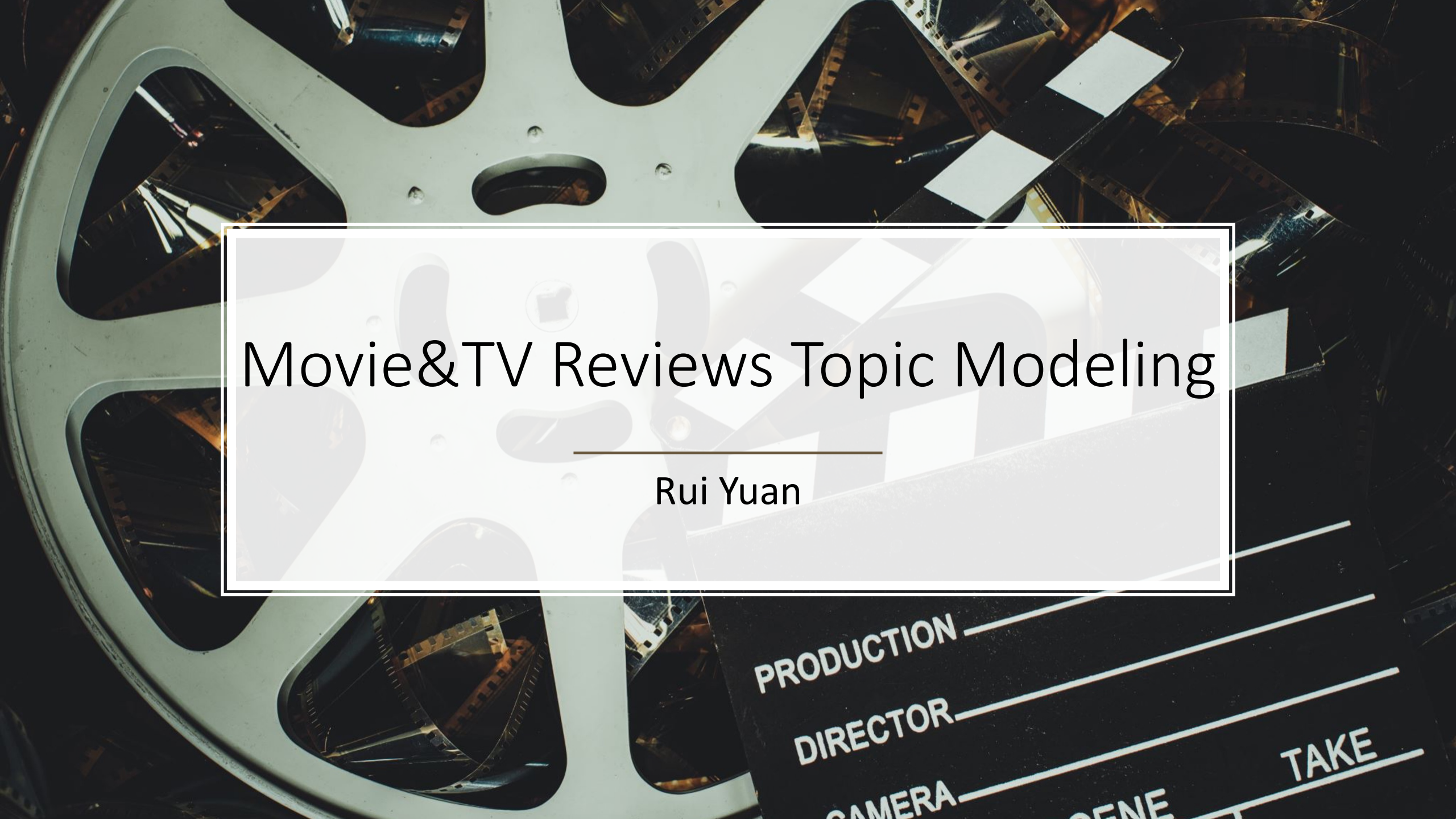


Movie&TV Reviews Topic Modeling

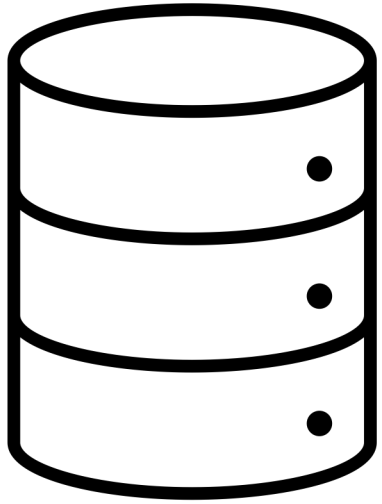
Rui Yuan

Clients and Problem

- Amazon wants to investigate costumer reviews and improve products
- The goal is to find out the overall customer sentiments and topics customer care about.

