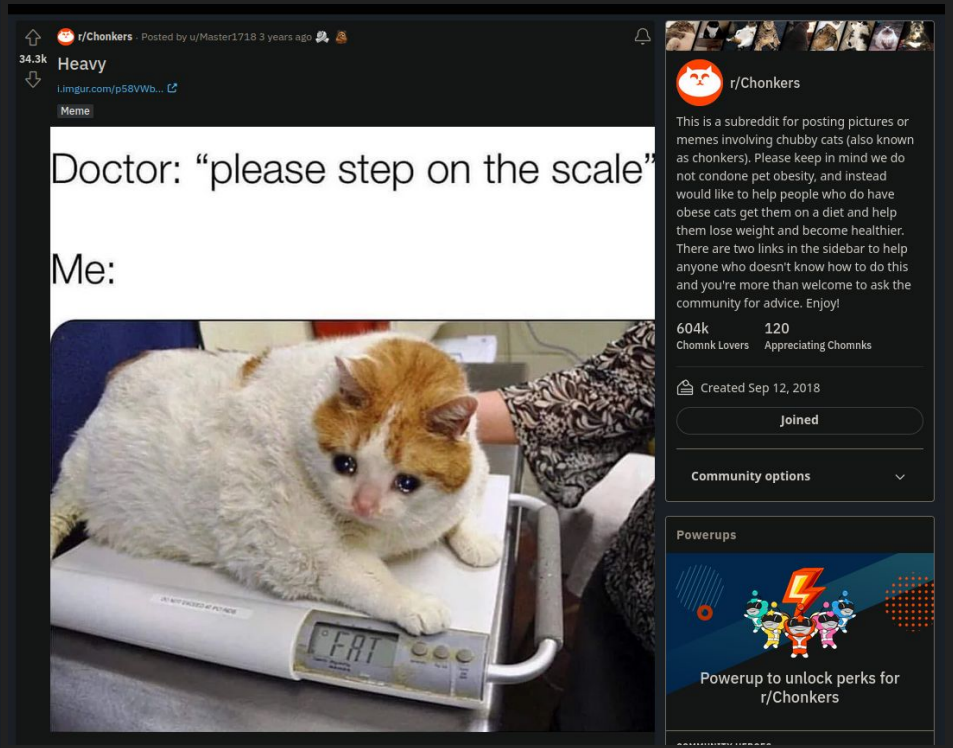
Project 3 - Web APIs & NLP

Bryan Goh

What is Reddit?

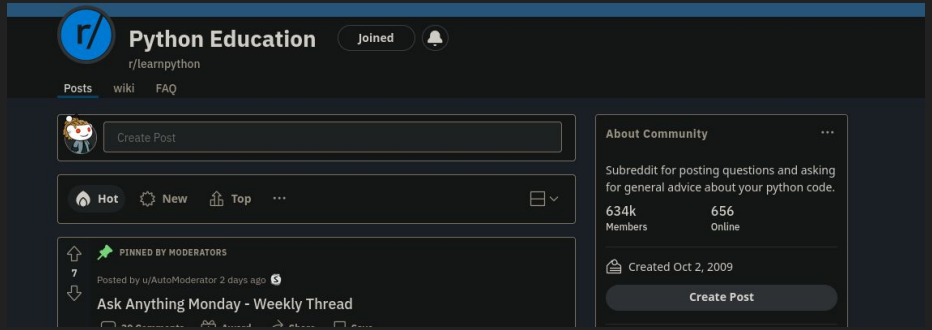
reddit



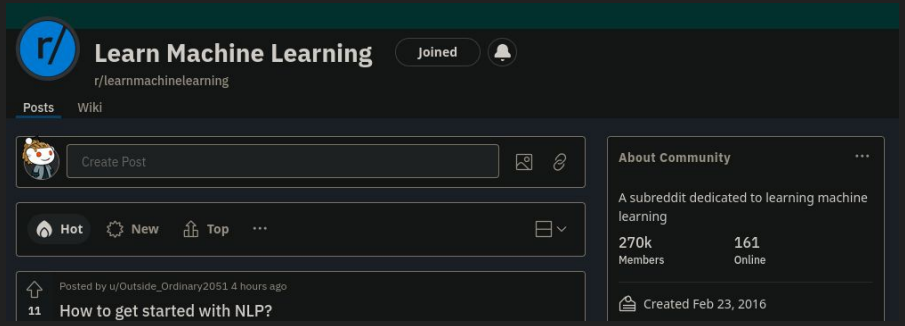
Subreddits

r/Learnpython

r/Learnmachinelearning



634k followers



270k followers

Subreddits

r/Learnpython

r/learnpython · Posted by u/JLaurus I get paid to write python 3 years ago

2.6k

I'm 100% self taught, landed my first job! My experience!

Hi all,

Firstly this is going to be a long post to hopefully help people genuinely looking to commit to becoming a developer by sharing my story of how I went from absolutely zero knowledge of programming (as you can see by my post history) to landing my first python developer role.

Location: UK

To kick things off about a year ago I wasnt happy with the job(s) I was doing, long hours, very low pay, so I came across python by chance. Yes I admit the money was what attracted me alone to start off with as I am quite a money motivated person. Ofcourse I knew and still know it will be a long journey to reach the salaries offered but I have managed to finally get my first step on the ladder by landing a job as a python developer. Enough of the story, lets get on with it.

I will list all of the youtube playlists and channels I watched over and over again. Bear in mind whilst reading these books I did watch a lot of videos in between reading aswell! What books I read, in order.

