What Sorkin Show Are You Talking About?

Classifying a Reddit post in to r/thewestwing
or r/thenewsroom

General Assembly - Data Science Immersive - Project 3

Marguerite Siboni

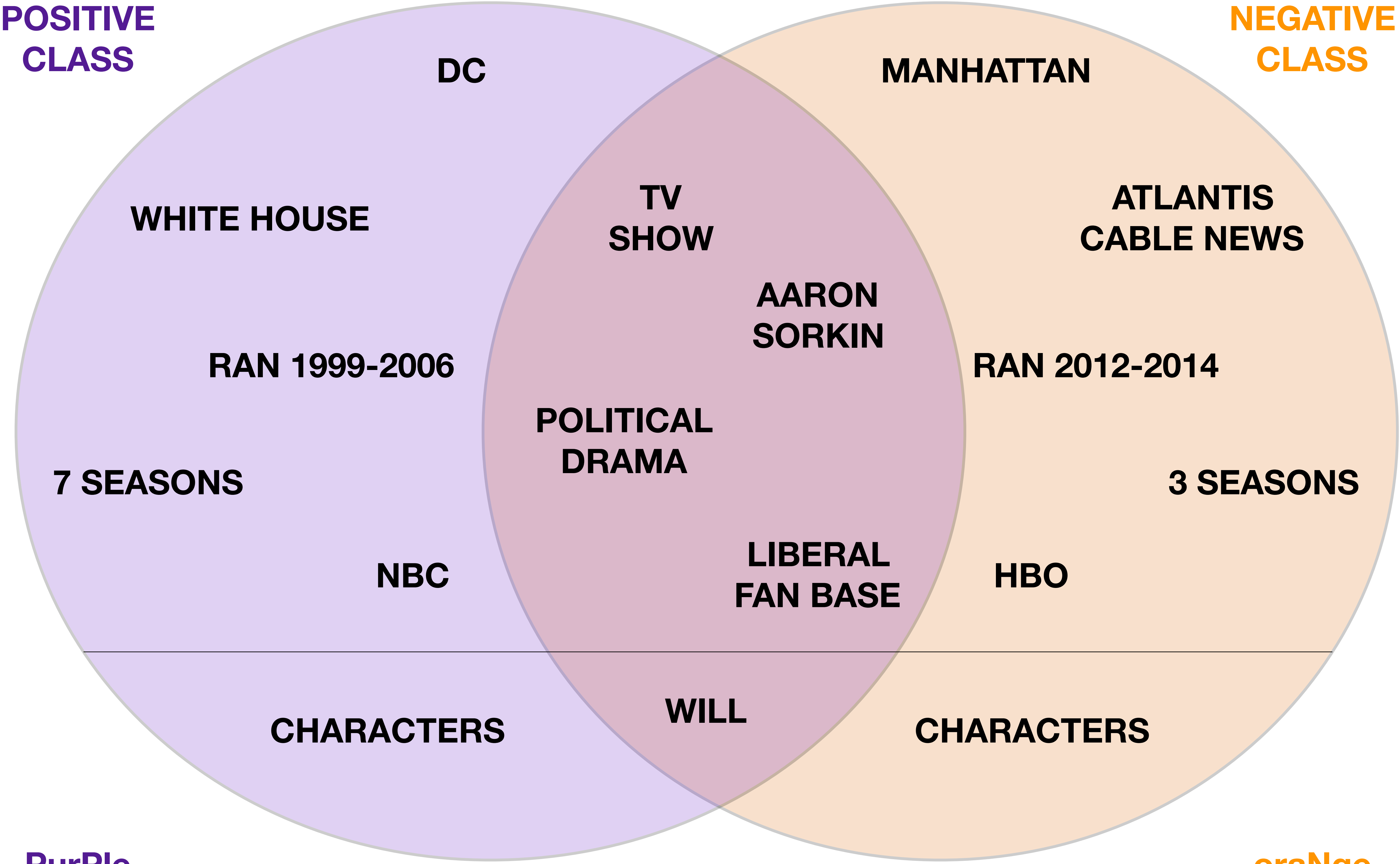
Overview

- Brief pitch of two of my favorite tv shows
- Scraping and Cleaning Data
- Logistic Regression Models
- Naive Bayes Models
- Next Steps

