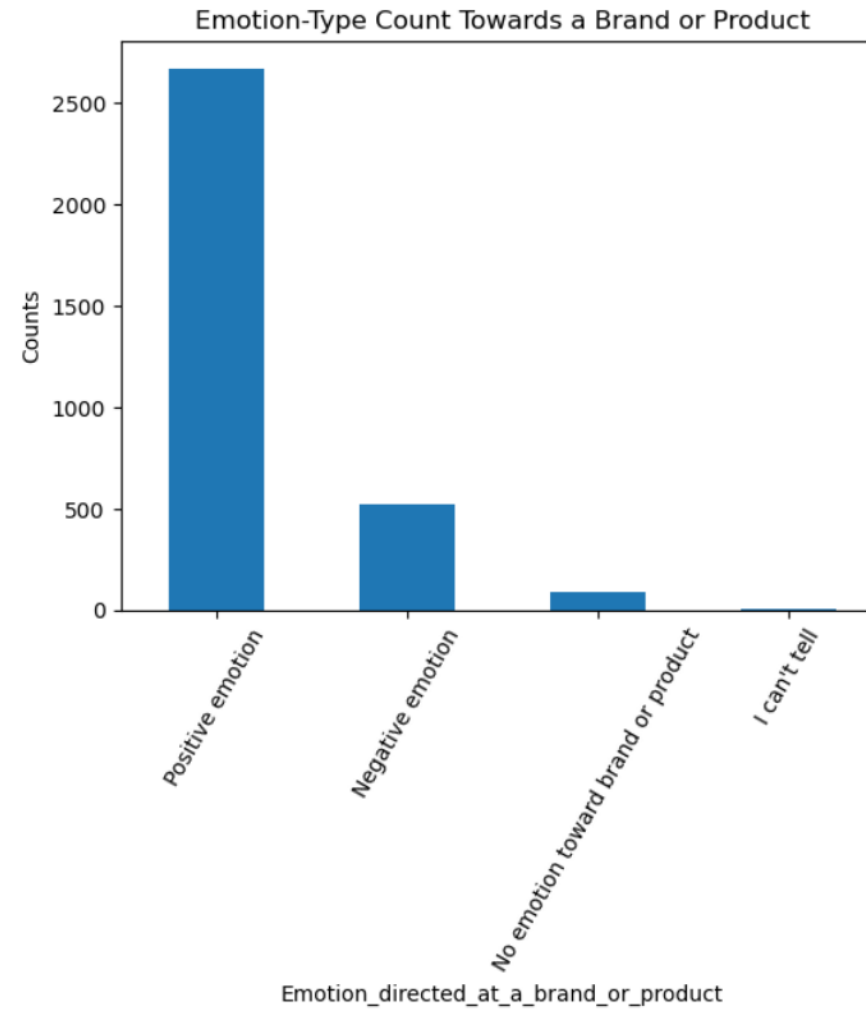




Data on Different Emotions on Tweets

Highest counts on 'Positive emotion' group on both Google and Apple products