First book:

Python Crash Course: A Hands-On, Project-Based Introduction to Programming - Eric Matthes Review: Great first book, my advice, skip the game and django project and just do the matplotlib project for now (come back to django later down the line once you understand the HTTP protocol and how requests work)

10/10 recommend

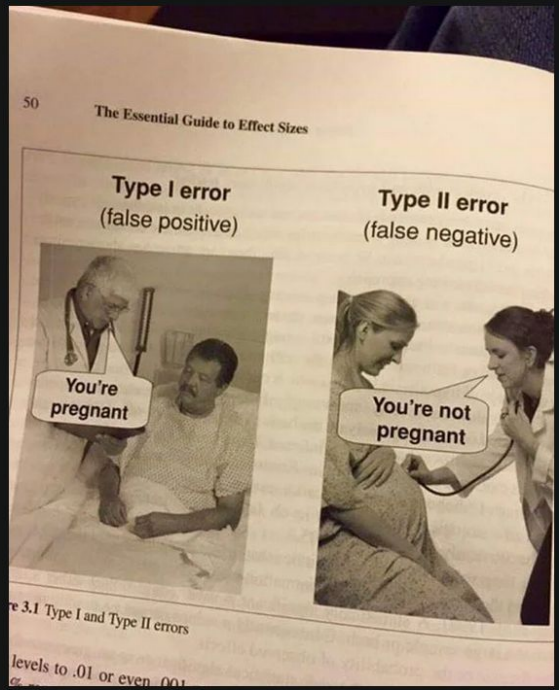
p.s. I know a lot of people recommend reading Automate the boring stuff and I regret not reading it after this one!

r/Learnmachinelearning

r/learnmachinelearning · Posted by u/TheCodingBug 1 year ago

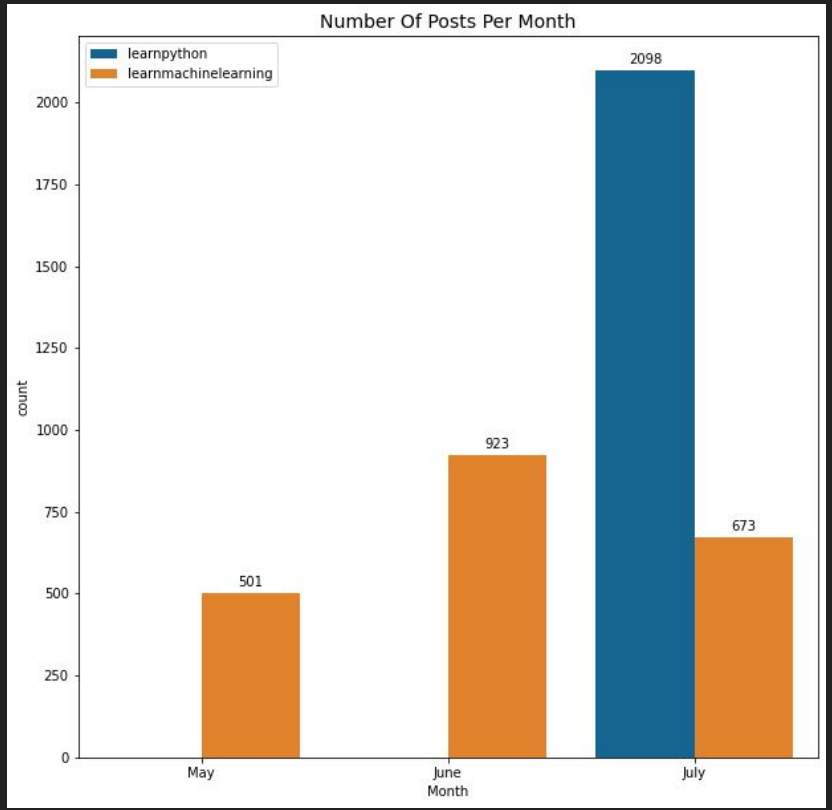
2.5k

A simple and easy-to-remember example for false positives and false negatives.