The West Wing vs *The Newsroom*

POSITIVE CLASS

NEGATIVE CLASS



DC

WHITE HOUSE

RAN 1999-2006

7 SEASONS

NBC

CHARACTERS

TV SHOW

AARON SORKIN

POLITICAL DRAMA

LIBERAL FAN BASE

WILL

MANHATTAN

ATLANTIS CABLE NEWS

RAN 2012-2014

3 SEASONS

HBO

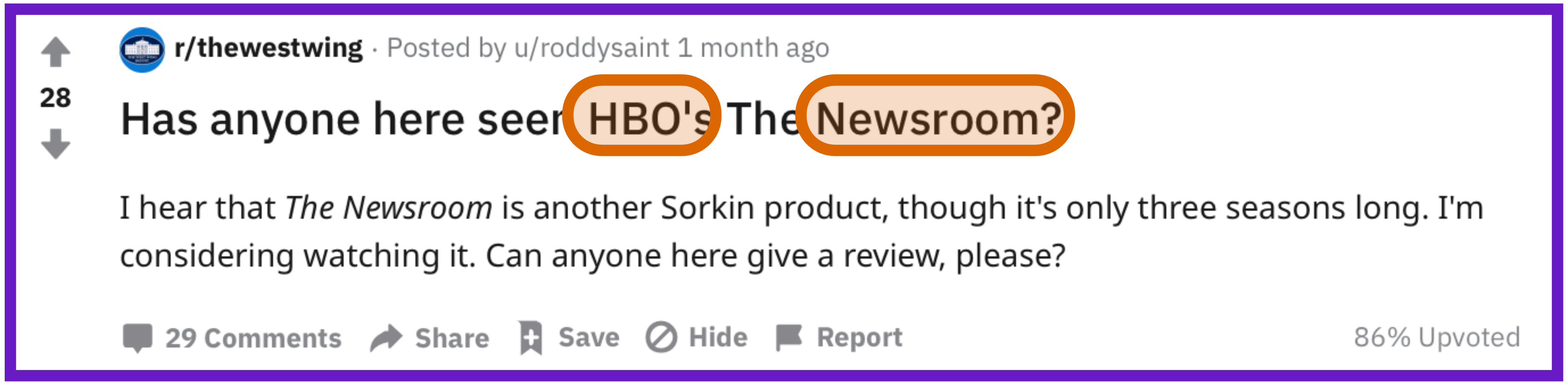
CHARACTERS

PurPle

oraNge

The West Wing vs The Newsroom

- Similar fan bases; parallel story lines

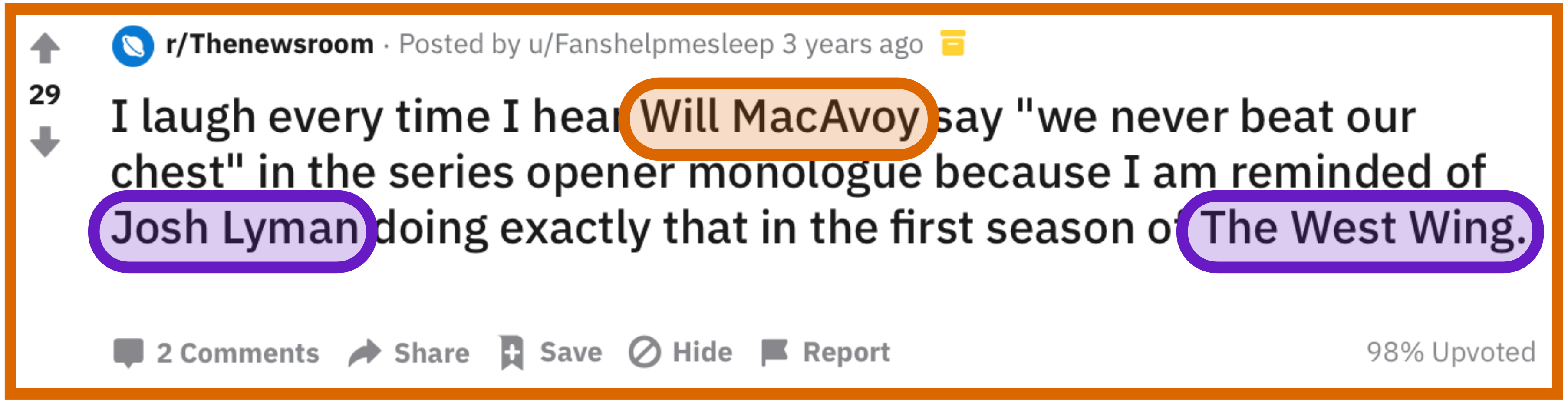


r/thewestwing · Posted by u/roddysaint 1 month ago

28

Has anyone here seen HBO's The Newsroom?

