



# Consumer Sentiment Analysis

By Emo-Vector LLC



# Executive Summary

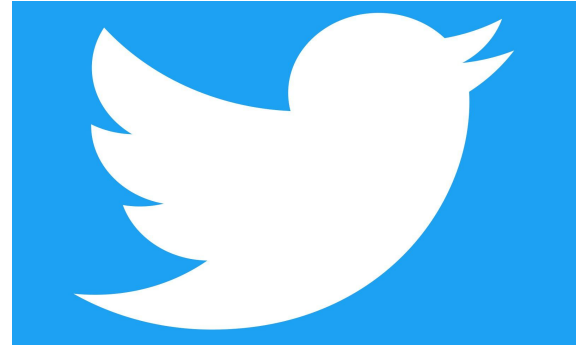
Welcome to the Asian Pacific Telecom Summit  
2022!

- Consumer Electronics companies such as Samsung, Xiaomi, Oppo, and Vivo
- Understand consumer emotion
  - Brand awareness
- Utilize Targeted Online Advertising based on emotion
  - Growing your influence



# Background

- Twitter Metrics
  - Over 330 million monthly active users
  - Over 500 million tweets sent a day
  - 6000 tweets released every second
- Sentiment Analysis importance
  - Allows advertisements to be tailored for each individual



# Business Problem

- Advertisements are not tailored to a consumers wants and needs
- \$37 billion of worldwide marketing budgets are being wasted on poor digital performance (Proxima est.)
- Targeting consumers expressing non-positive emotions towards Apple & Google products

# Solution: Natural Language Processing

## The solution?

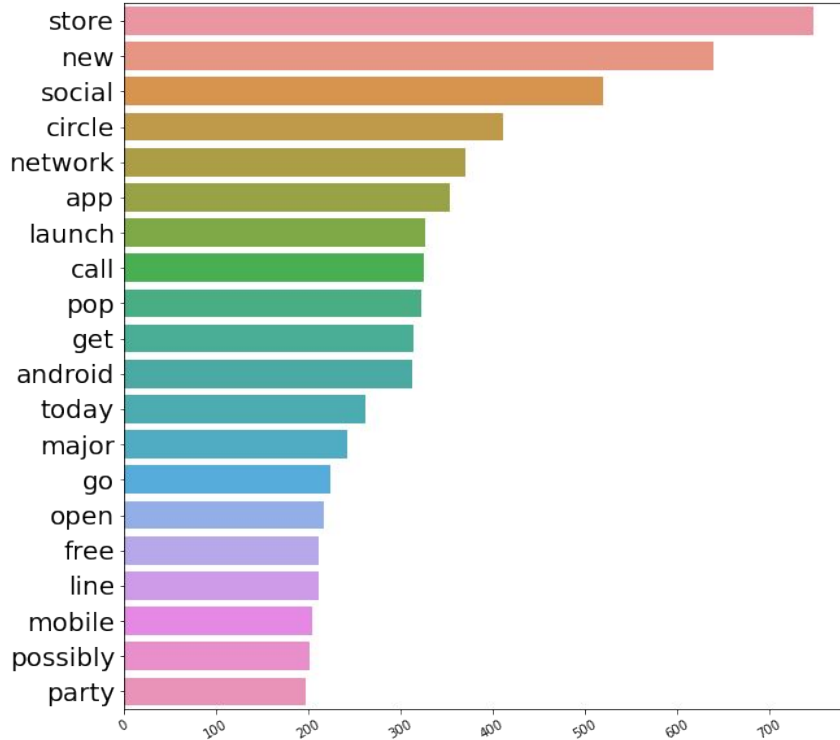
- Targeted Advertising Model
- Predict tweet sentiment
- Identify potential customers



# Data Review

- Analyzed 9,092 tweets
- Emotional Sentiment (Positive emotion or Non-positive emotion)
  - Text of each tweet
  - What Apple or Google product the emotion is directed towards

# Positive Emotion Words



# Best Model Performance

## Machine-Learning Model

- Predicted 81% of non-positive emotion tweets (recall)
- Overall Accuracy of 70%

## Limitations

- Model is overfit
- Predicted 49% of positive emotion tweets (recall)
- Majority of tweets express neutral emotion
- Class imbalance



# Conclusion

- Target consumers who express non-positive emotions towards competitor brands
- Tailor online advertisements to those consumers efficiently

# Next Steps

- Increase the size of our data set
- Build a tweet-scraping tool filtered by Apple or Google product
- Train the model on balanced data
- Monitor ad clicks and impressions for targeted ads vs non-targeted



Thank you! Any questions?

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