

CECILIA BELL

*MOVIE
RECOMMENDATION
SYSTEM*



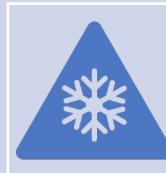
WHY?



Improves customer experience



Drives revenue



Resolves cold-start problem



THE DATA

- 34,886 movies
 - 24 origins
-
- Mean plot length: 380 words
 - Max plot length: 6752 words
 - Min plot length: 21 words

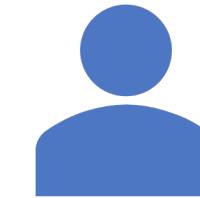
METHODOLOGY



Clean and preprocess text



Build topic model



Create recommendation
system

METHODOLOGY



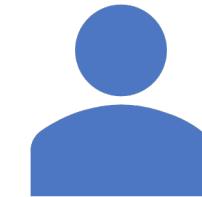
Clean and preprocess text

- Tokenize
- Lemmatize
- Remove proper nouns
- Vectorize



Build topic model

- Dimensionality reduction



Create recommendation
system

- Similarity function

FINAL RECOMMENDATION SYSTEM

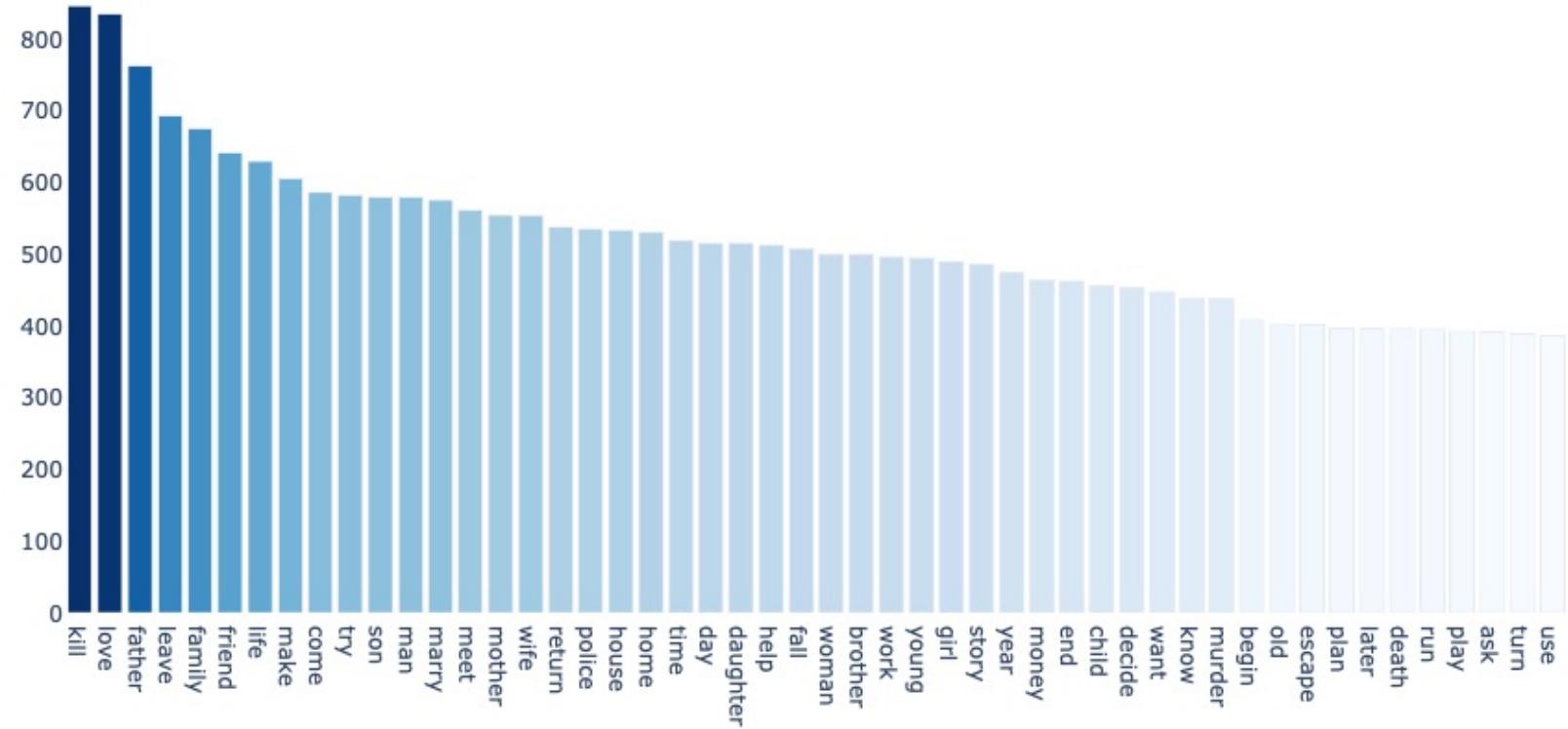
TF-IDF Vectorizer

NMF model with 30 topics

Cosine similarity function

INSIGHTS

Top 50 Most Common Words after Preprocessing



Topic 3: sci-fi