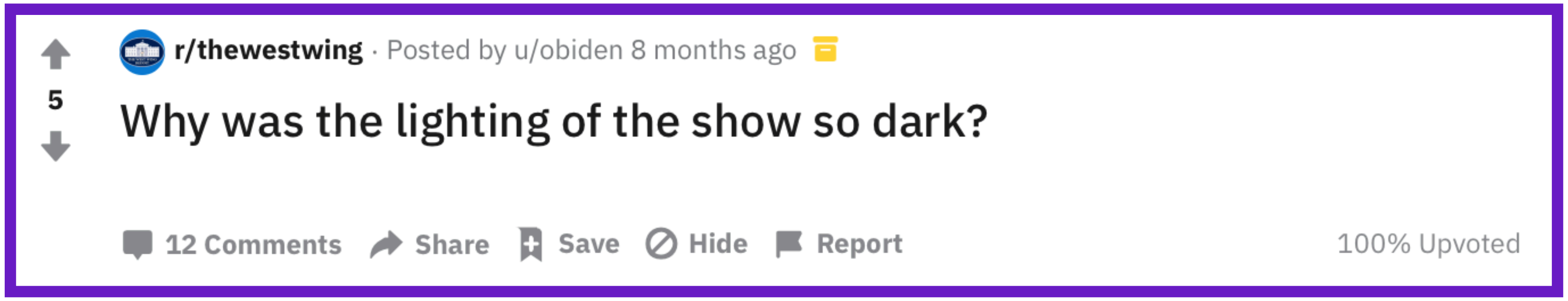
I hear that *The Newsroom* is another Sorkin product, though it's only three seasons long. I'm considering watching it. Can anyone here give a review, please?



r/Thenewsroom · Posted by u/Fanshelpmesleep 3 years ago

29

I laugh every time I hear Will MacAvoy say "we never beat our chest" in the series opener monologue because I am reminded of Josh Lyman doing exactly that in the first season of The West Wing.



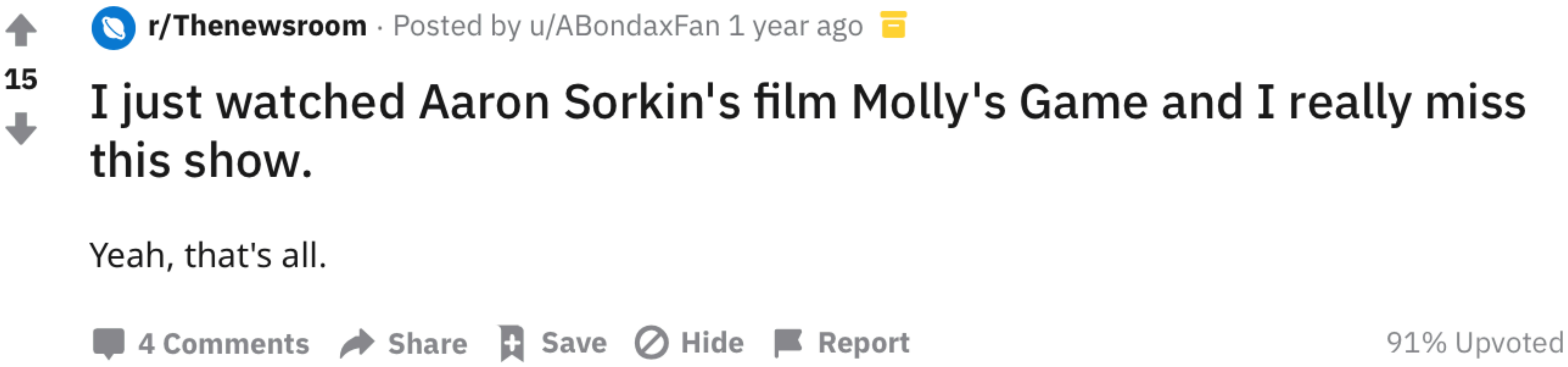
r/thewestwing · Posted by u/obiden 8 months ago