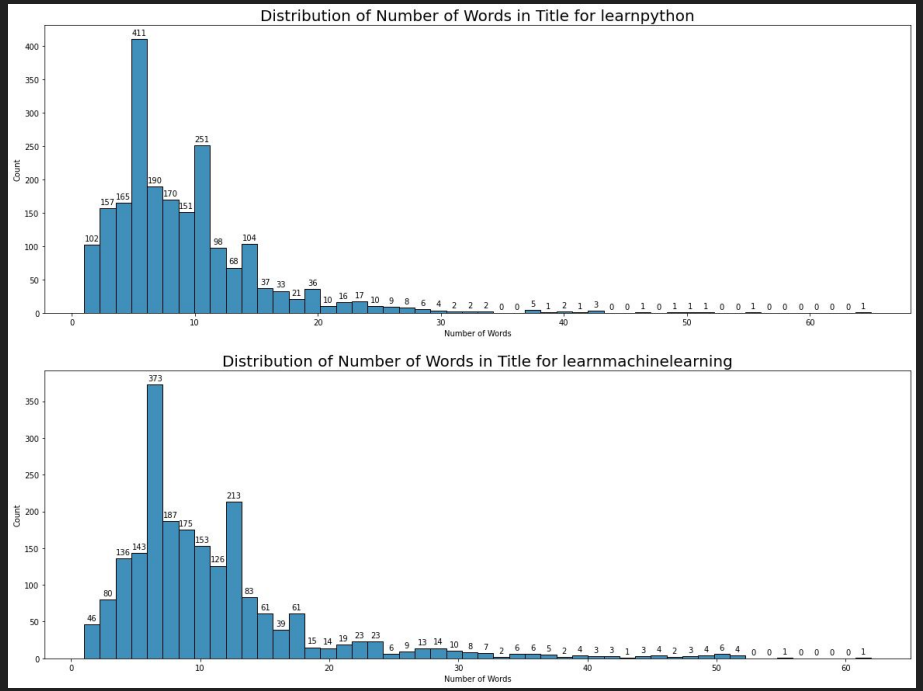
Data Extracted

1. Learn Python - 2098 posts
2. Learn Machine Learning - 2097 posts

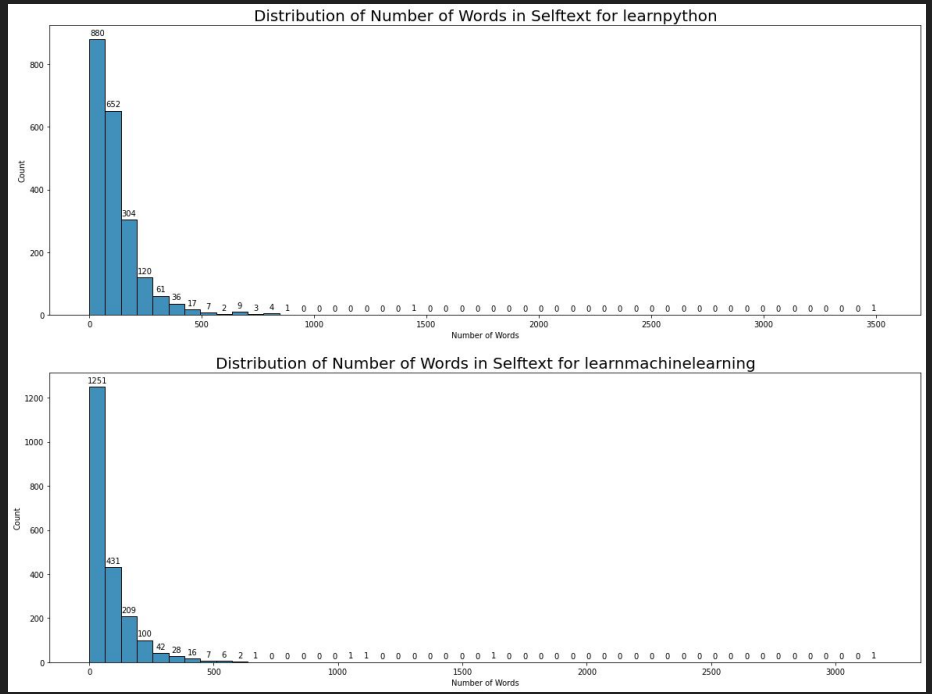


No. Of Words In Title And Content

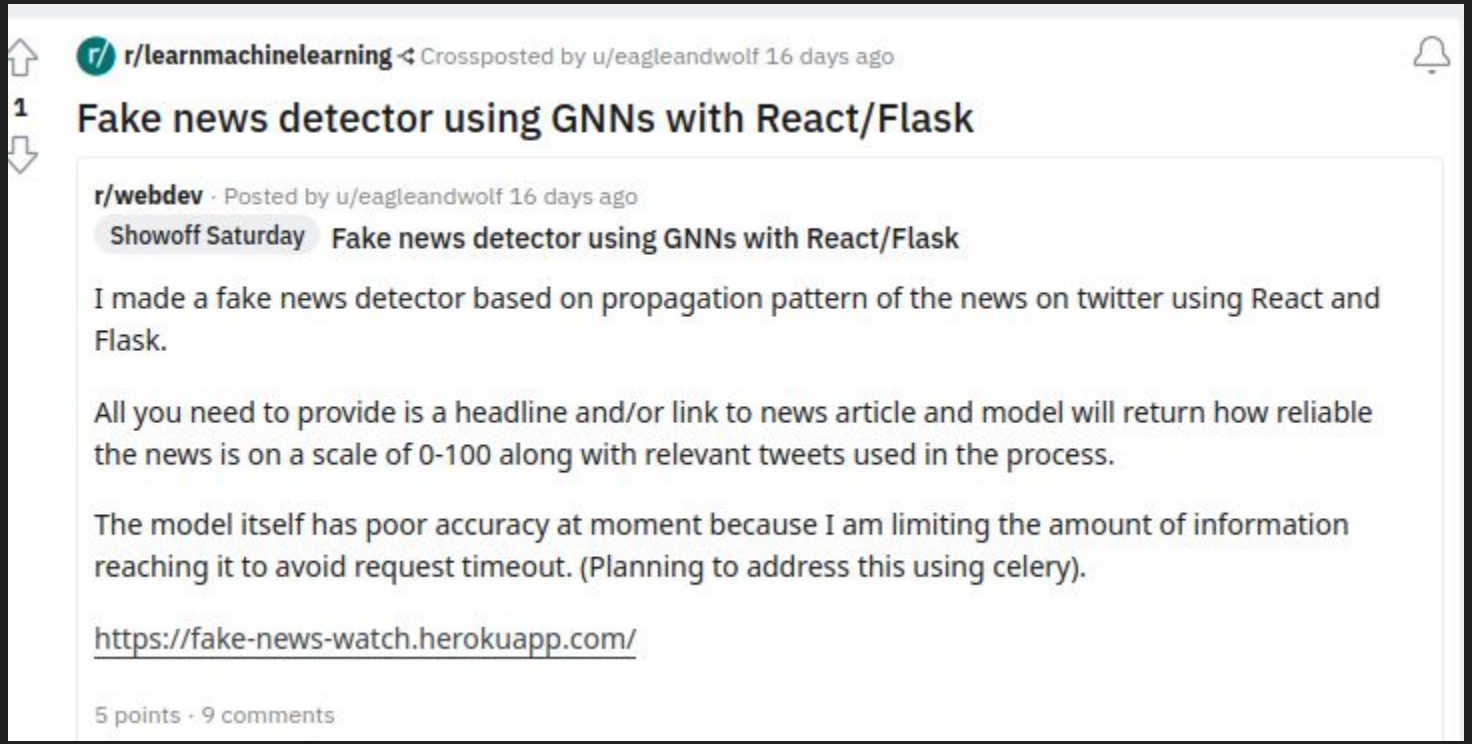
Title



Selftext

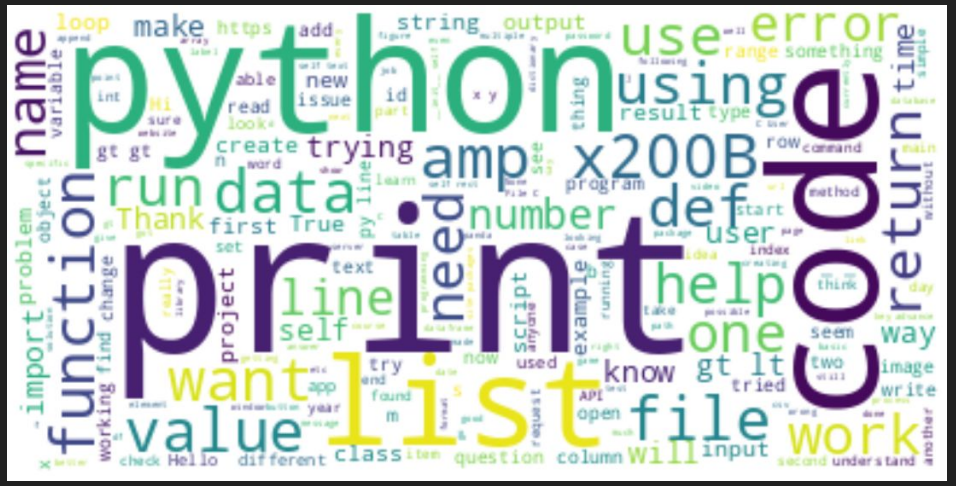