'I can't tell' category had the lowest count



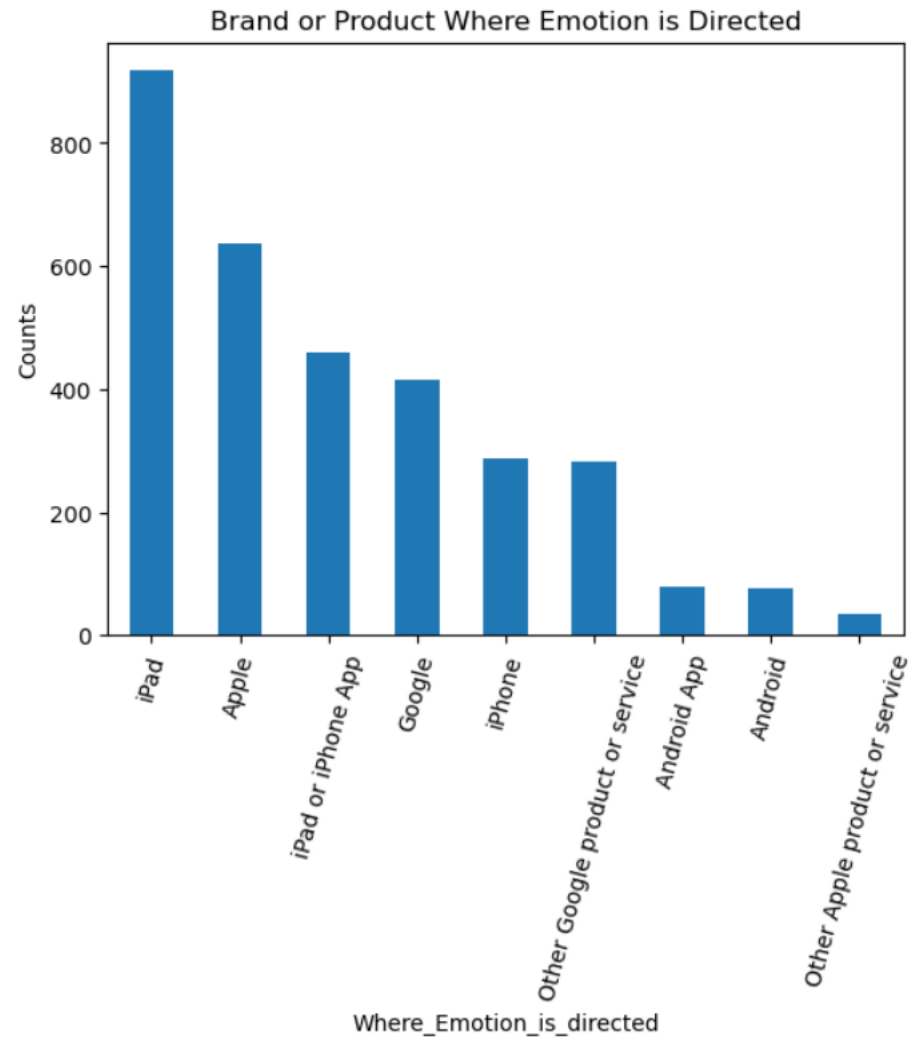


Data on Brands/Product Tweet is Directed

Apple and its related products