5

Why was the lighting of the show so dark?

Reddit Scraping: Step 0

- Post exists on Reddit



r/Thenewsroom · Posted by u/ABondaxFan 1 year ago

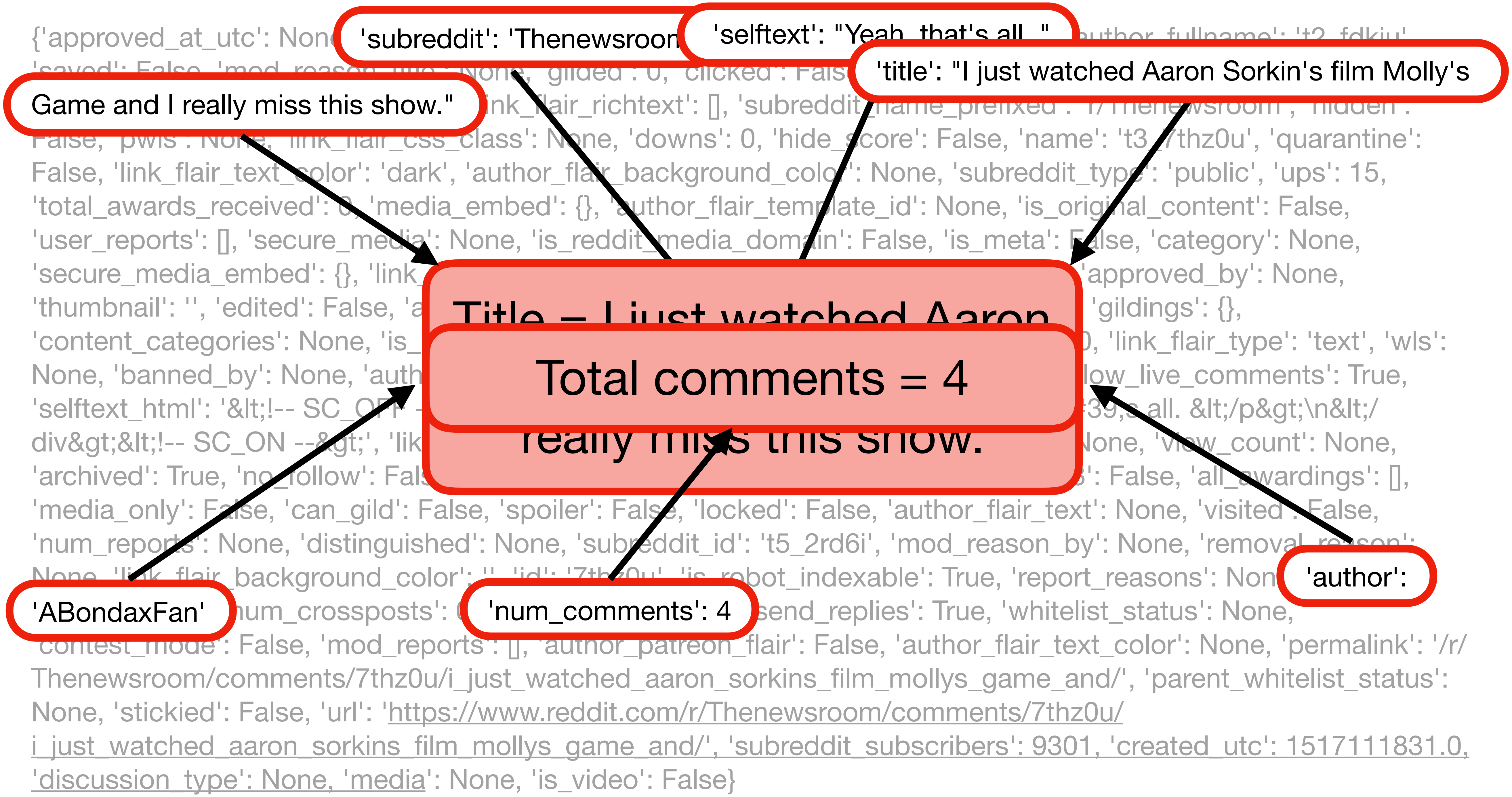
15

I just watched Aaron Sorkin's film Molly's Game and I really miss this show.

Yeah, that's all.

Reddit Scraping: Step 1

- Utilized Reddit API to Pull Post



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'subreddit': 'Thenewsroom

'selftext': "Yeah, that's all. "

'title': "I just watched Aaron Sorkin's film Molly's

Game and I really miss this show."

Title = I just watched Aaron

really miss this show.

Total comments = 4

'author':

'ABondaxFan'