Example Of Post With No Words

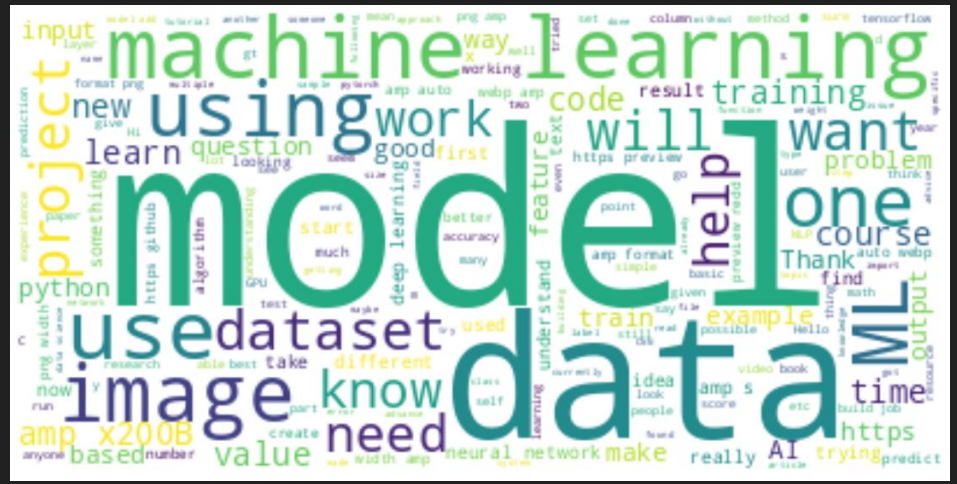


Common Words Seen In Each Subreddit

r/Learnpython

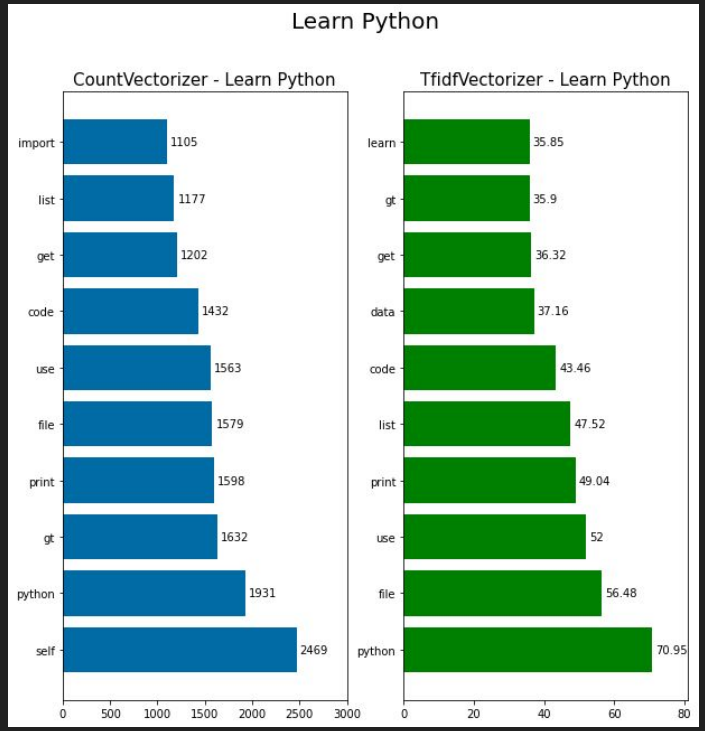


r/Learnmachinelearning

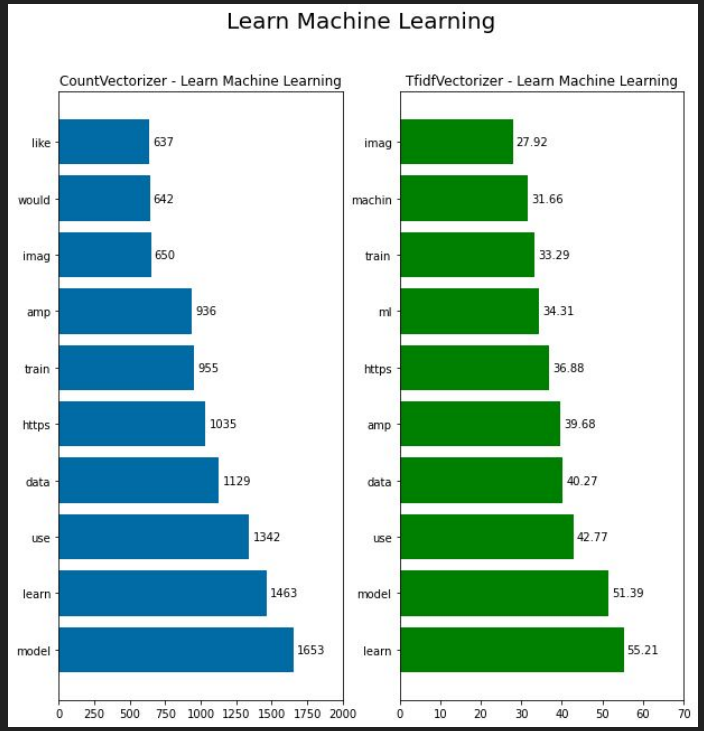


Count Vectorizer VS Tfidf Vectorizer