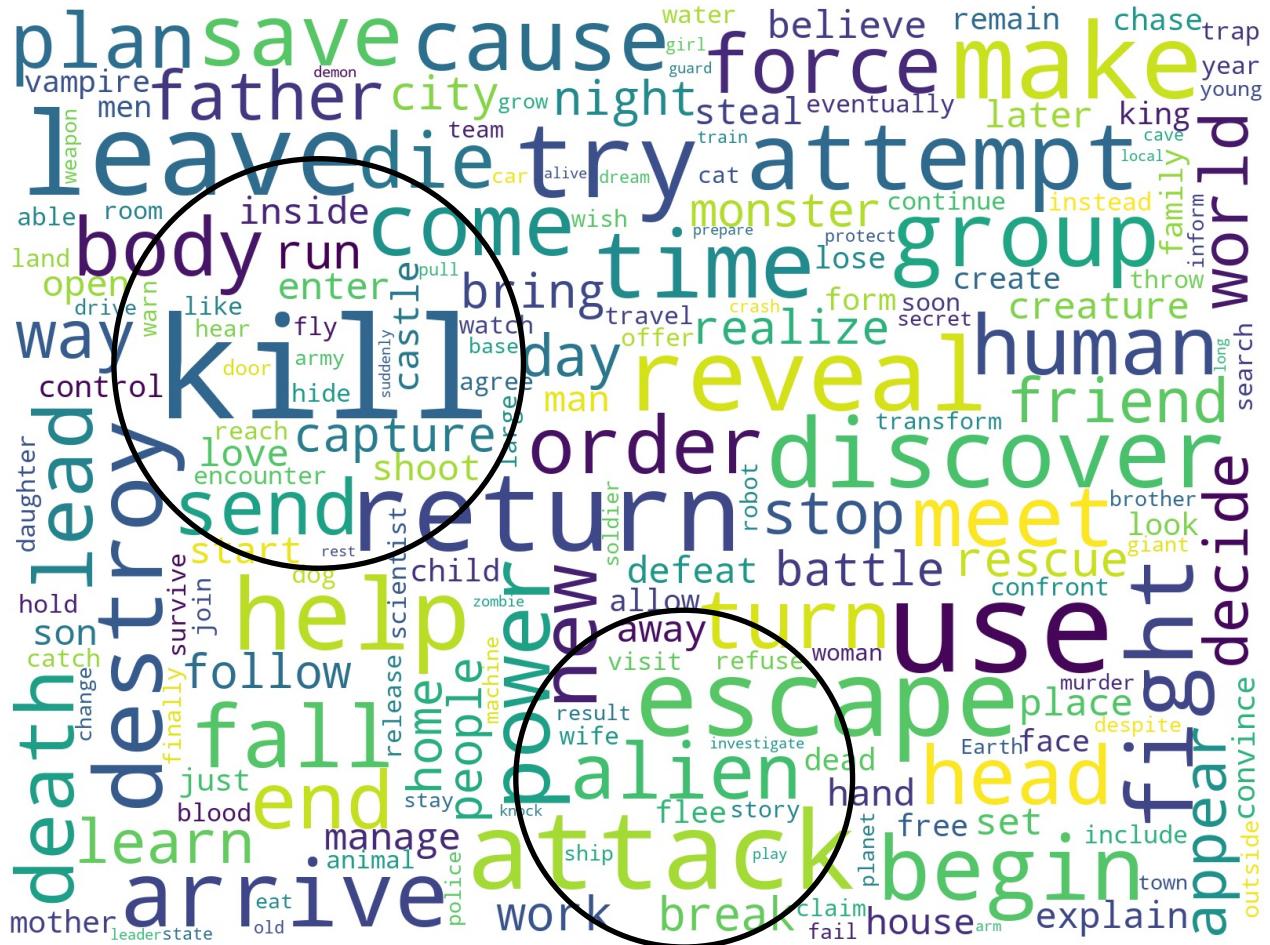
INSIGHTS

Topic 3: sci-fi



INSIGHTS

Topic 3: sci-fi



INSIGHTS

Topic 3: sci-fi



INSIGHTS

Topic 27: war

A word cloud centered around the topic of war, with words like shoot, come, soldier, attack, end, plan, fight, help, kill, order, force, try, reveal, group, men, officer, day, discover, time, attempt, leave, train, British, and lead.

The word cloud includes various related terms such as:

- Actions: shoot, come, attack, end, plan, fight, help, kill, order, force, try, reveal, group, men, officer, day, discover, time, attempt, leave, train, British, lead.
- Places and Entities: soldier, army, German, American, Japanese, French, town, city, camp, base, rescue, soon, murder, leader, dead, instead, travel, secret, year, night, arrive, mission, return, death, away, board, drive, wound, encounter, bomber, join, aircraft, crew.
