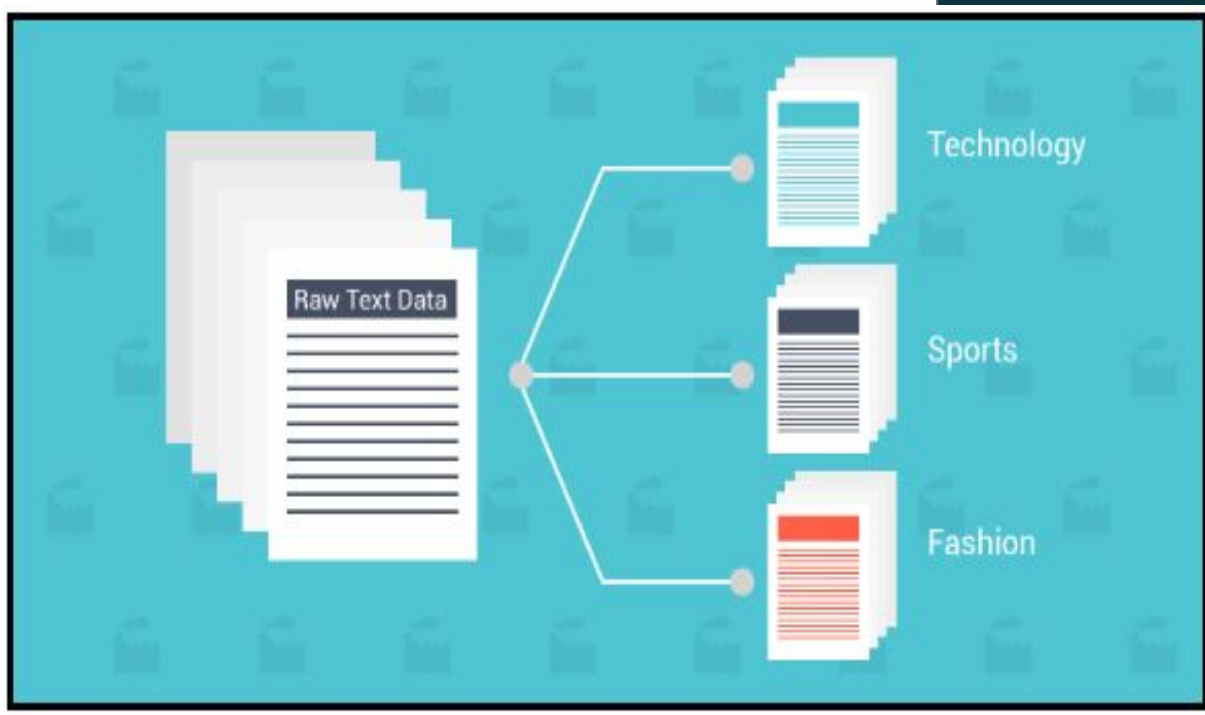


Detecting Sarcasm using News Headlines

Using **NLPs**

By **Bram Tungala**



The goal of text classification is to classify text documents into one or more predefined categories.

- Categorize news articles
- Sentiment analysis
- Spam detection
- Credit card fraud detection
- Auto tagging customer request

Natural Language Processing (NLP) and Supervised Machine Learning are widely used in ***Text Classification***.