r/Learnpython

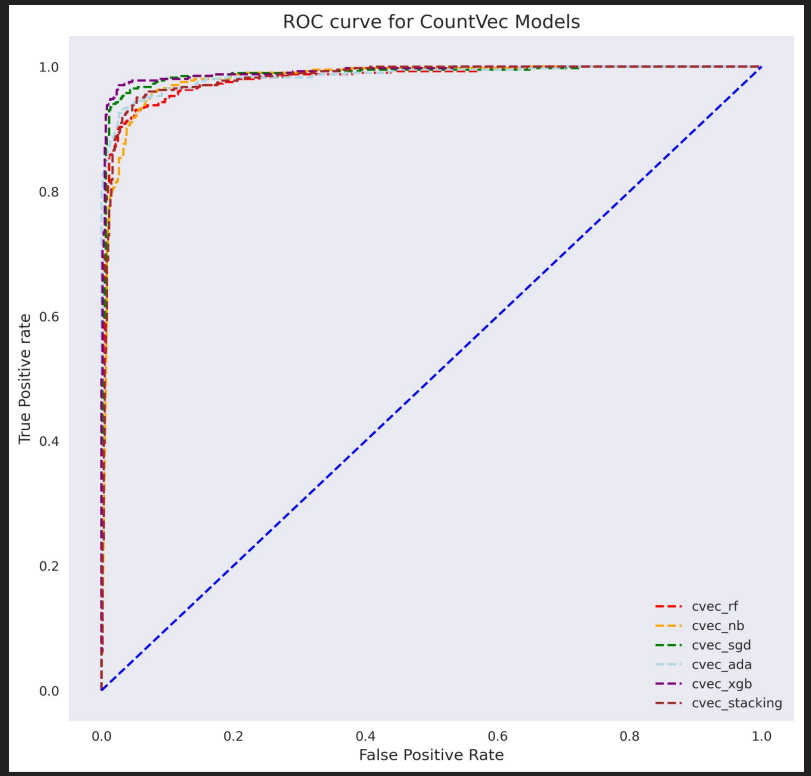


r/Learnmachinelearning

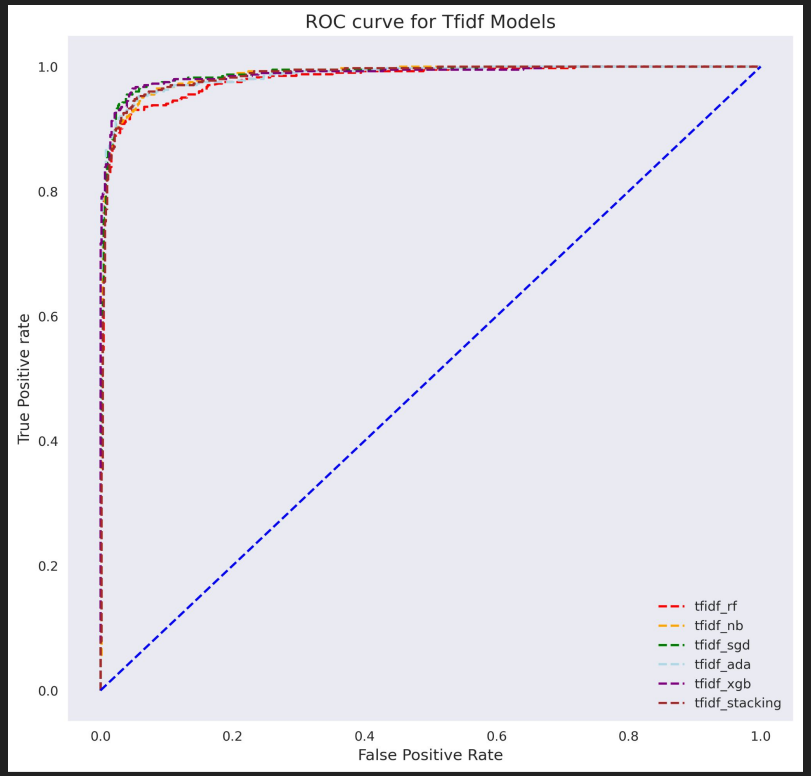


Data Modeling

CountVectorizer

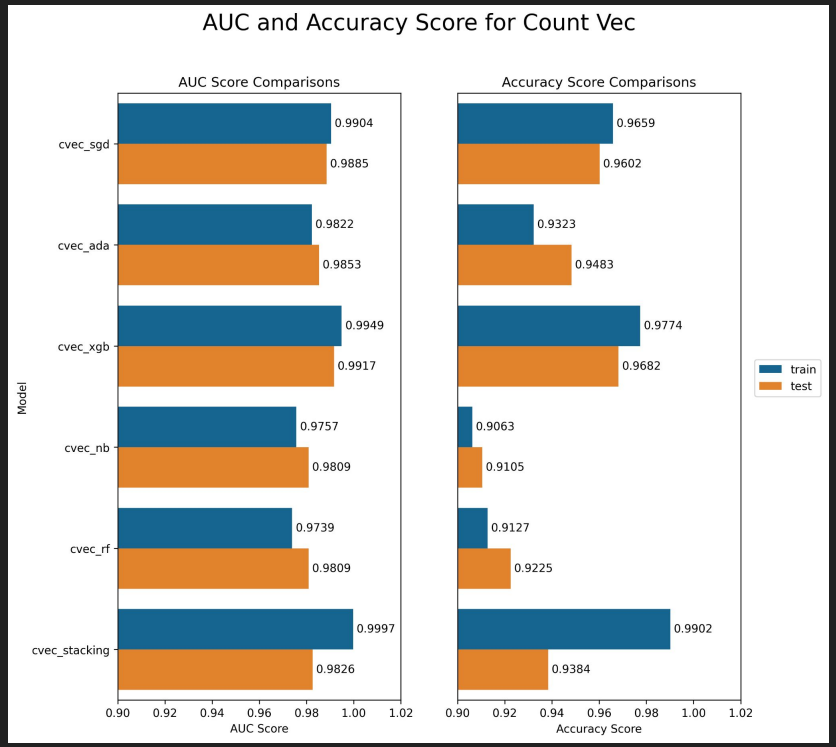


TfidfVectorizer

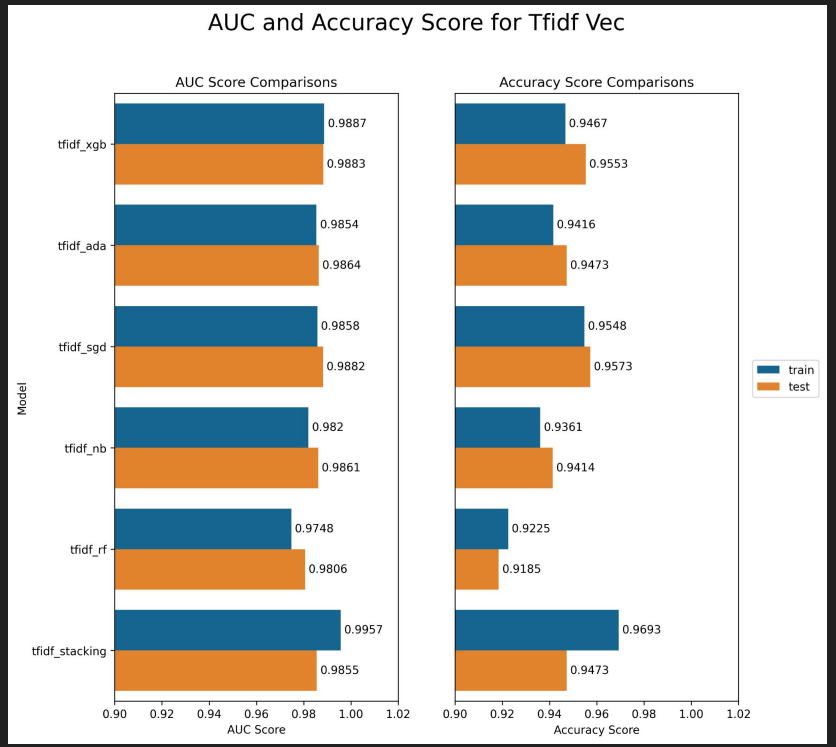


Model Evaluation

CountVectorizer

