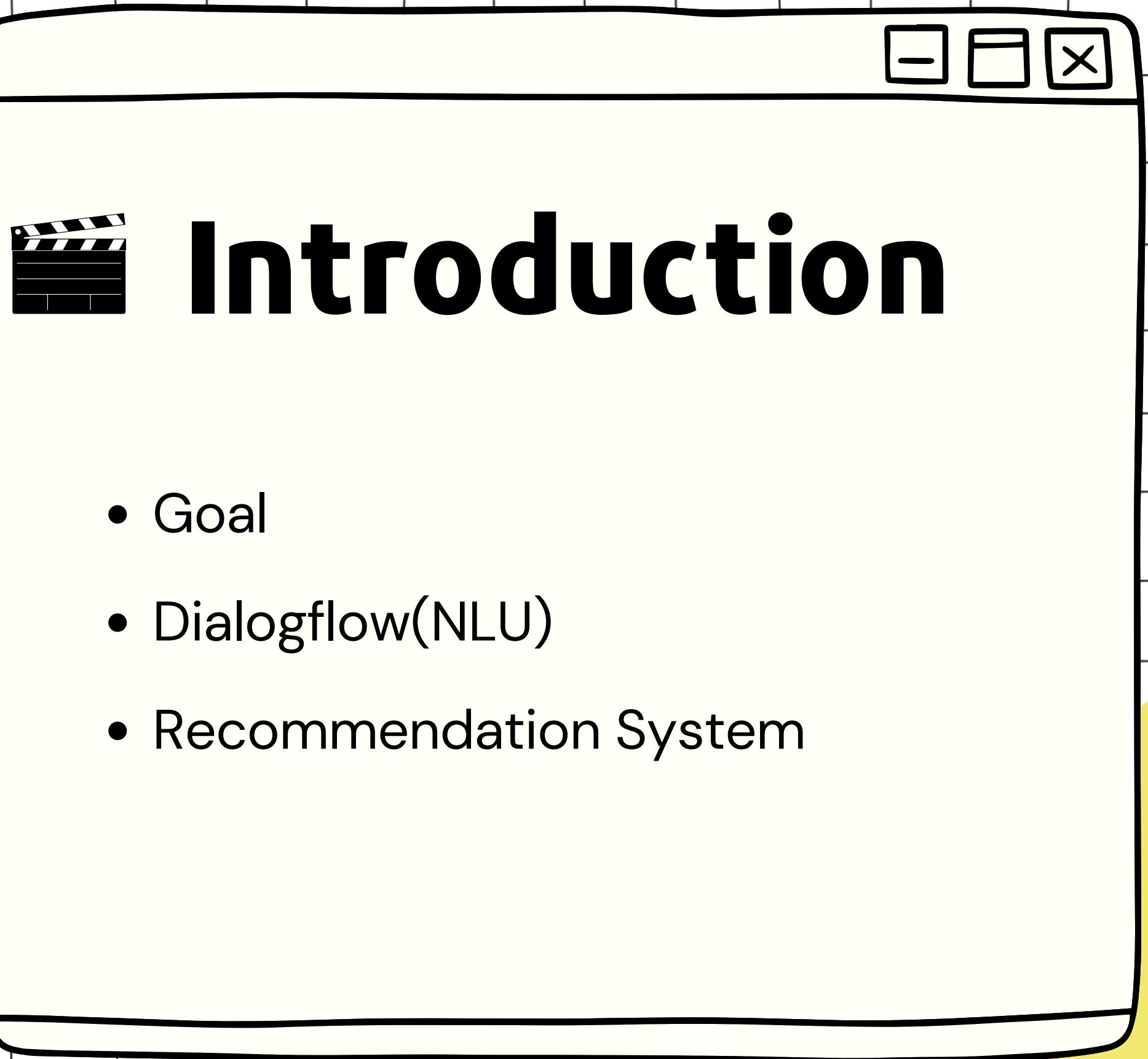
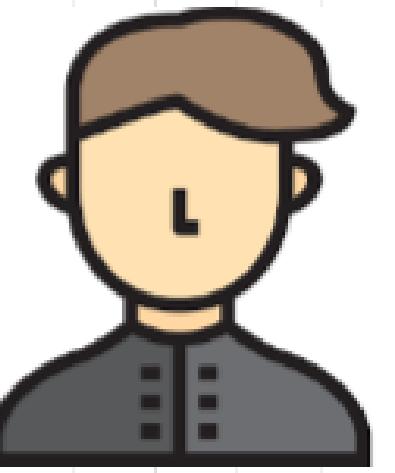