received the highest
emotional reaction on Tweets

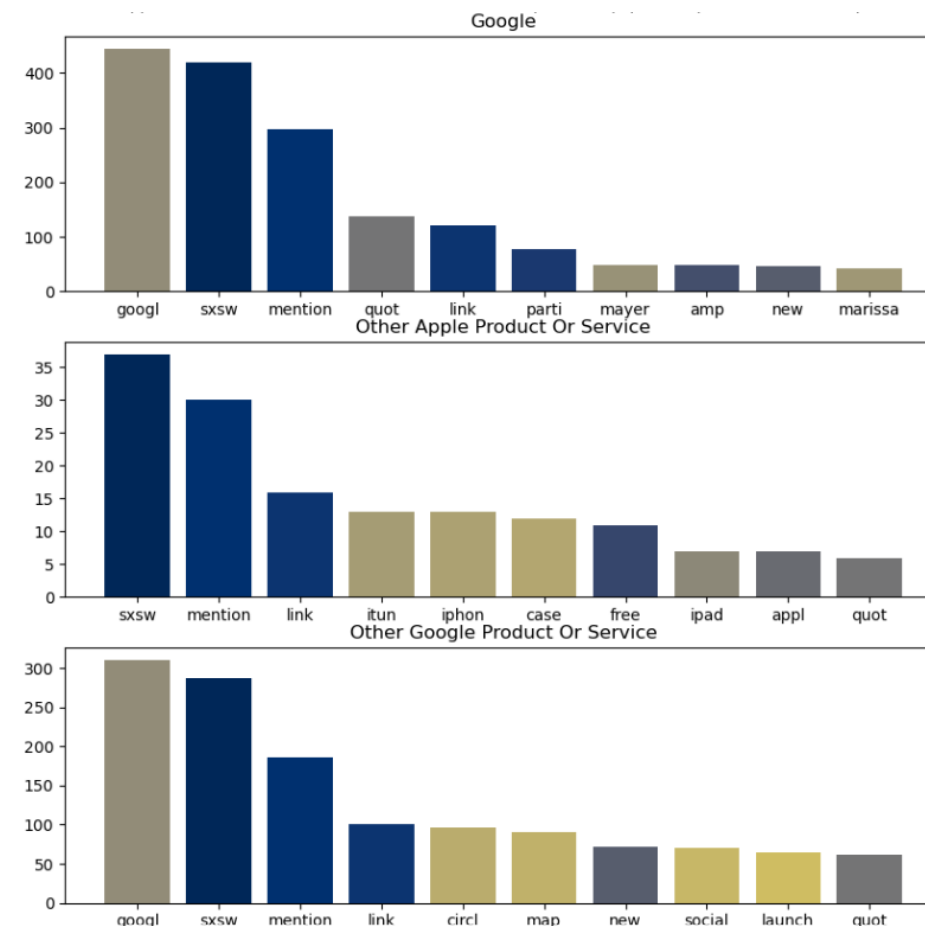
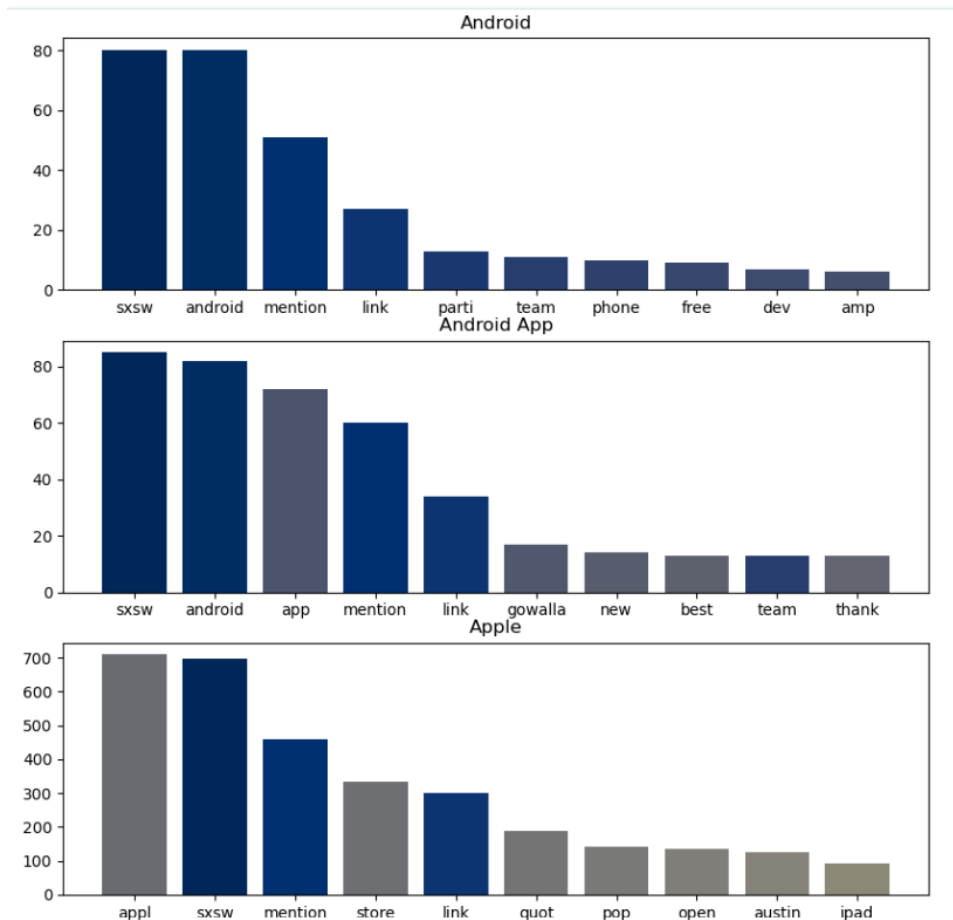
‘iPad’ had the most common