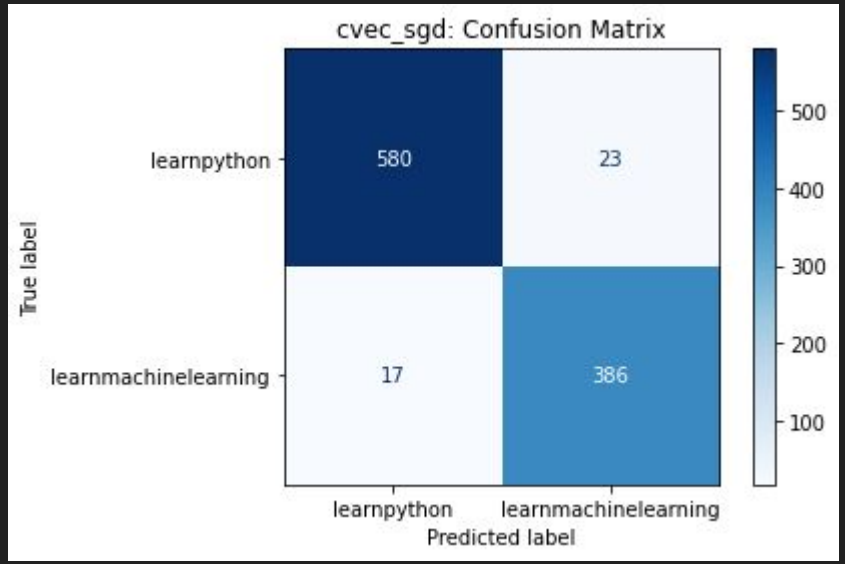


TfidfVectorizer



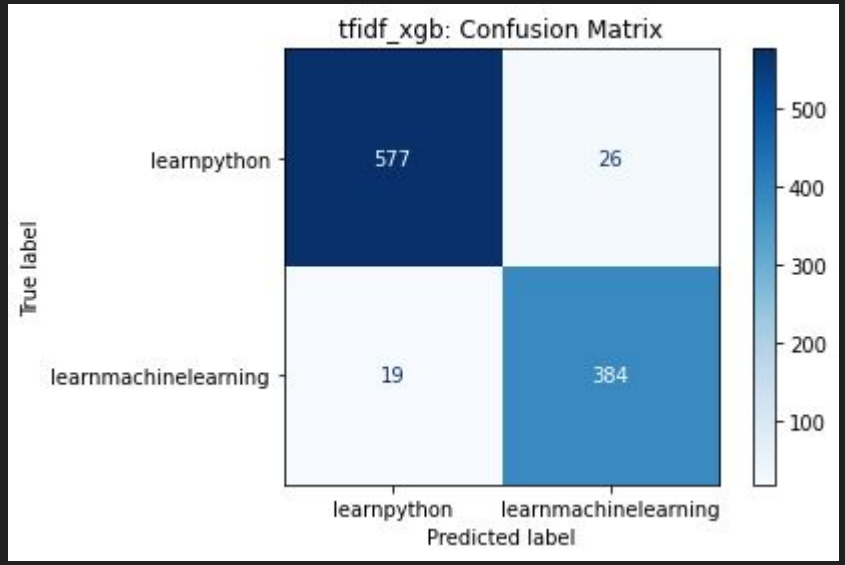
Confusion Matrix

CountVectorizer



Recall: 0.957
Precision: 0.943

TfidfVectorizer



Recall: 0.952
Precision: 0.936

Confusion Matrix

CountVectorizer - SGDClassifer