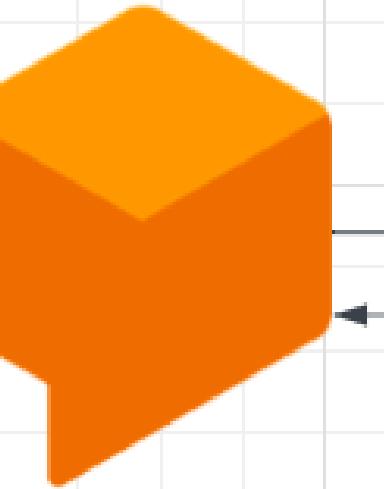
Movidea



project flow



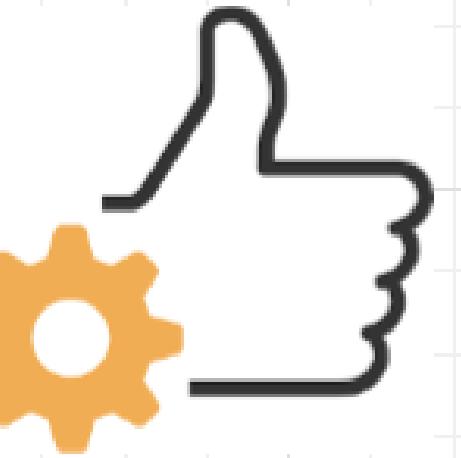
User



Dialogflow



Flask

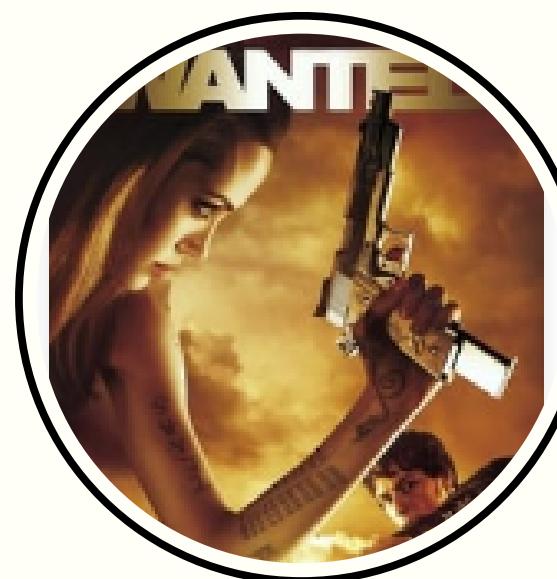
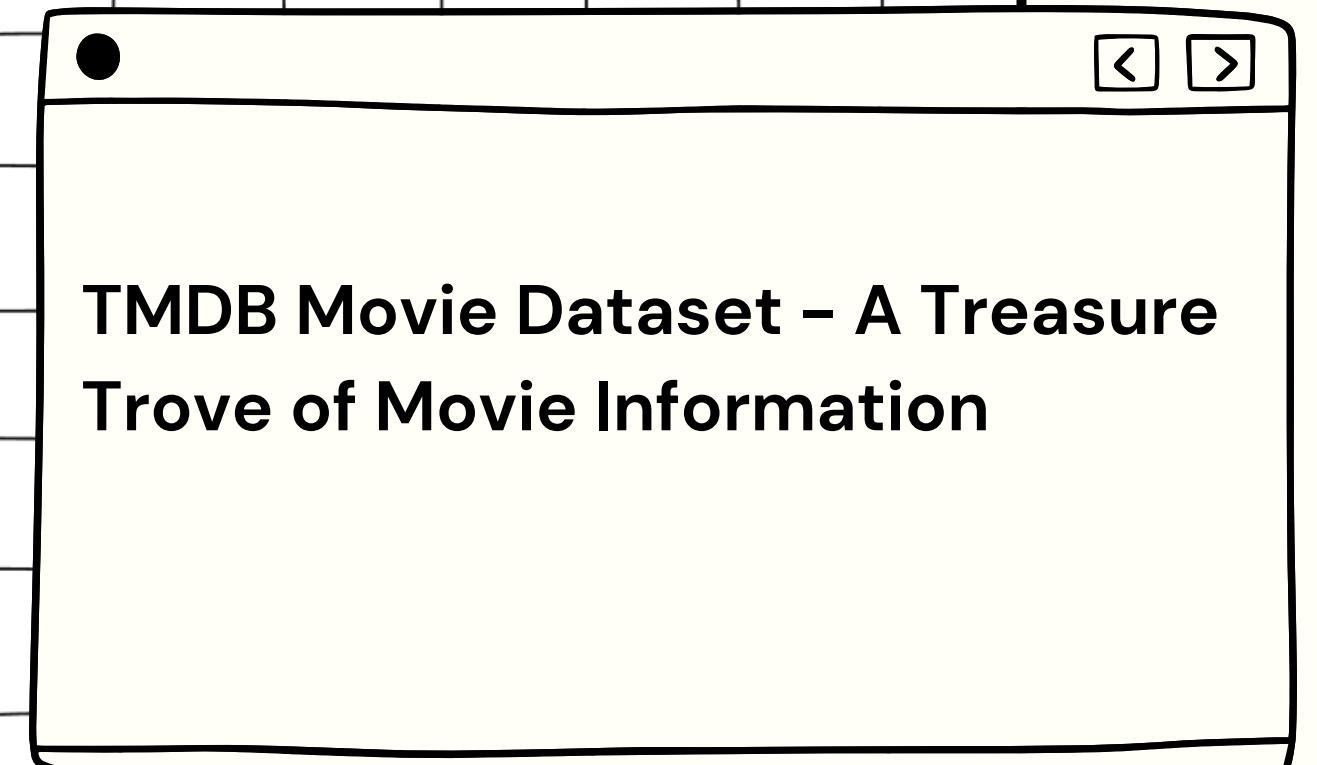