Data

- Data accessed through UCSD data repository
- 16905 rows of customer reviews
- Features: customer ID, rating (1-5), review text



Work Flow and Algorithms

EDA and Data Visualization:

- Matplotlib, WordCloud

Text Preprocessing

- NLTK used including work tokenization, lemmatization, pos tagging, stop words removal
- Filtered words down to nouns, adjectives, verbs and adverbs

Sentiment Analysis:

- VADER, TextBlob used and settled with VADER

Topic Modeling:

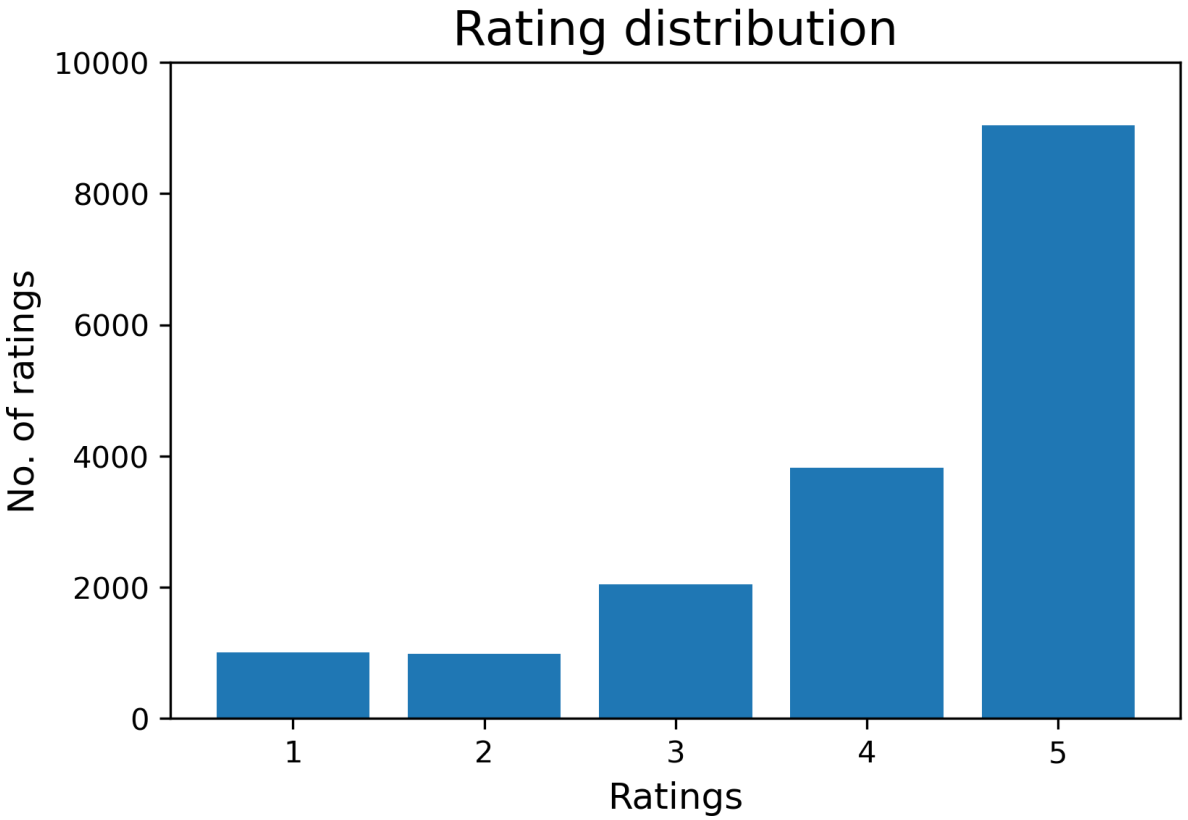
- With only nouns
- LDA, LSA, NMF, CorEx used and settled with NMF