'num_comments': 4

Reddit Scraping: Step 2

- Extract title + text from posts

```
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Tokenizing, Lemmatizing and Stemming

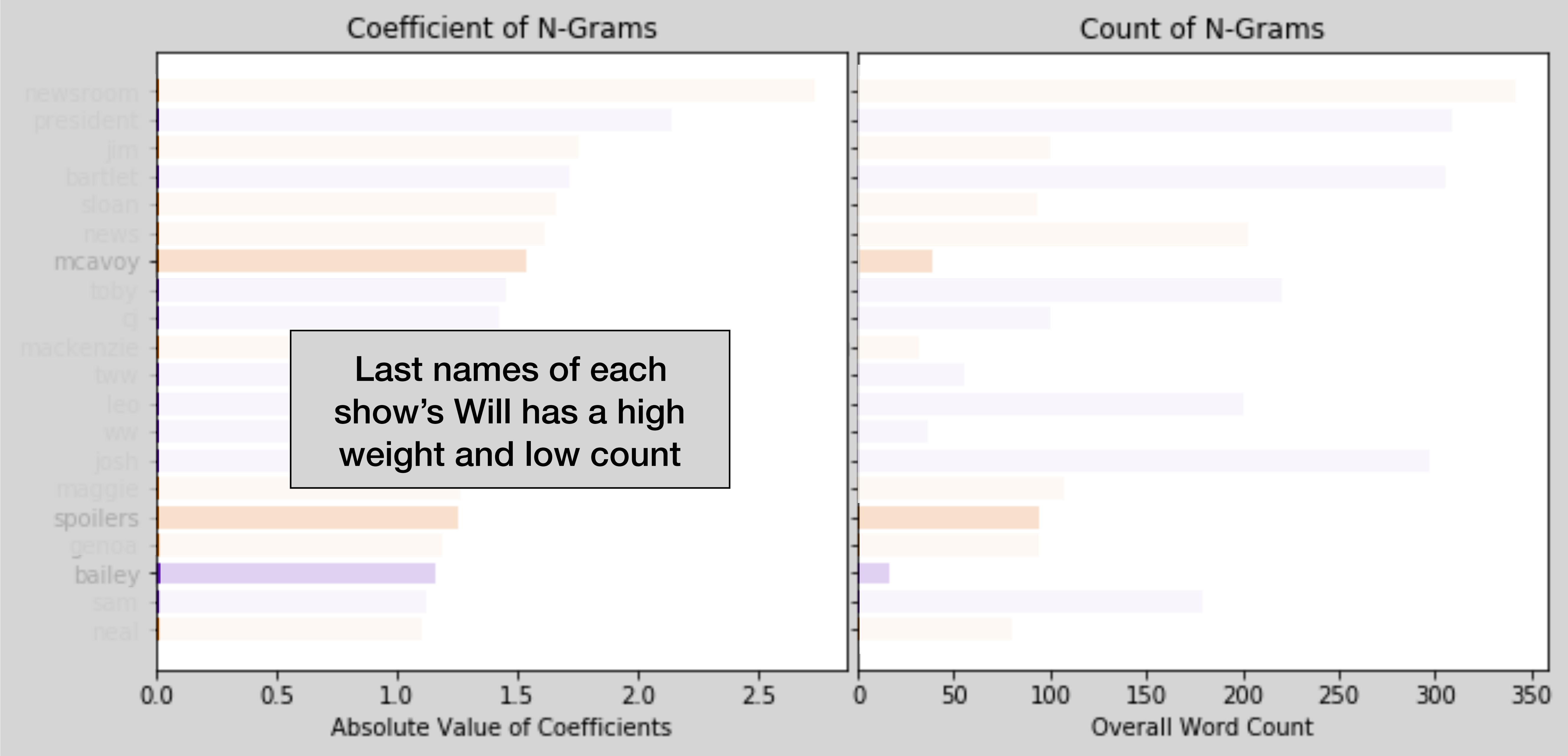
- Created function to tokenize, lemmatize and stem text.
- Kai informed me that CountVectorizer has a built in lemmatizer

Logistic Regression Models - Hyperparameters

		AS IS, STOP WORDS	LEMMATIZED, STOP WORDS	STEMMED. STOP WORDS
COUNT VECTORIZED	MAX DF	0.87	0.15	0.23
	MIN DF	3	2	2
	MAX FEATURES	2900	3000	4100
	TEST ACCURACY	86.5%	85.5%	87.5%
TFIDF VECTORIZED	MAX DF	0.3	0.25	0.29
	MIN DF	2	2	3
	MAX FEATURES	3000	3100	2950
	TEST ACCURACY	87.5%	87.5%	87.5%

Logistic Regression’s Most Predictive N-Grams