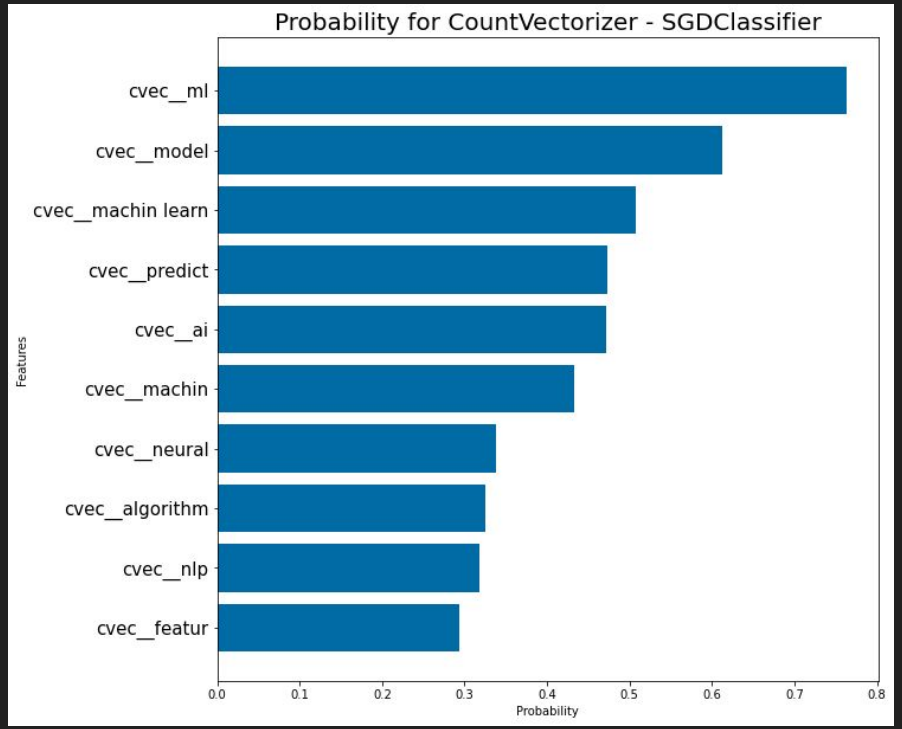
```
cvec_sgd :
{'ct__cvec__max_df': 0.5,
'ct__cvec__max_features': 2000,
'ct__cvec__min_df': 0,
'ct__cvec__ngram_range': (1, 2),
'ct__cvec__stop_words': tokenized_stop_words,
'ct__cvec__tokenizer': Tokenizer,
'sgd__alpha': 0.01,
'sgd__loss': 'log_loss'}
```