‘Other Apple product or
service’ was the least
common



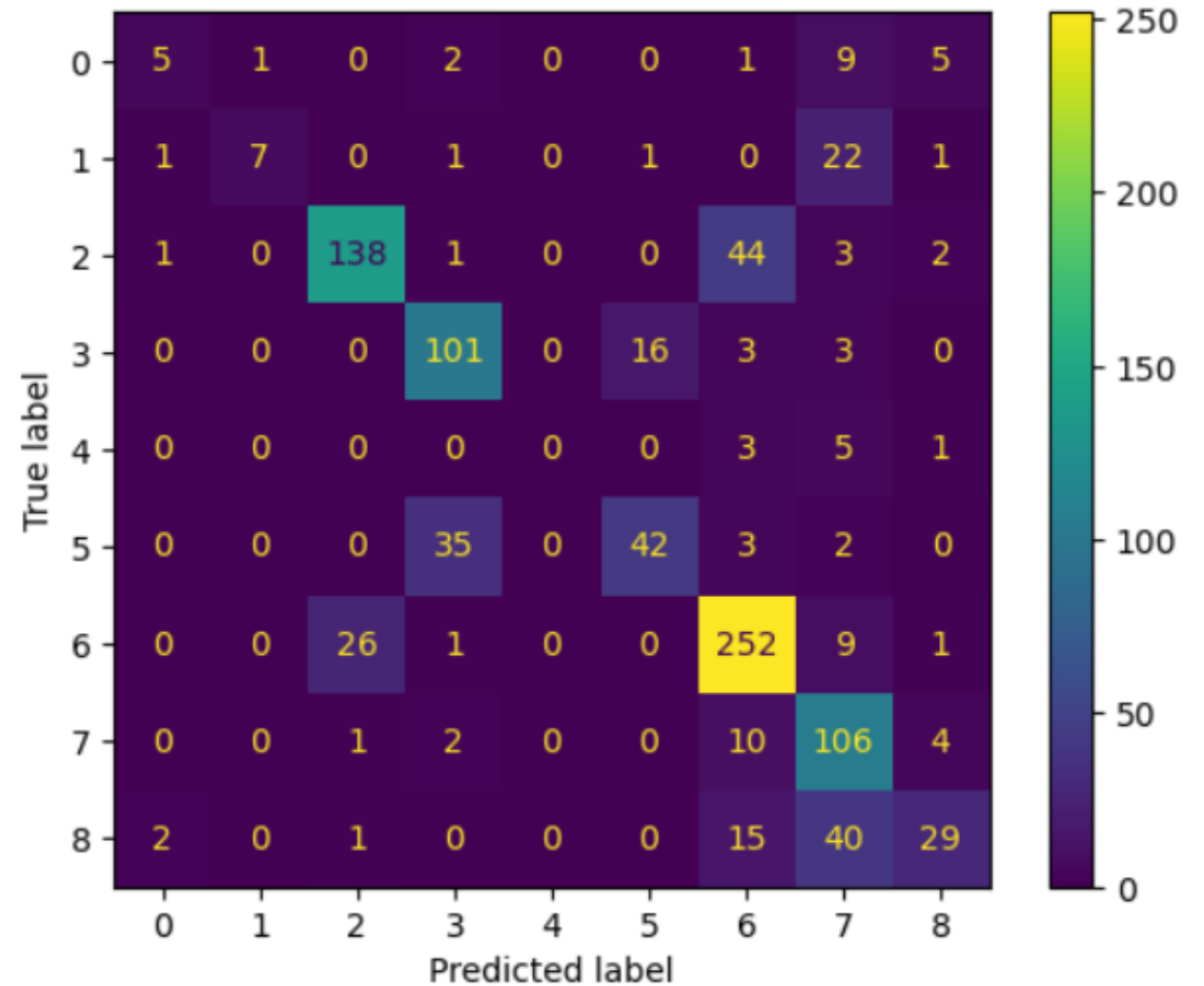


Processed texts on Different Products



Confusion Matrix

The model did not perform so well on predicting unseen data with more errors and low accuracy levels



Insights

- The color orientation in the Confusion Matrix visualizes the poor performance of the classification model;
 - This implies that the actual versus predicted emotions in the tweets will be subject to misclassification.
- The True and Predicted labels demonstrate a misalignment;
 - This implies that there will be a confusion in the results interpretation from the model.
- The imbalanced color mapping highlights areas with problems in the model;
 - This pinpoints areas that need to be improved in the model



Conclusion

- A single Tweet cannot predict the overall emotion towards their products or brand.
- The NLP model alone is relatively insufficient in predicting the emotions from a tweet text due to its low accuracy and increased errors
- Tweet_texts are useful in identifying a problem with a particular product or brand, this informs on areas for improvement
- Emotions can be overfitting and underfitting





-- THANK YOU --