- Relationships and Status: wife, family, command, inform, convince, eventually, visit, free, military, story, hide, contact, confront, offer, near, start, bring, save, place, contact.
- Other: gun, run, fall, wait, follow, search, claim, daughter, car, radio, state, allow, flee, break, commander, release, hold, flight, face, member, action, crash, receive, assign, passenger, wane, manage, survive, warn, turn, country, manage, destroy, hand, land, general, remain, rescue, soon, leader, dead, instead, able, catch, body, despite, continue, marry, stay, execute, just, job, company, company, hospital, refuse, enemy, husband, Indian, fail, look, prisoner, information, demand, offer, near, start, bring, save, place, contact.

INSIGHTS

Topic 27: war



INSIGHTS

Topic 27: war



INSIGHTS

Topic 27: war

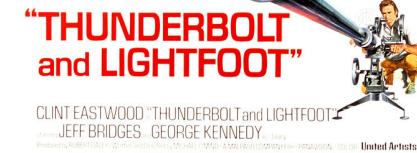
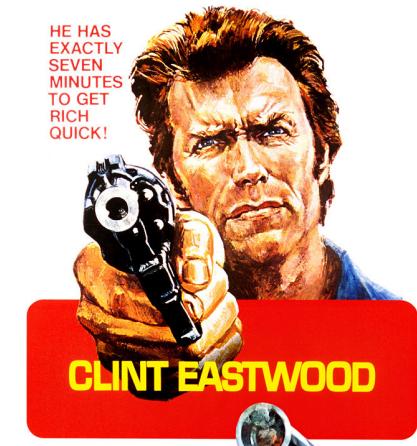
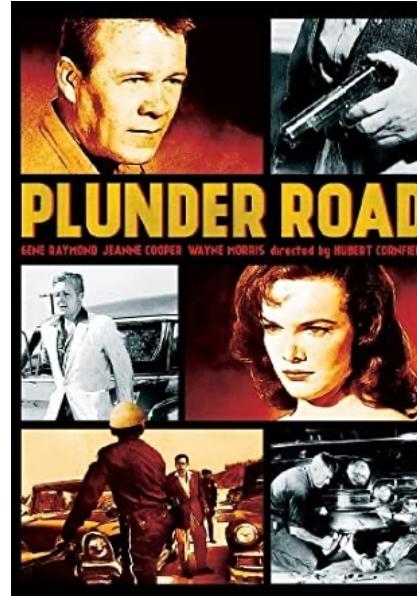