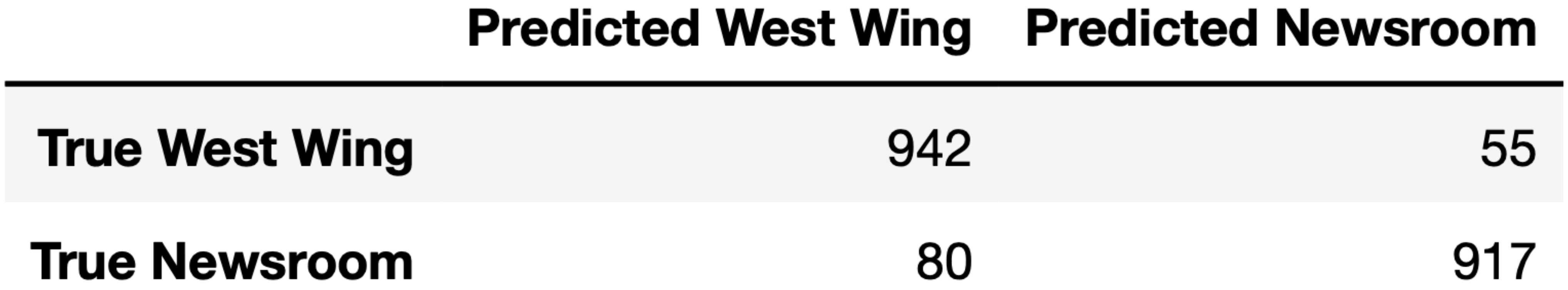
- Most predictive N-grams are all words (1, 1) on a (1, 2) model
- Mostly show names and characters
- “Spoilers” is the only generic tv term, indicates newer show



Last names of each show’s Will has a high weight and low count

Naive Bayes Model

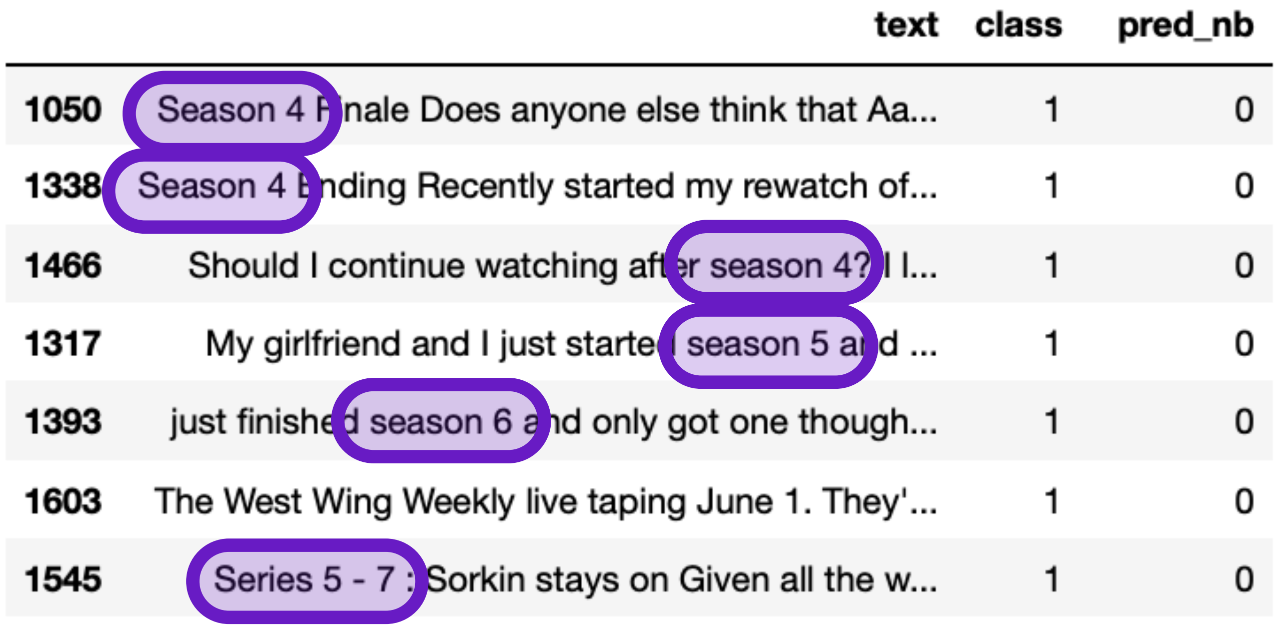
- Best Train Score lowered from 98.5% accuracy to 93.7%
- Best Test Score increased from 87.5% accuracy to 88.5%
- Appears to have made my model less overfit



	Predicted West Wing	Predicted Newsroom
True West Wing	942	55
True Newsroom	80	917

Improving the Model

- “Season 4” and onward appear in several posts.



	text	class	pred_nb
1050	Season 4 Finale Does anyone else think that Aa...	1	0