**Can we use machine learning
to detect sarcasm from News
Headlines?**

Data

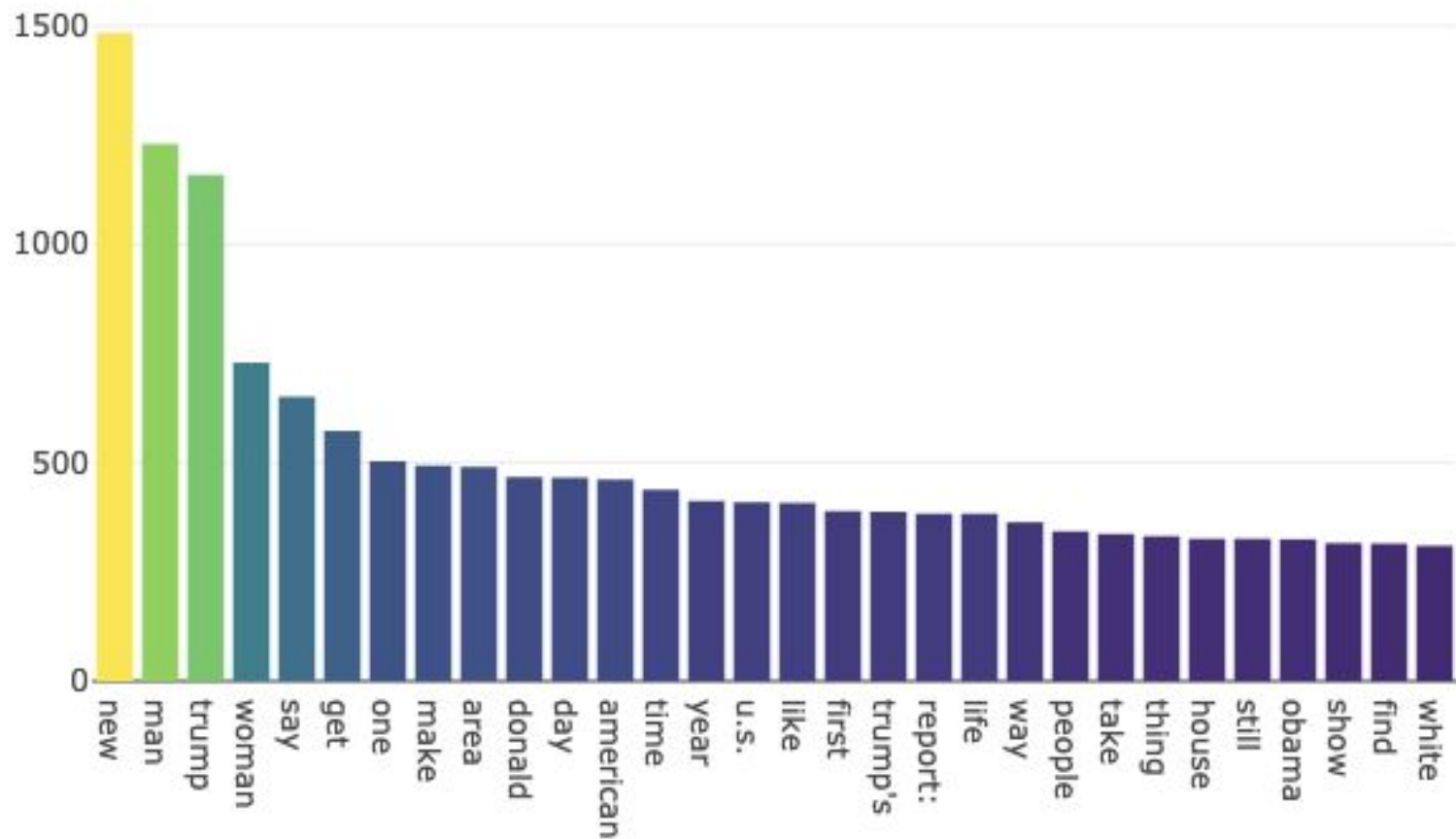
- Source

<https://www.kaggle.com/rmisra/news-headlines-dataset-for-sarcasm-detection>

- 26k+ records
- Two types of news (pre-labeled):
 - Fake: TheOnion
 - Real: Huffpost

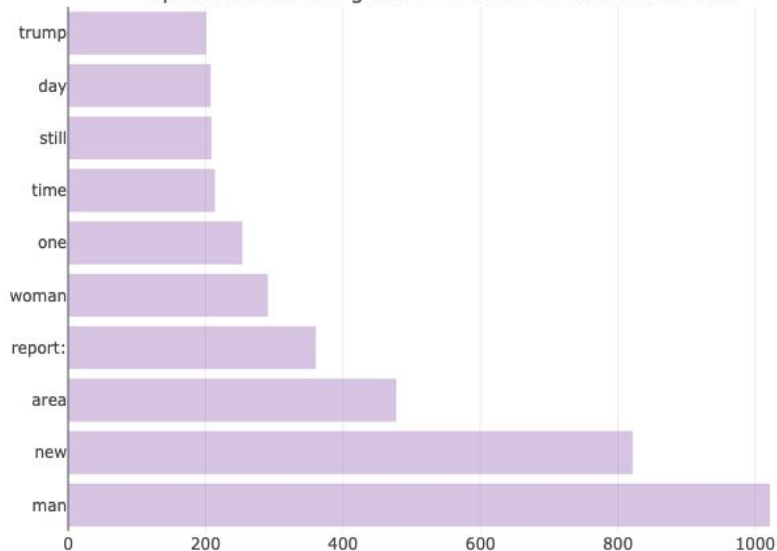
[illegible]

Word count - Top 30 words

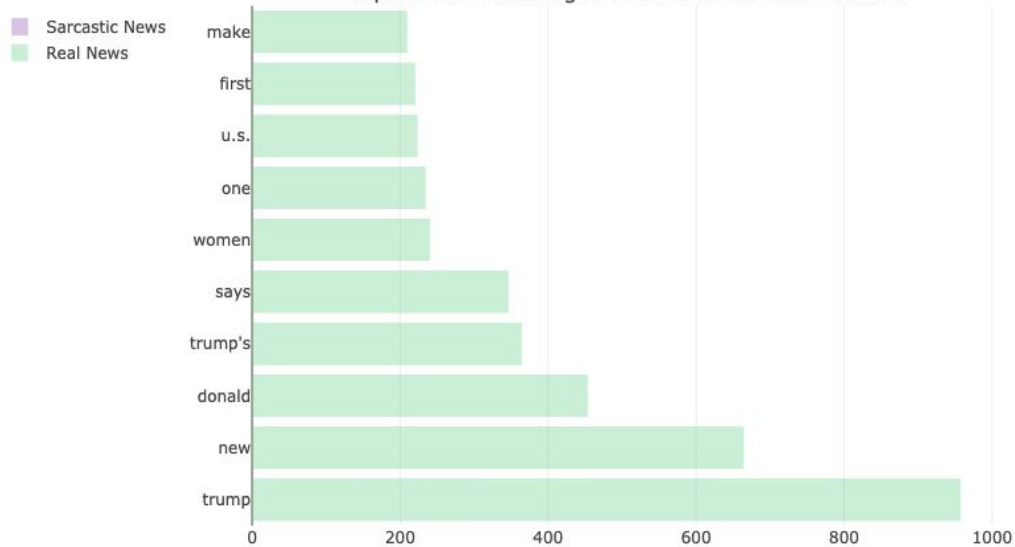


Top 10 words

Top 10 Most occurring words in Sarcastic News Headlines



Top 10 Most occurring words in Real News Headlines



Model 1: RNN

Accuracy: 81.3%

Model 2: Pre-trained RNN

Accuracy: 81.4%



Model 3: Pre-trained RNN + optimizer = RMSprop

Accuracy: 80%

Future Work

Tweak model parameters to see if we can improve accuracy and predictability.

- Use more pre-trained text data in the embeddings (GloVe)
- Use different tuning methods

[illegible]