TfidfVectorizer - XGBoost

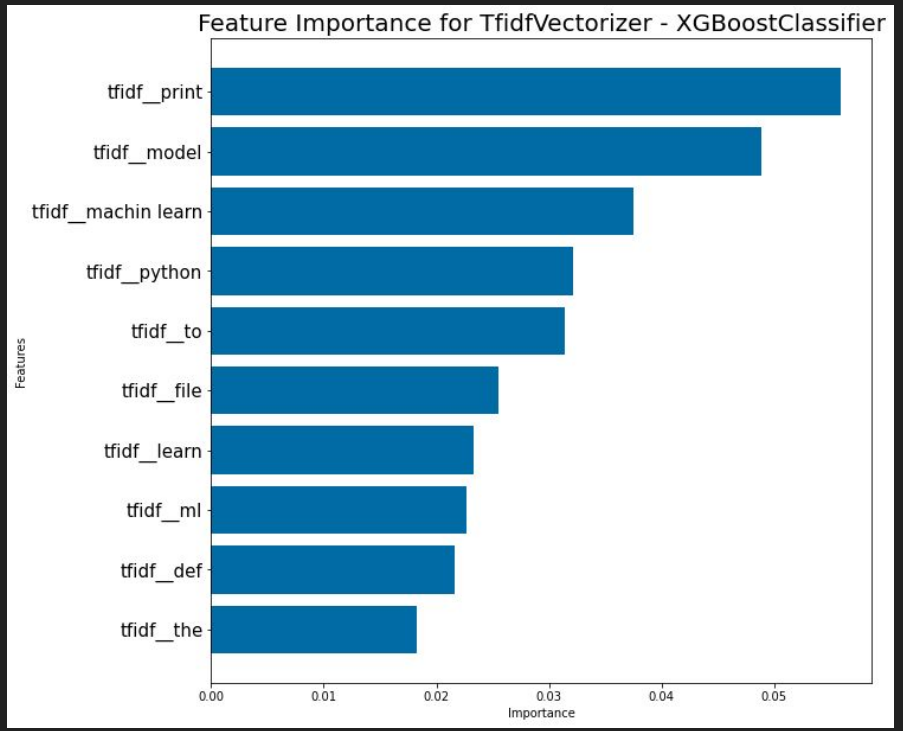
```
tfidf_xgb :
{'ct__tfidf__max_df': 0.95,
'ct__tfidf__max_features': 1500,
'ct__tfidf__min_df': 0,
'ct__tfidf__ngram_range': (1, 3),
'ct__tfidf__stop_words': None,
'ct__tfidf__tokenizer': Tokenizer,
'xgb__eta': 0.1,
'xgb__max_depth': 4,
'xgb__tree_method': 'gpu_hist'}
```

Feature Importance

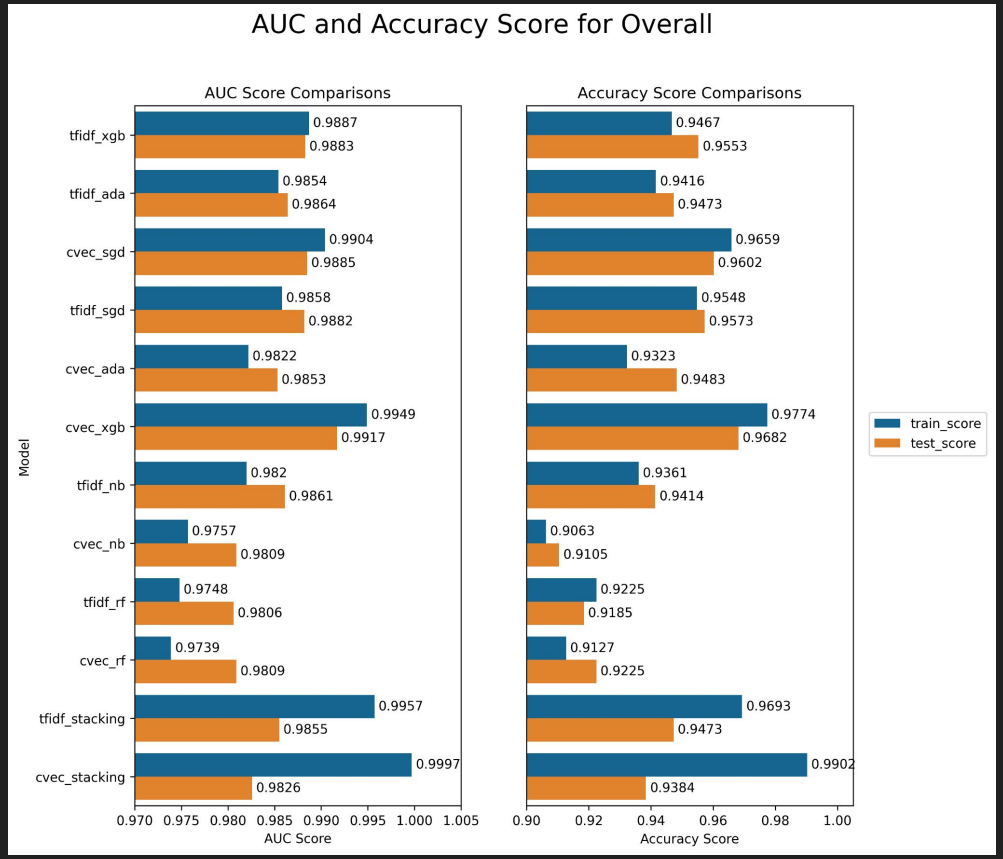
CountVectorizer



TfidfVectorizer



Overall Models Score Comparisons



Unseen Data

	future_tfidf	future_cvec
score	0.978947	0.973684
misclassification	0.021053	0.026316
sensitivity	0.968421	0.957895
specificity	0.989474	0.989474
precision	0.989247	0.989130
f1	0.978723	0.973262
auc_score	0.995346	0.993241

Conclusions & Recommendations

Conclusions

1. Both countvectorizer and tfidfvectorizer are viable methods for the modeling process.
2. Boosting algorithms and SGDClassifier exceptionally good generalisations between the train and test data.
3. Use the scoring = roc_auc for gridsearchcv

Recommendations

1. To improve the model to include the spam posts
2. To use another set of subreddits - like datascience and machinelearning

Thank you!