1338	Season 4 Ending Recently started my rewatch of...	1	0
1466	Should I continue watching after season 4? I l...	1	0
1317	My girlfriend and I just started season 5 and ...	1	0
1393	just finished season 6 and only got one though...	1	0
1603	The West Wing Weekly live taping June 1. They'...	1	0
1545	Series 5 - 7 : Sorkin stays on Given all the w...	1	0

- Feed in all character names
- Feed in popular quotes
- Date of post
- User

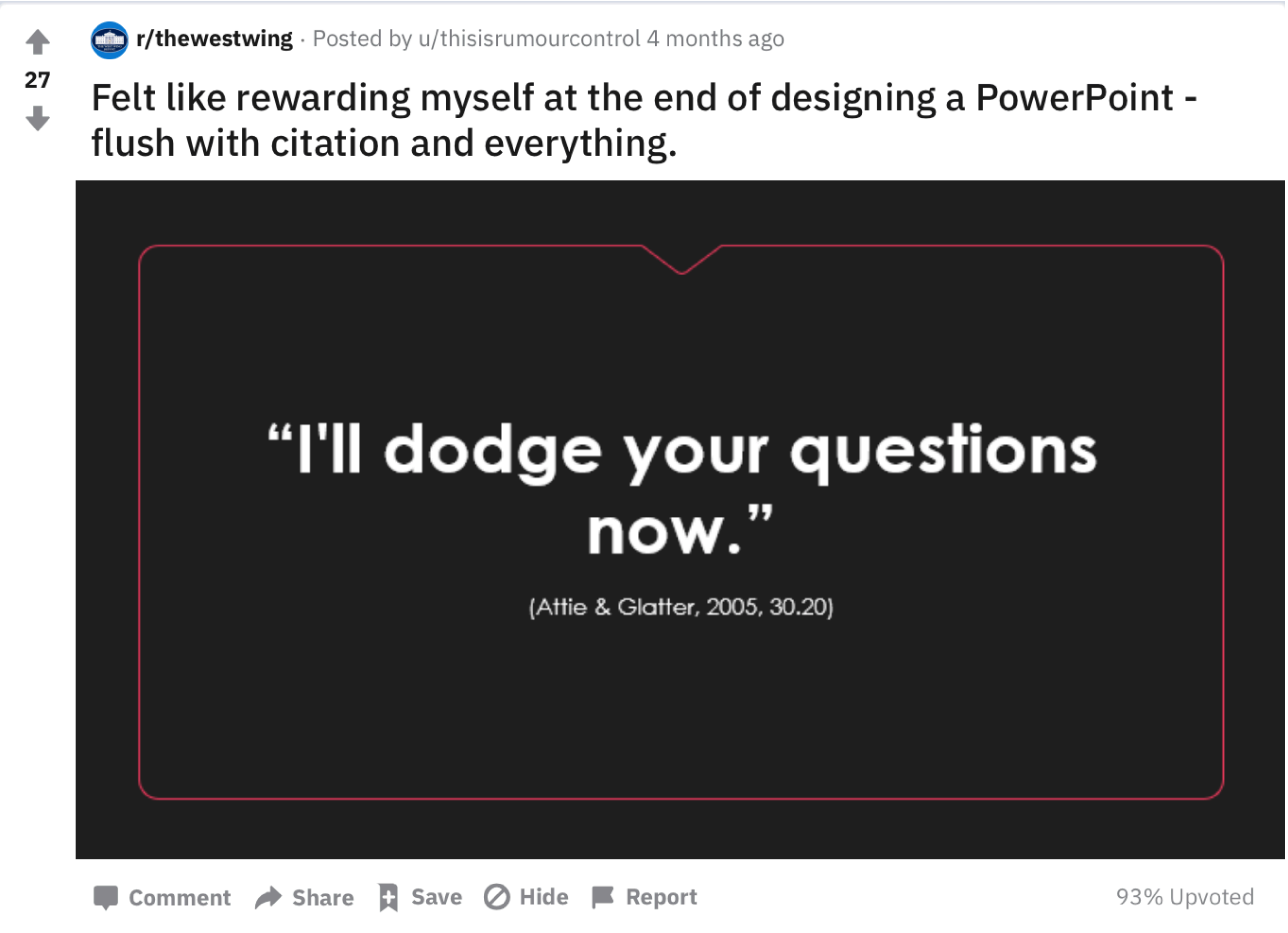
Expanding the Model to More Subreddits

- r/SportsNight - A Sorkin show that is NOT political
- r/Scandal - A political drama that is NOT written by Sorkin
- r/politics - A discussion of real life politics NOT tv politics

- A political movie by Sorkin would also be interesting. However, none of his movies have unique subreddits

Conclusion

- The West Wing and The Newsroom are both great tv shows. You should watch them.
- Use built in lemmatizer within Vectorize functions
- Most predictive words when classifying were characters and show names
- Naive Bayes Classification Model of Count Vectorized Data most accurately predicted test data
- Potential to add additional model rules and/or additional data to improve model



r/thewestwing · Posted by u/thisisrumourcontrol 4 months ago

Felt like rewarding myself at the end of designing a PowerPoint - flush with citation and everything.

"I'll dodge your questions now."

(Attie & Glatter, 2005, 30.20)