Recommendation
System

Group 12



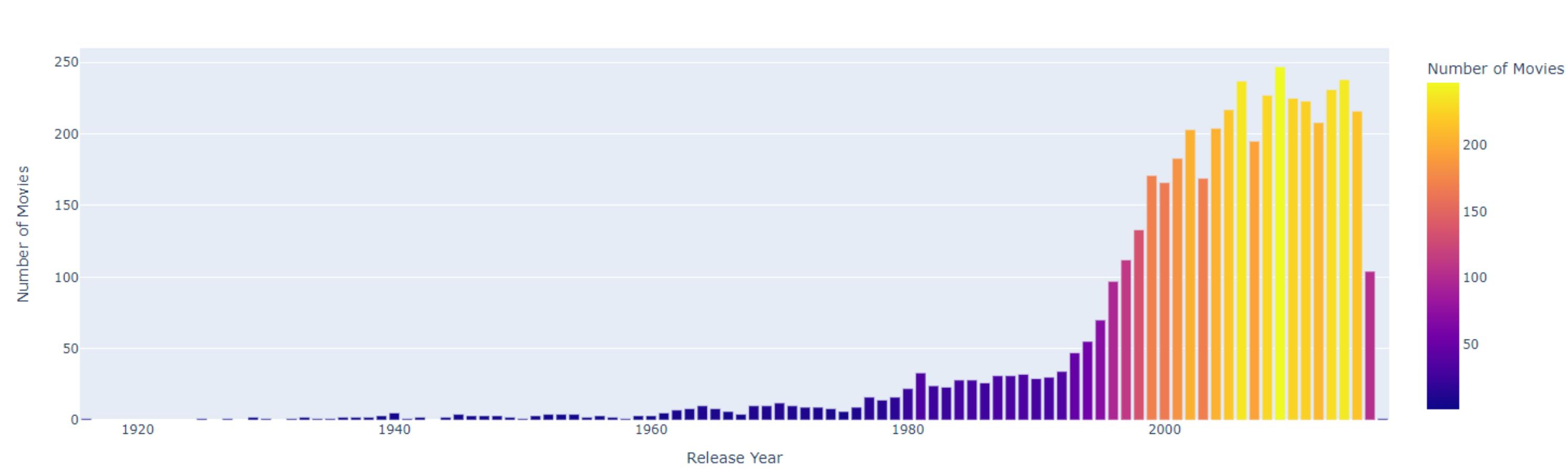
TMDB