INSIGHTS

RESULTS



RESULTS

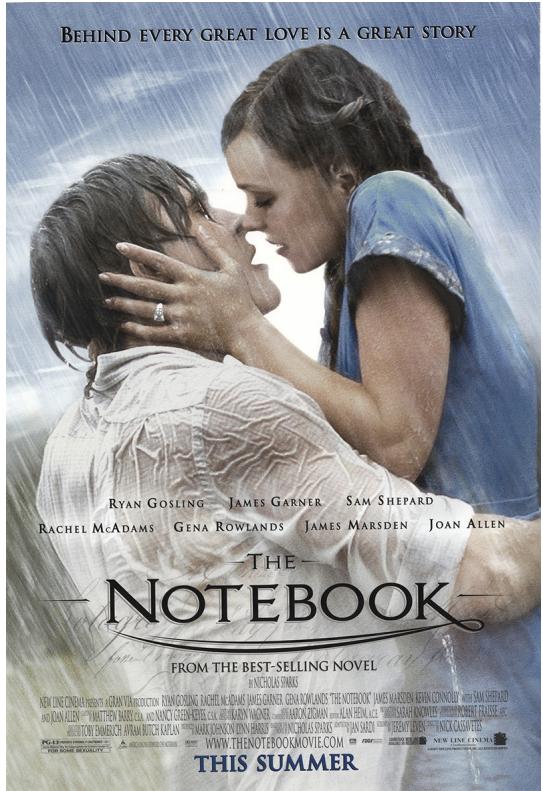


RESULTS

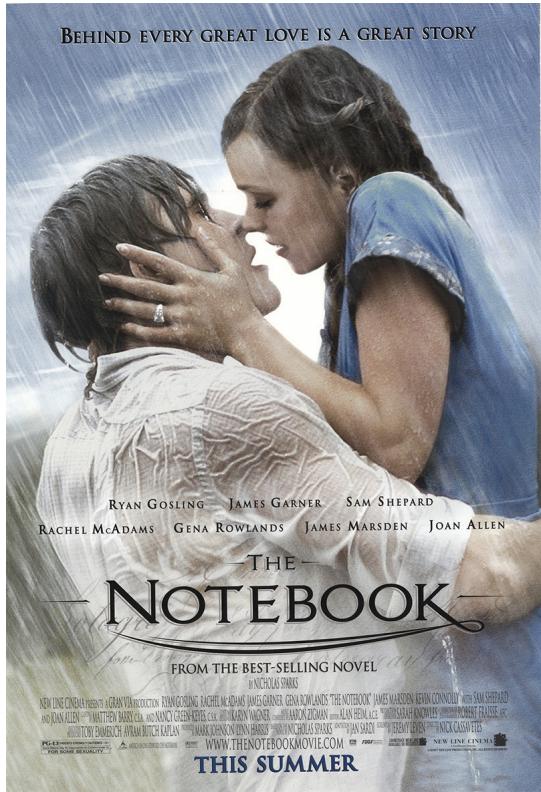
```
recommendations('Alien 1979', origin=None)
```

```
['Titan A.E. 2000',
 'The Angry Red Planet 1959',
 'Space Chimps 2008',
 'WALL-E 2008',
 'Leviathan 1989',
 'Starship Invasions 1977',
 'Lords of the Deep 1989',
 'Sinbad of the Seven Seas 1989',
 'The Atomic Submarine 1959',
 'Mobile Suit Gundam 00 the Movie: Awakening of the Trailblazer 2010']
```

