Project 3

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Problem Statement

- I am working on behalf of Reddit's new team that is built around identifying subreddits that are inherently problematic with hate speech focused. A very rapidly growing subreddit r/wallstreetbets, has been identified as a subreddit that should be more closely looked at to see if it is inherently filled with hate speech. I wanted to test an over 7500 posts between a similar themed subreddit r/investing, to see how different the communities are just by their post titles. The goal is to see that if a model would be able to clearly identify posts or if the subreddits are similar.
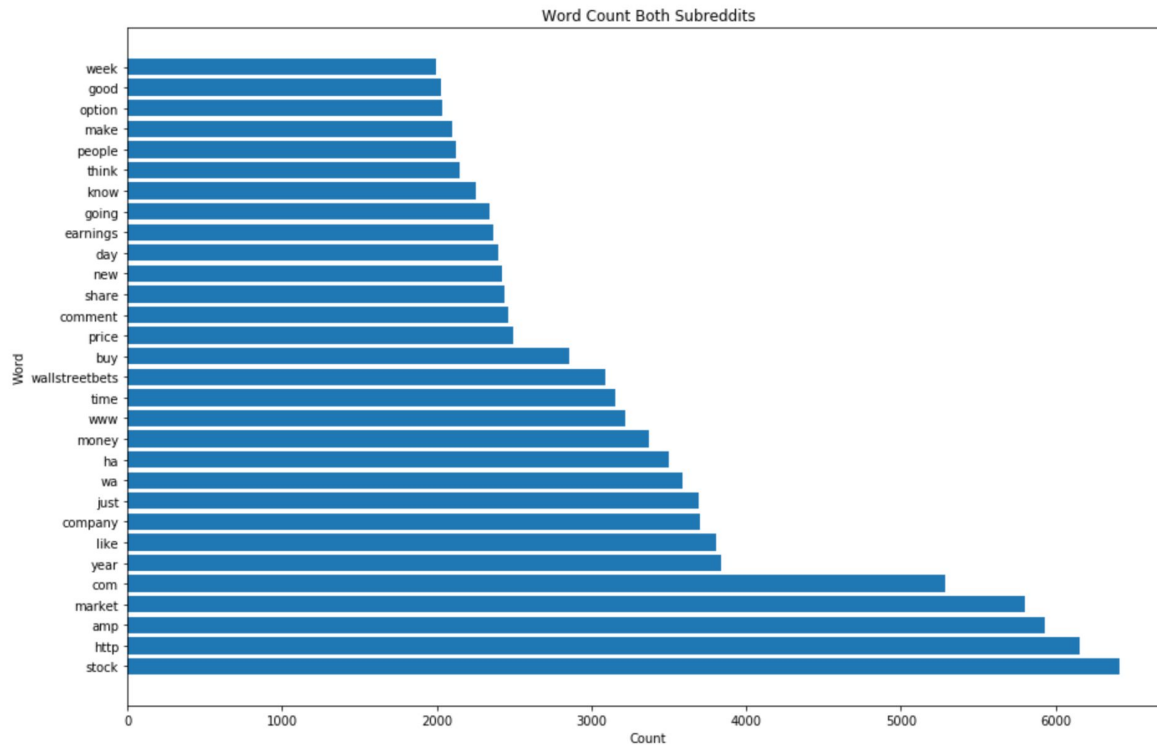
An Example

WSB Post Title : in my checking in TSLA and SPY calls

WSB Post Description: "Alright ****, knowing how much you idiots like getting **** ****, I'm positive some of you idiots FOMOd today and bought FDs and didnt sell at the top...

Some Important Notes

- When browsing the subreddit I noticed a high amount of profanity within r/wallstreetbets.
- After collecting 6 months of post data through Pushshift API, I cleaned all post descriptions and titles.
- When looking at the top words of both subreddits, there were no profanities or slurs, however all models are tested without the profanities.

Top Words

Models

	Train Score	Test Score
Baseline Model	51	51
Logistic Regression: TFIDF	92	82
Random Forest	96	82
SVM	99	84

Conclusions and Recommendations

The models we have created do not have the effective explanatory power at this time to definitively separate the two subreddits entirely. This would indicate that the two subreddits at least are using similar jargon and 'in-terms'.

As exhibited earlier, there is different meaning and syntax behind the way that posts are presented which may not be able to be picked up through simple word recognition. This is expressly to say the two subreddits speech is equivocal.

We would need to also check comment data in order to get a better idea of the capacity of each individual subreddits.