



Tweets on Google and Apple Products NLP Classifier

By: Konnor Clark



Overview and Business Understanding

- Google wishes to **classify Twitter sentiment** about both **their own products** as well as **Apple products**.
- **Gauging the negative or positive feedback** on Twitter opinion about Google and Apple products can assist Google with future product development by informing **what aspects of a product were well or ill-received**.

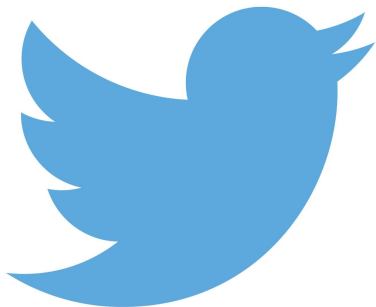
Business Questions

- How can we **categorize** tweets as **positive or negative**?
- What kind of **terms and hashtags** are more likely to surround or embody **positive or negative sentiment**?



Data Understanding and Analysis: 3 Features

tweet_text



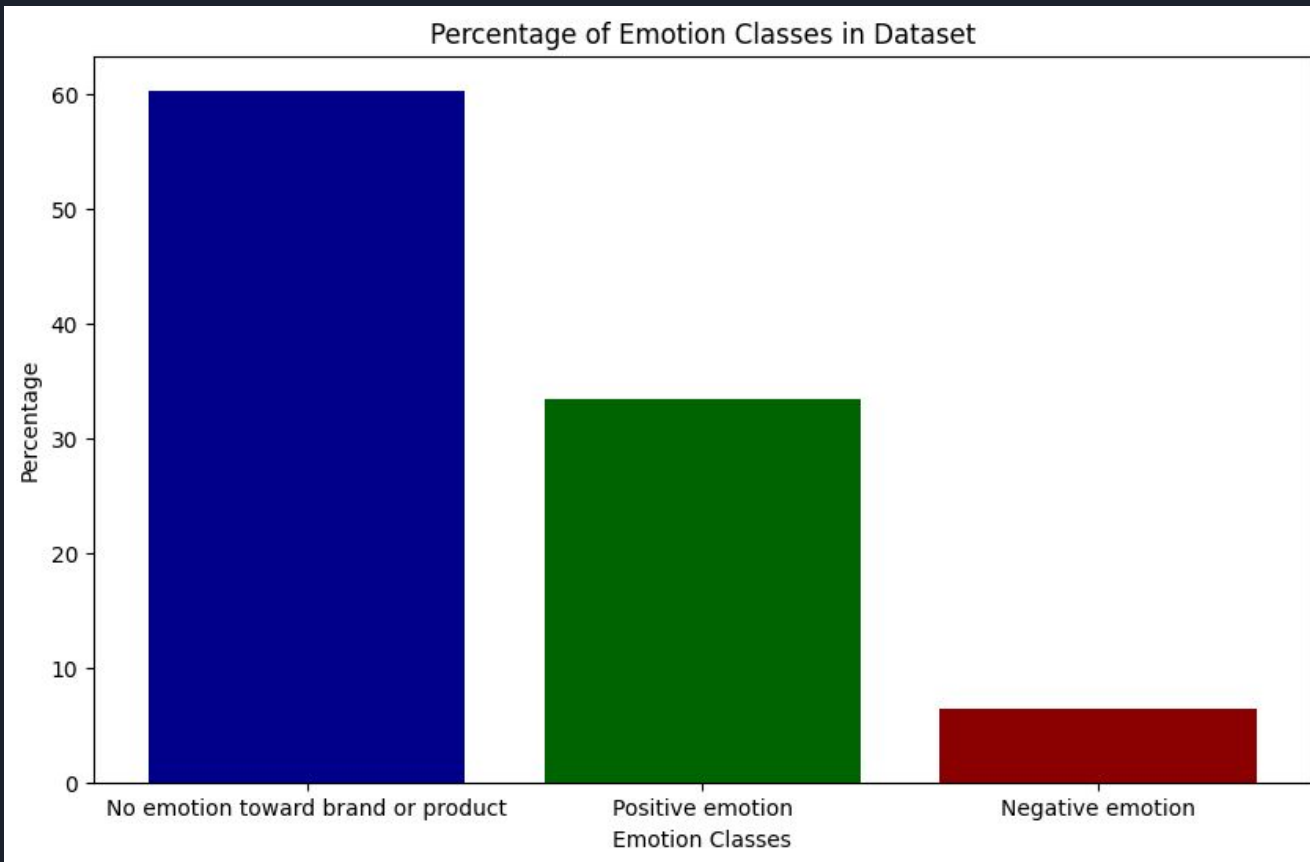
is_there_an **emotion** directed_at_a_brand_or_product