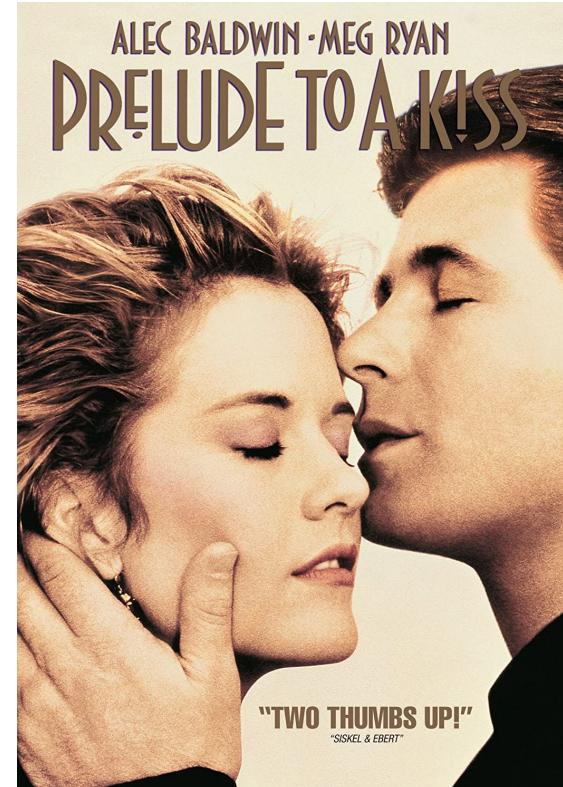
RESULTS



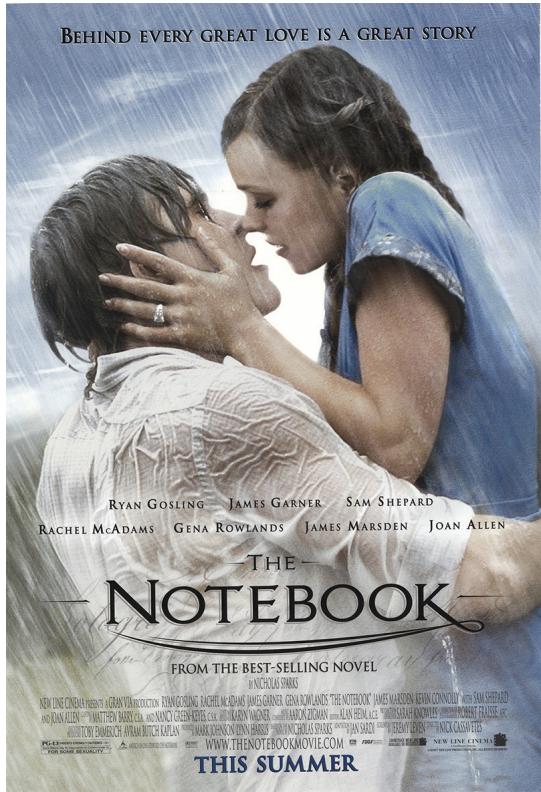
RESULTS



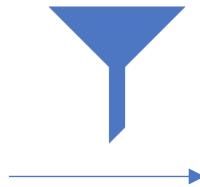