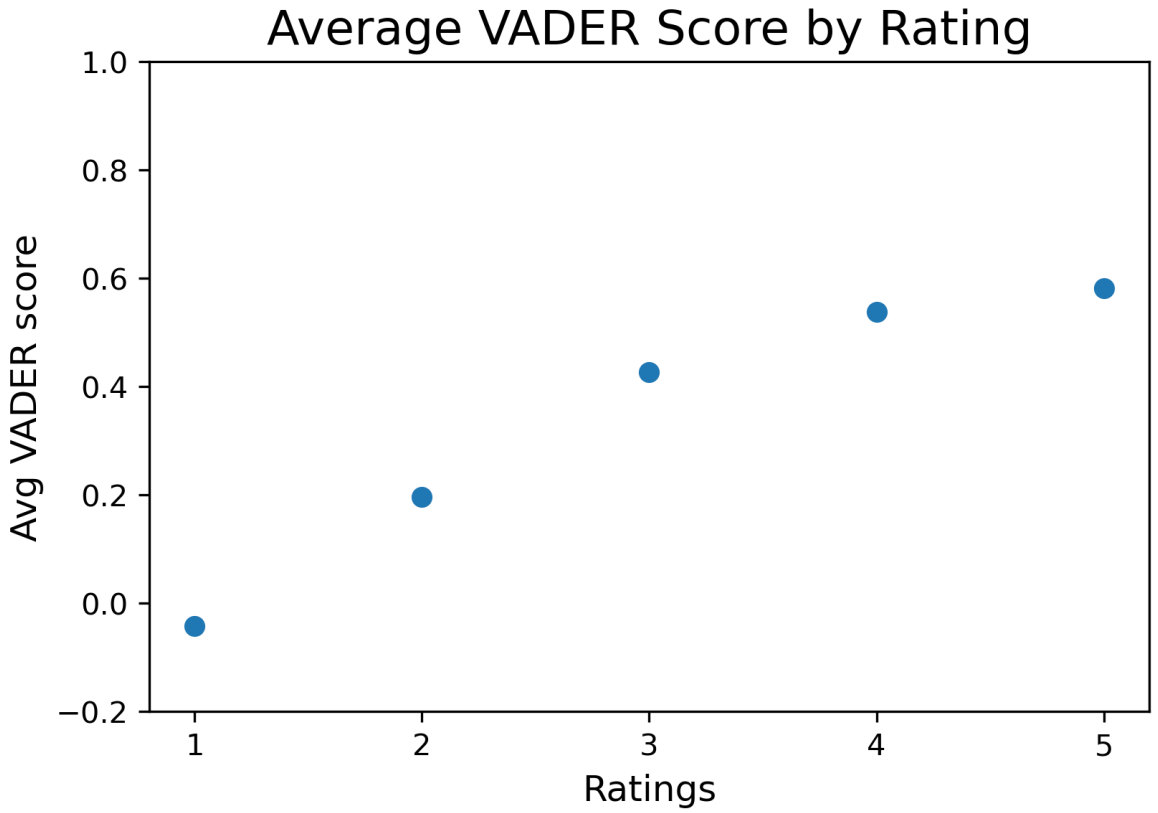
Iterated and kept refinining the whole process to arrive at the optimal result! Result can still be improved!

Common Words Visualization: WordCloud

- Postives more than negatives
- Movie elements: story, series, character, action, music, plot, role, performance, scene…

