Twitter Sentiment Analysis

Brand Monitoring

by Boula Akladyous

Brand Monitoring

Project Outline

- **Background**
- **Problem Statement**
- **Business Value**
- **Methodology**
- **Exploratory Data Analysis**
- **Classification and Effectiveness**
- **Results**

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Background

- Brand monitoring is a business process of tracking different channels to strategically monitor the reputation, growth and topics associated with a brand. It's also great for getting info on how your products are viewed and talked about.
- Brand monitoring benefits:
  - Brand monitoring can help you identify how your brand is being spoken about.
  - Spot negative sentiment surrounding your brand or plagiarism or rights infringements being made.
  - Use insights about how your brand is perceived to aid development of new product, services or goods
  - Gain knowledge about how both your brand and competitor brands are being perceived on different platforms.
  - Understand the audience discussing both your brand and category to plan marketing and communication strategies

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Problem Statement

- Provide a statistical analysis on tracking consumer sentiment and funneling the collected information towards building more effective and meaningful strategy
- Classification model to gain meaningful insights into consumer preferences and brand sentiment

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Business Value

- Learn about customer sentiment to better understand your audience and what they’re saying on Twitter
- Evaluate Overall Public Perception of Your Brand
- Reputation management and online brand monitoring

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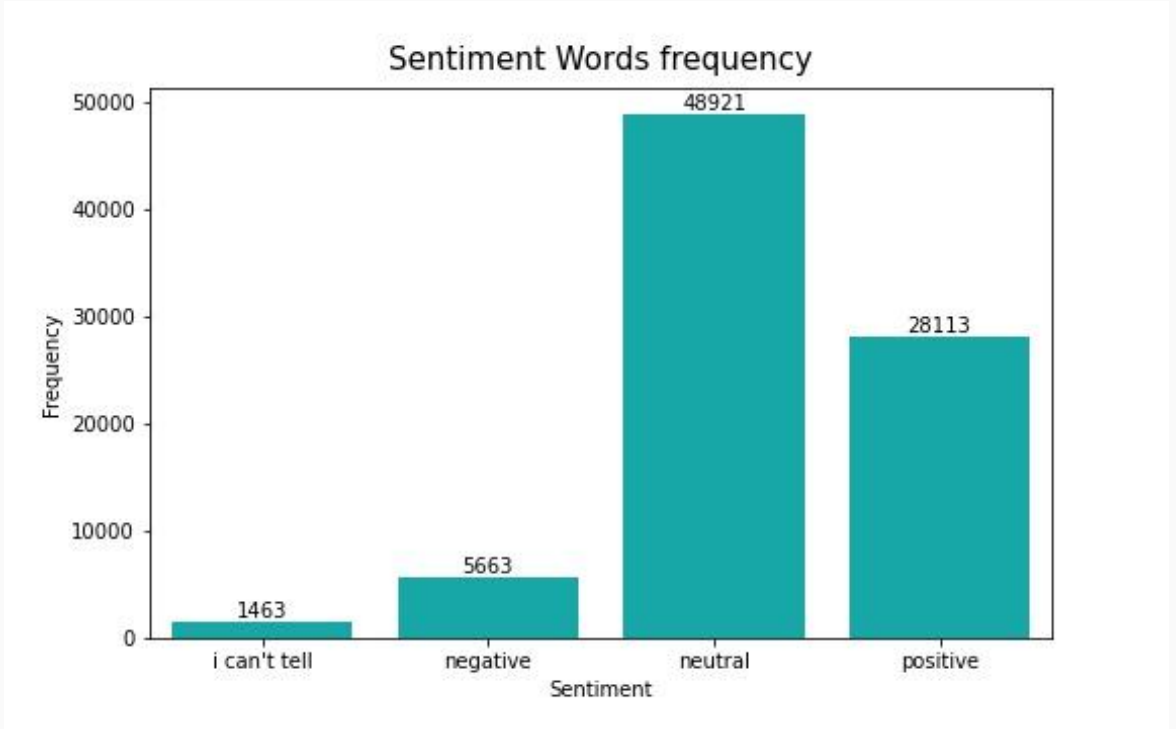
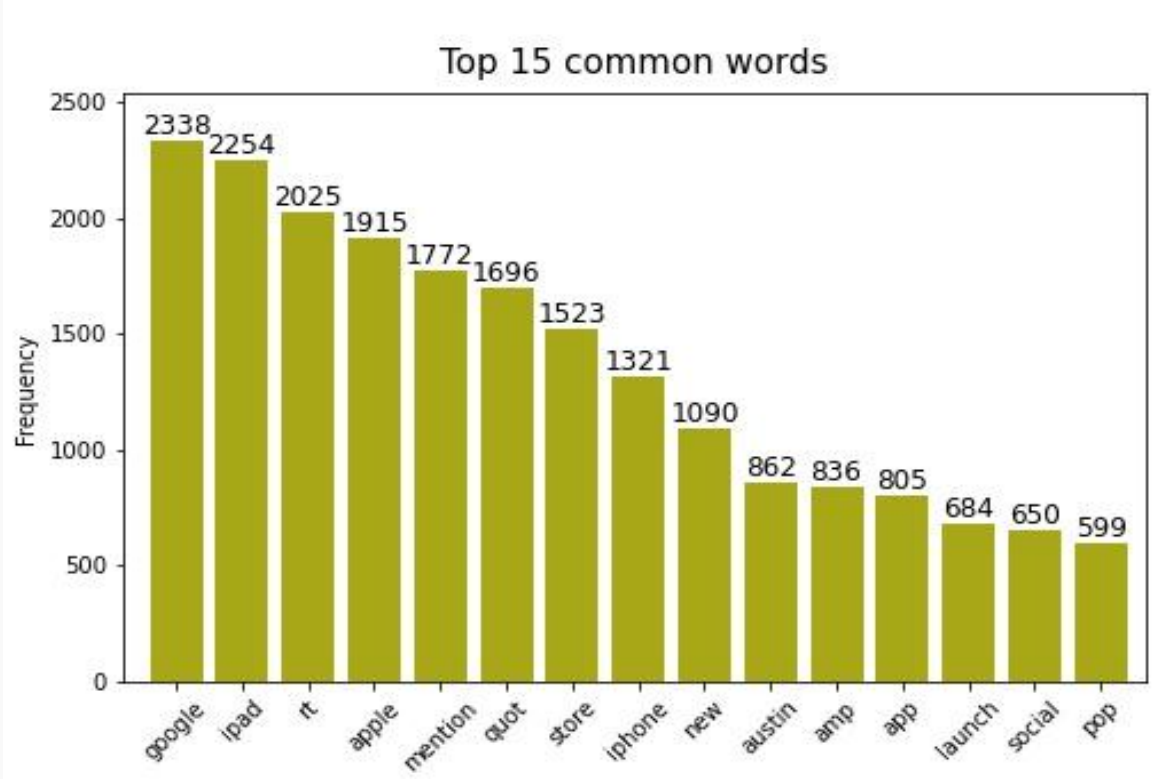
Methodology