American



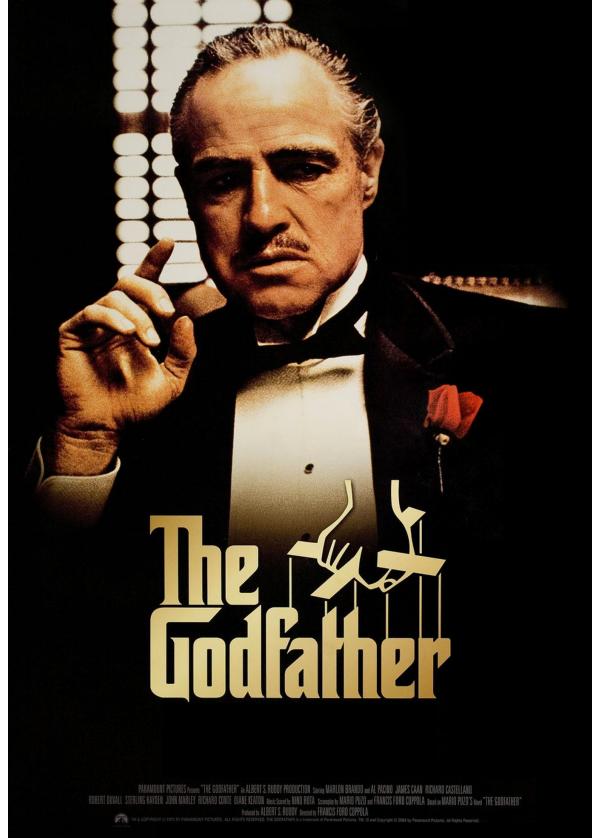
RESULTS



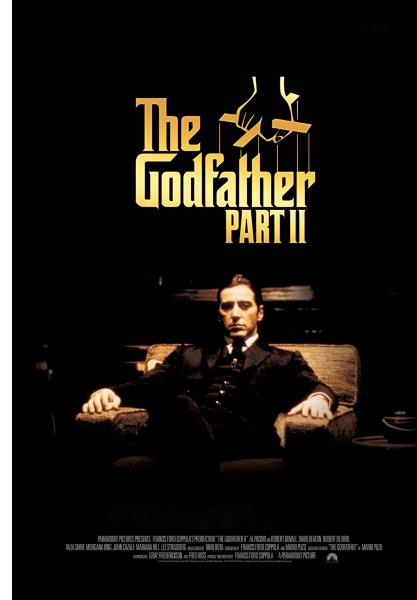
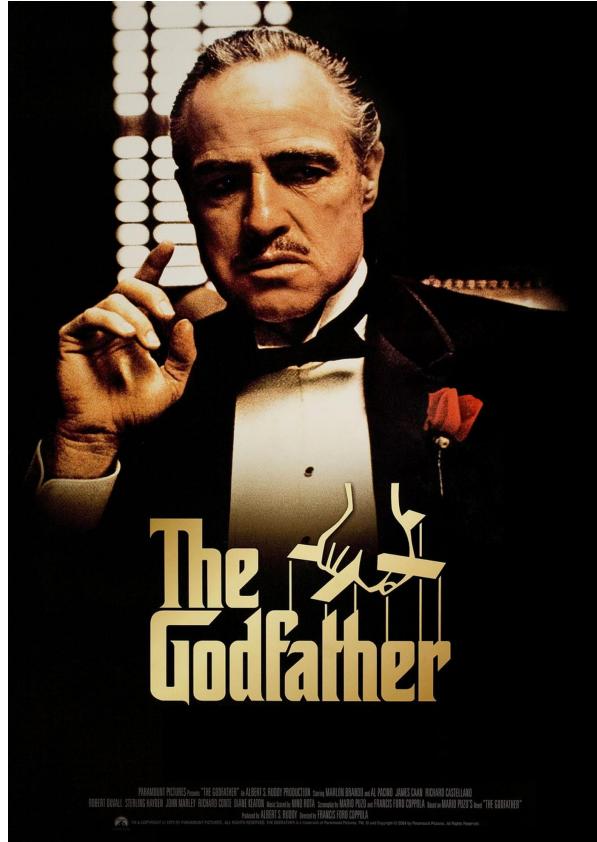
Telugu