emotion_in_tweet_is **directed_at**

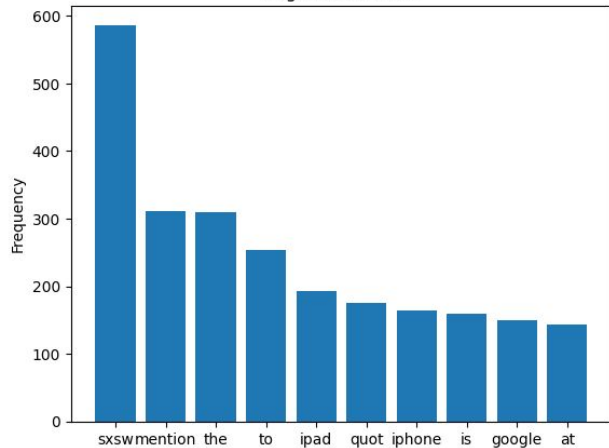


Data Understanding and Analysis: Emotion Distribution



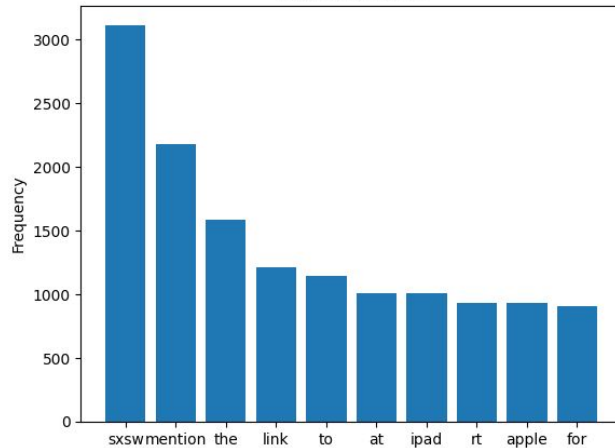
Data Understanding and Analysis

Negative emotion

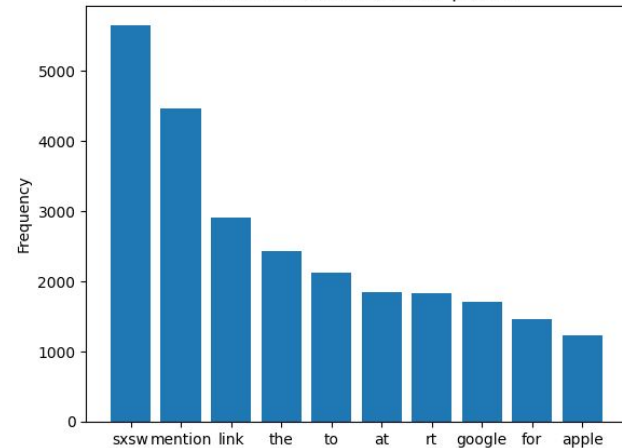


Top 10 Words by Emotion Category

Positive emotion

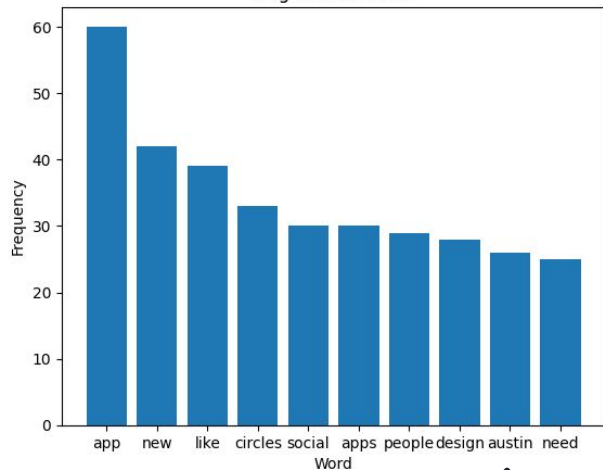


No emotion toward brand or product