- Data Management
  - Data Collection
  - Data Scrubbing
  - Feature Engineering
- Exploratory Data Analysis
- Modeling
  - Model Building
  - Model Evaluation

Exploratory Data Analysis



Exploratory Data Analysis



Exploratory Data Analysis

Common Positive Words

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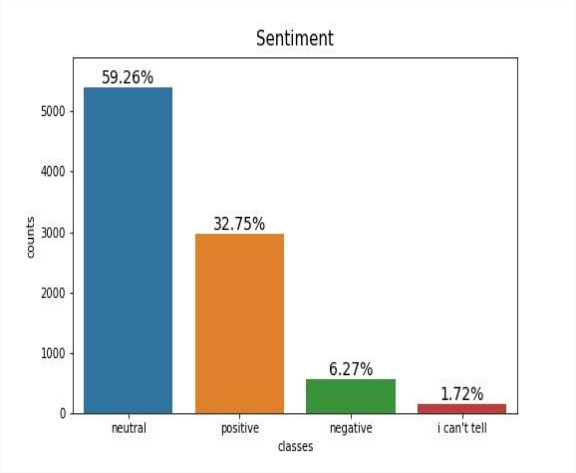
Conclusion

- For the first model we used a simple Deep Neural Network with TF-IDF Vectorizer which results 87% of AUC accuracy but didn't able to predict more than 2 classes.
- The GloVe Embedding model constructed with Recurrent Neural Networks got less performance with 82% AUC accuracy.
- The overall result is not so much bad, dealing with a highly. imbalanced dataset where the class distributions are respectively represented by 59.26%, 32.75% 6.27% and 1.72%, ML models wouldn't be able to learn. essentially we would need to have sufficiently large data to get better results.



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Recommendation

- Gather more data covering different social platforms from various sources like Facebook, Twitter, Instagram, YouTube etc..
- Monitor live feedback
- Monitor specific demographics

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Future Work

- **Develop multi-source web scraping.**
- **Improve technical analysis by incorporating new features like**
  - Number of mentions
  - Brand mentions
  - Users geographic area
  - Types and number of interactions

Thank you

By Boula Akladyous

Email akladyous@gmail.com

Github https://github.com/akladyous/Twitter-sentiment-Analysis