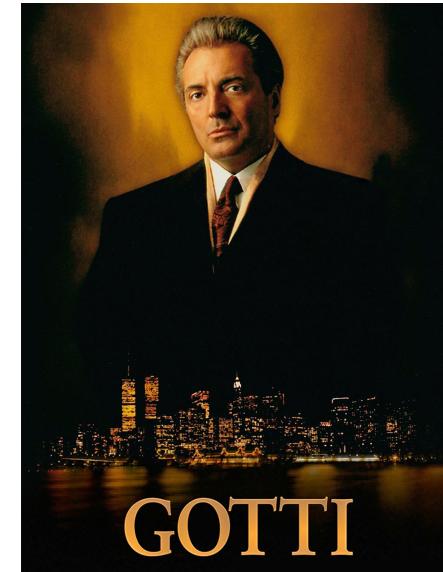
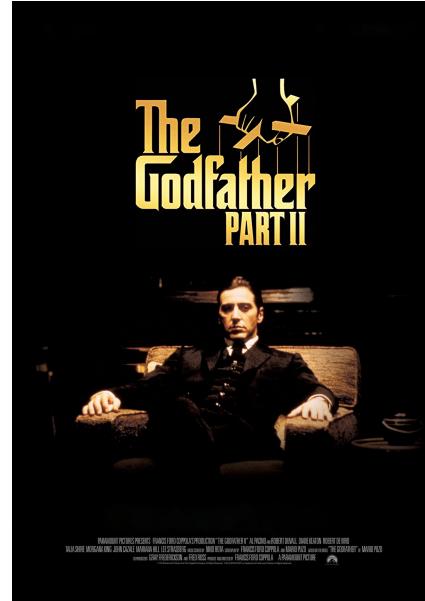
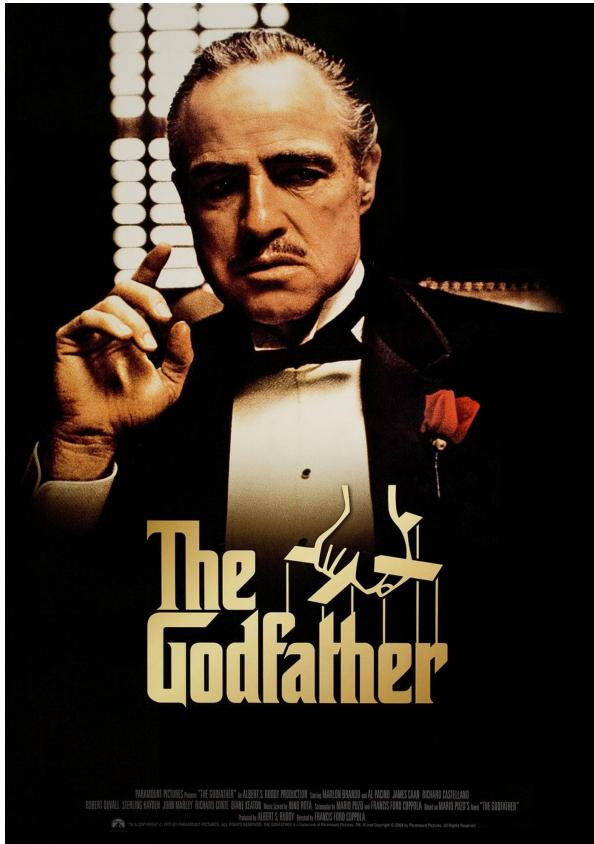
RESULTS