😆 Review Sentiment: VADER

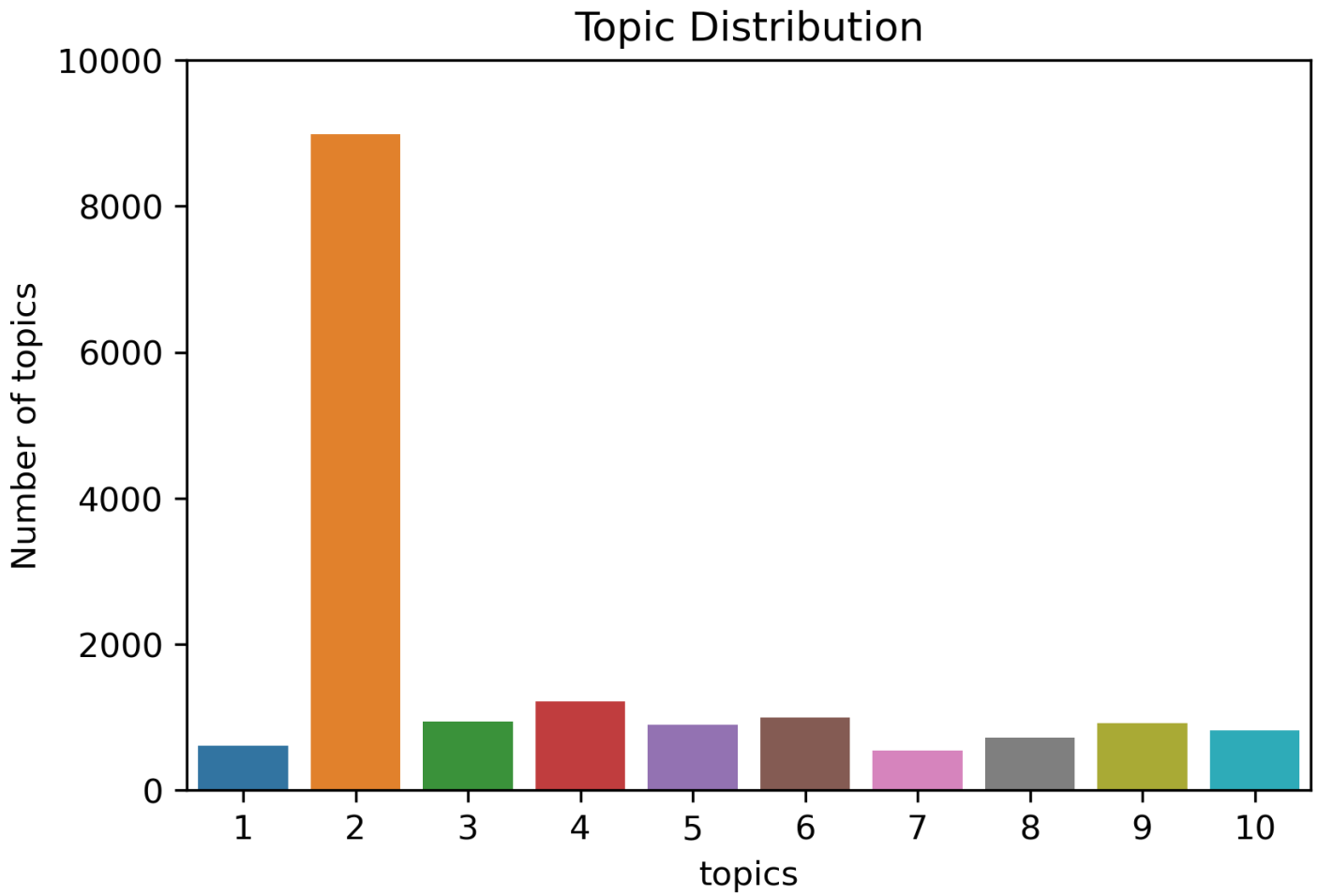


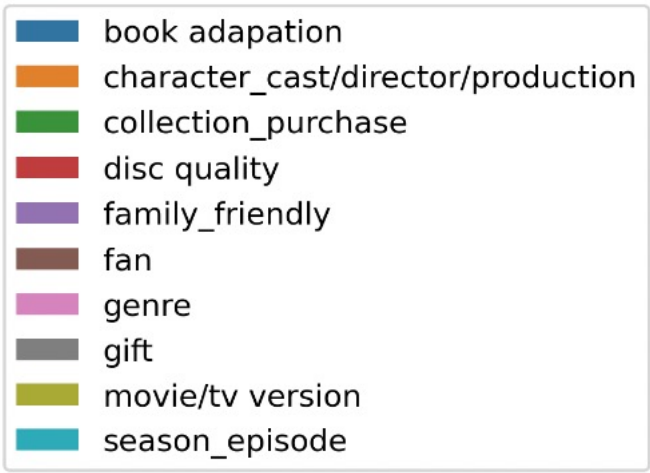


- Many high ratings
- Customers are relatively happy with the products

- Higher ratings, higher VADER score
- VADER seems to correctly detect the sentiments

Topic Modeling: NMF





Future Work

- Continue refining topic modeling and exploring more NLP methods and tools such as Spacy, ScatterText, etc.

- Build Content and Collaborative Recommender System