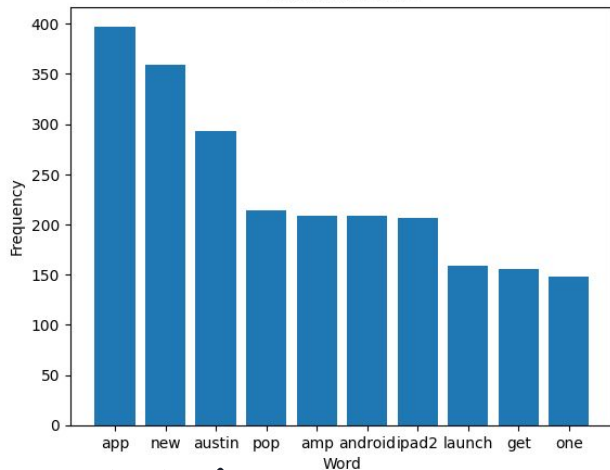
Data Understanding and Analysis

Negative emotion

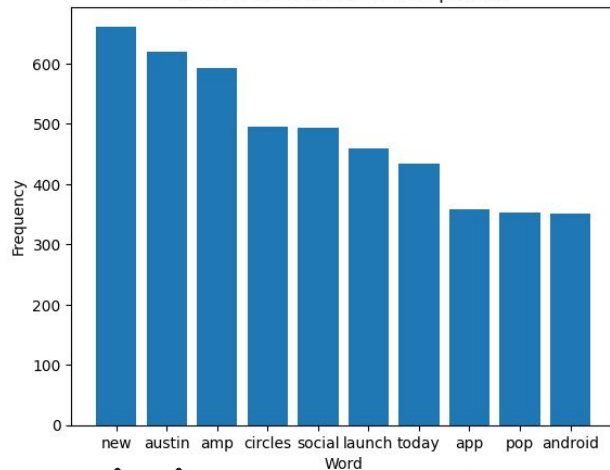


Top 10 Words by Emotion Category

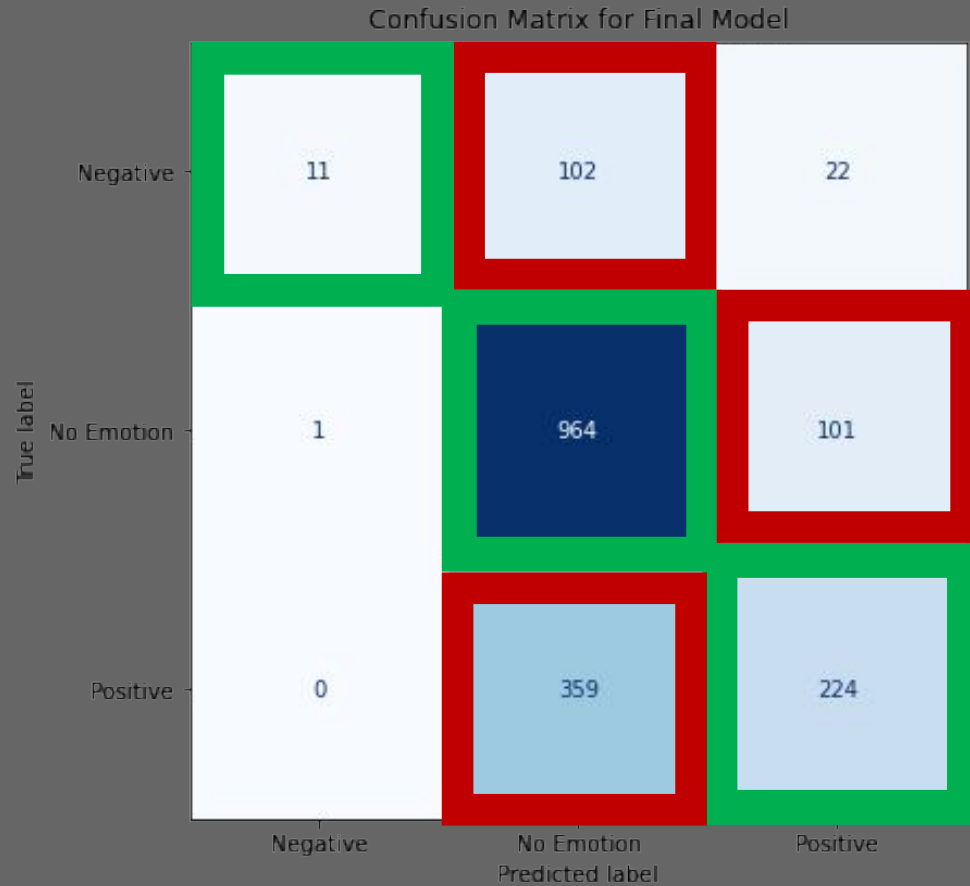
Positive emotion



No emotion toward brand or product



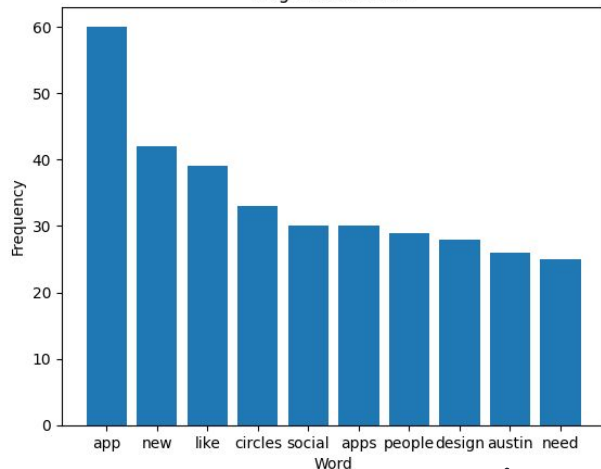
Model Accuracy



Recommendations

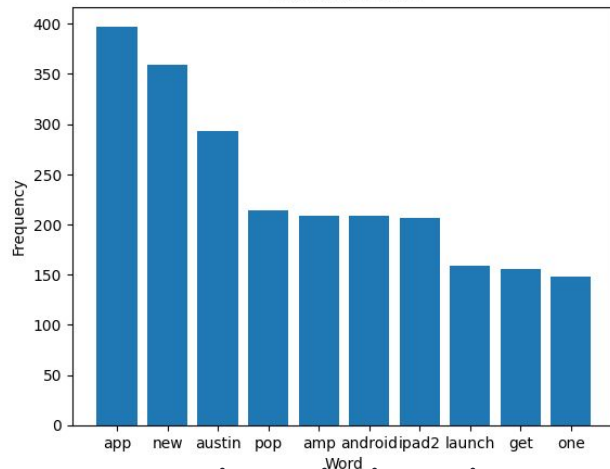
Removal of overlapping

Negative emotion