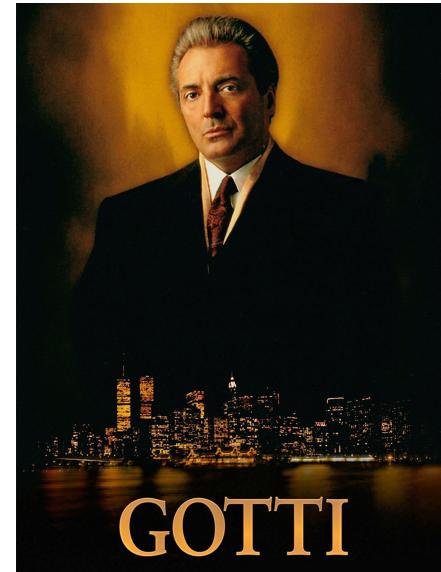
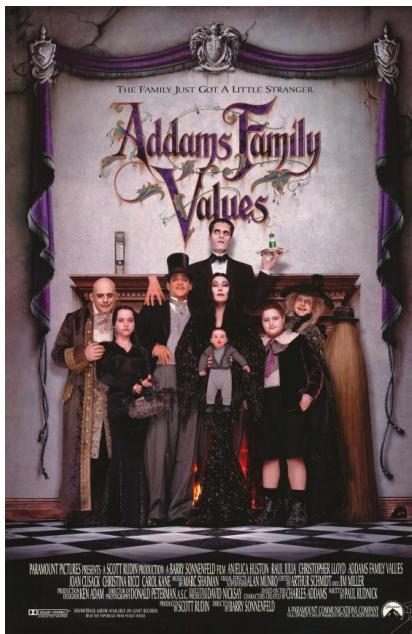
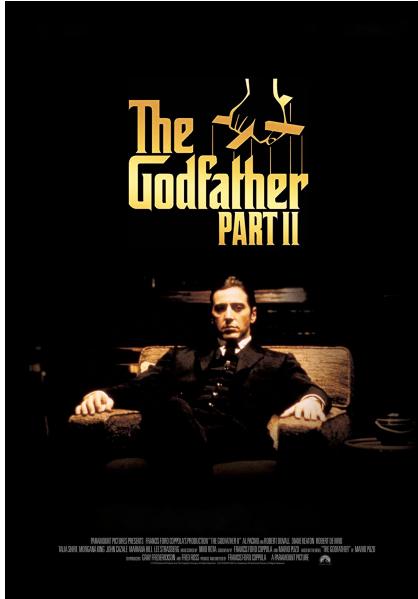
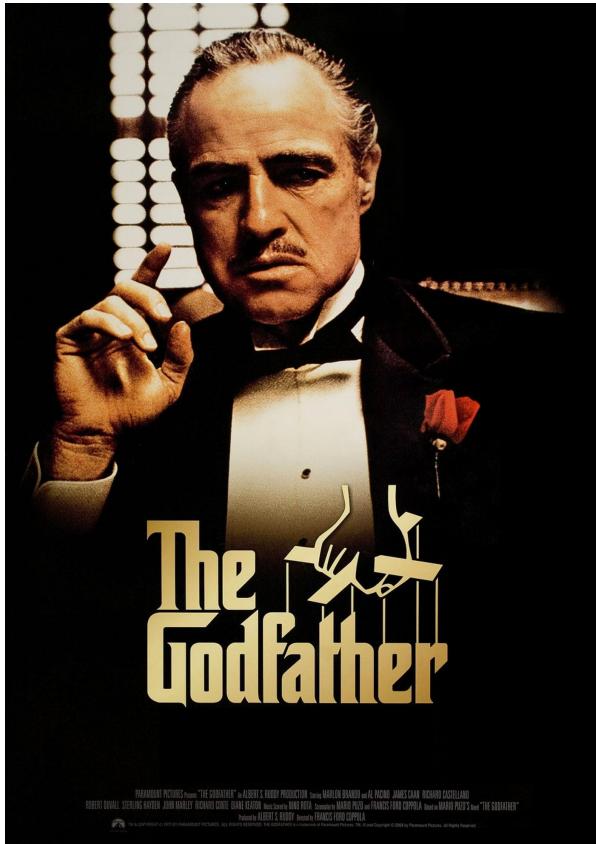
RESULTS



RESULTS



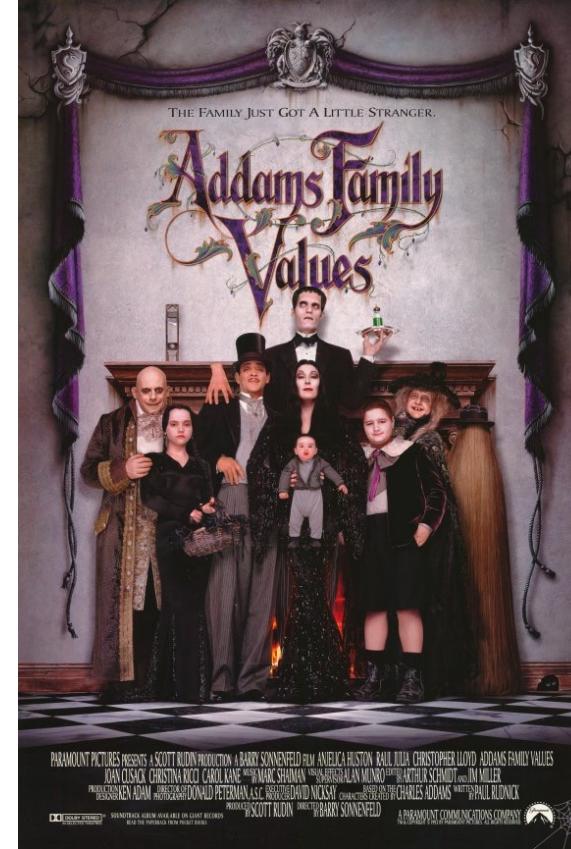
RESULTS



RESULTS



marry
family
baby
kill
murder
death
survive



FURTHER WORK



Continue to tune topics?

Incorporate filters for
year and rating?



Include data on director
and cast?

THANK YOU