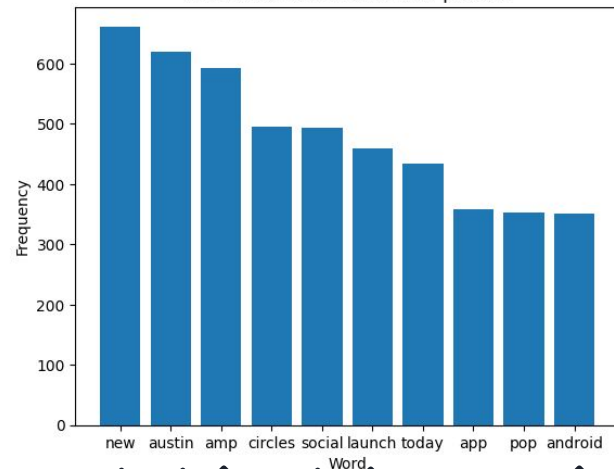


Top 10 Words by Emotion Category

Positive emotion

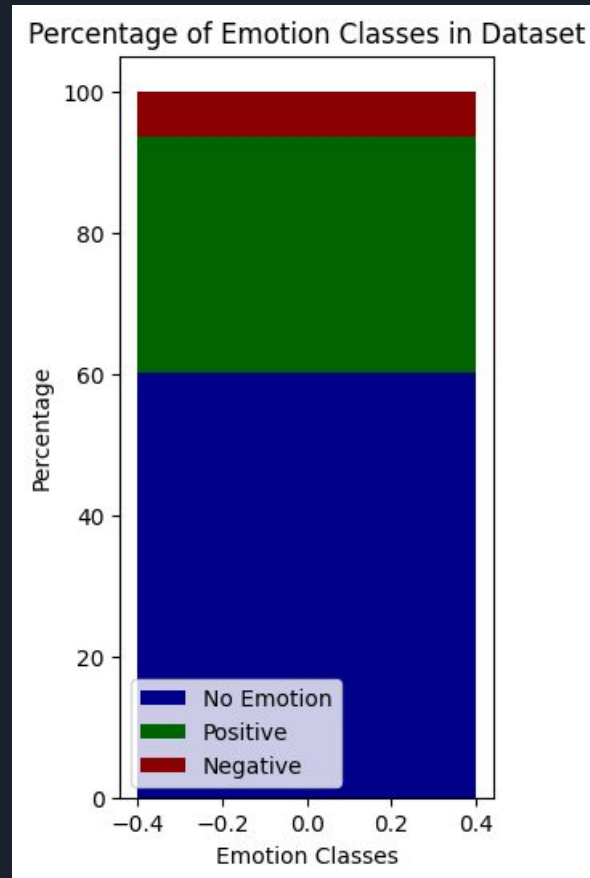
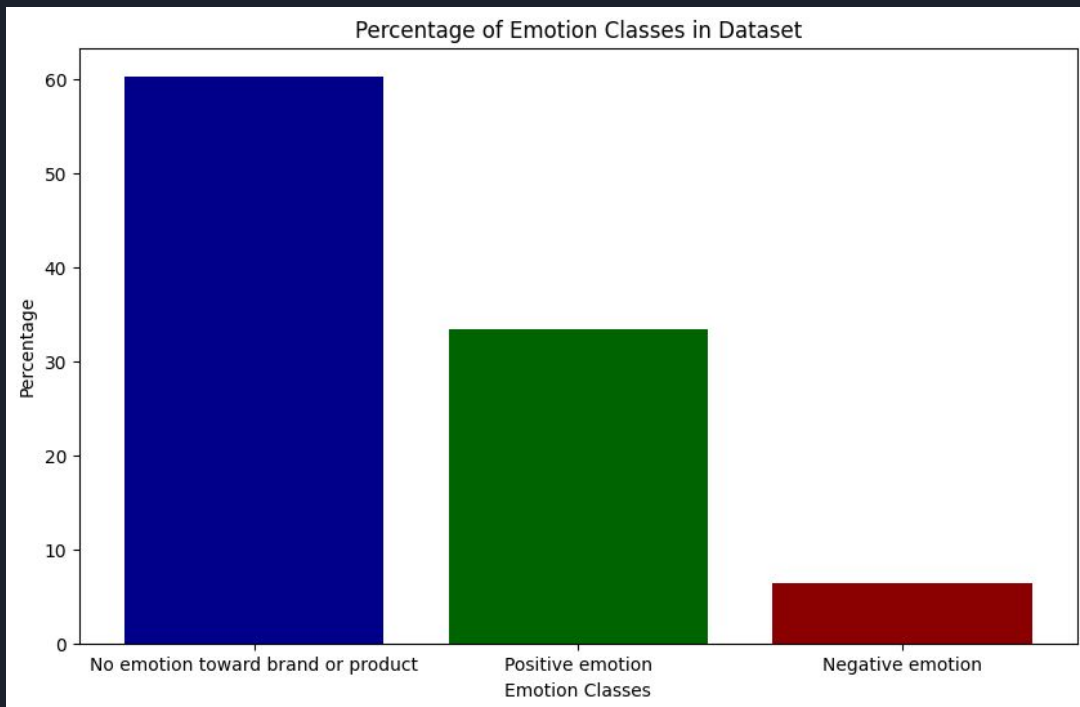


No emotion toward brand or product



Recommendations

Additional Data





Next Steps

- Implementing the model on **new data** can begin after recommendations.
- An analysis of the **new data's tokens** may prove useful- **what words** are more likely to be **contained** in a **negative or positive tweet**?
- Corresponding **information** in each of the **three classes** of **tweets** will provide Google keen insights for future product development based on **informal product reviews**.



Thank you

I would be happy to answer any questions

You may find my contact information below:

<https://www.linkedin.com/in/konnorclark/>