as

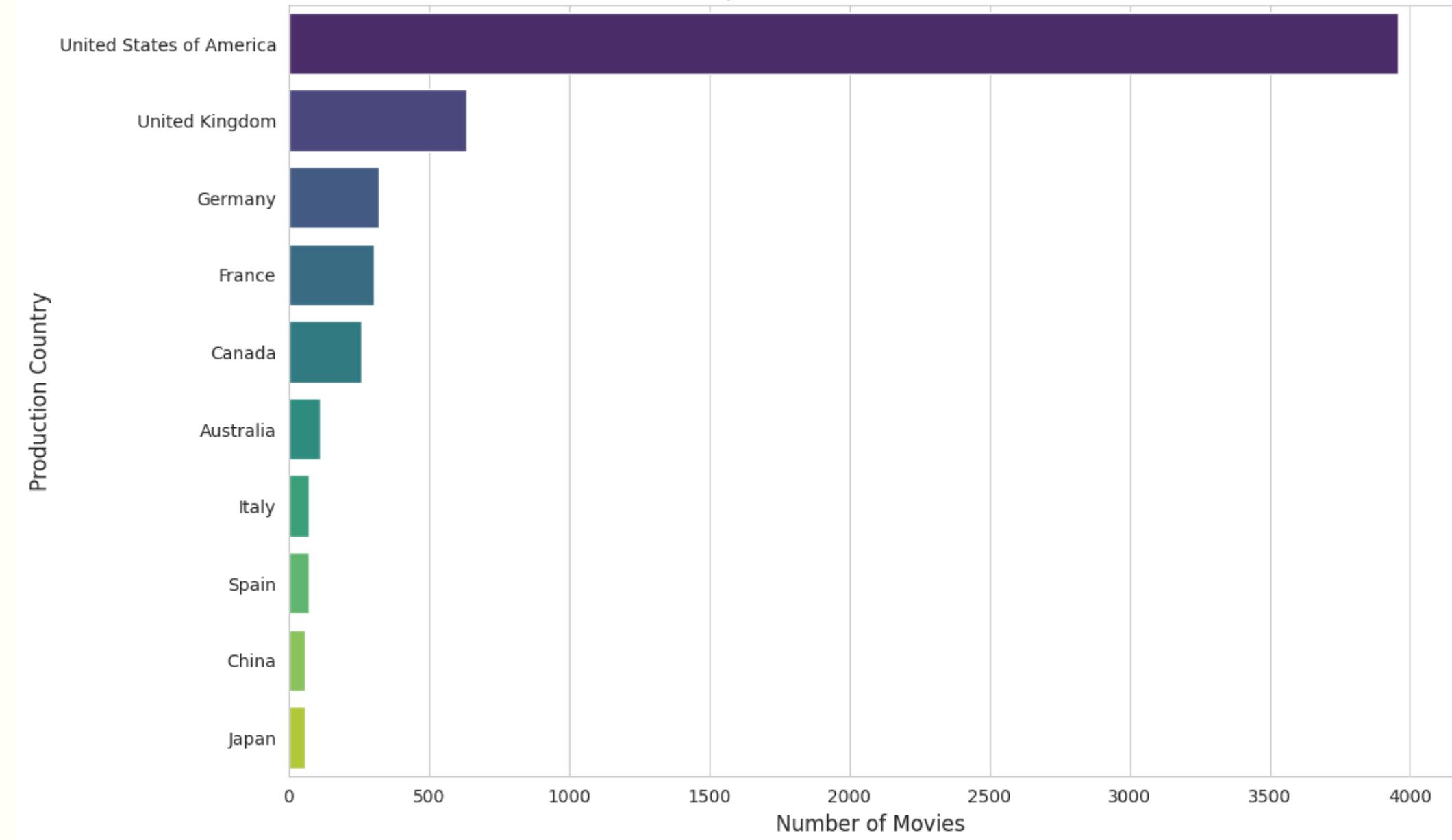
EDA

Number of Movies Released per Year



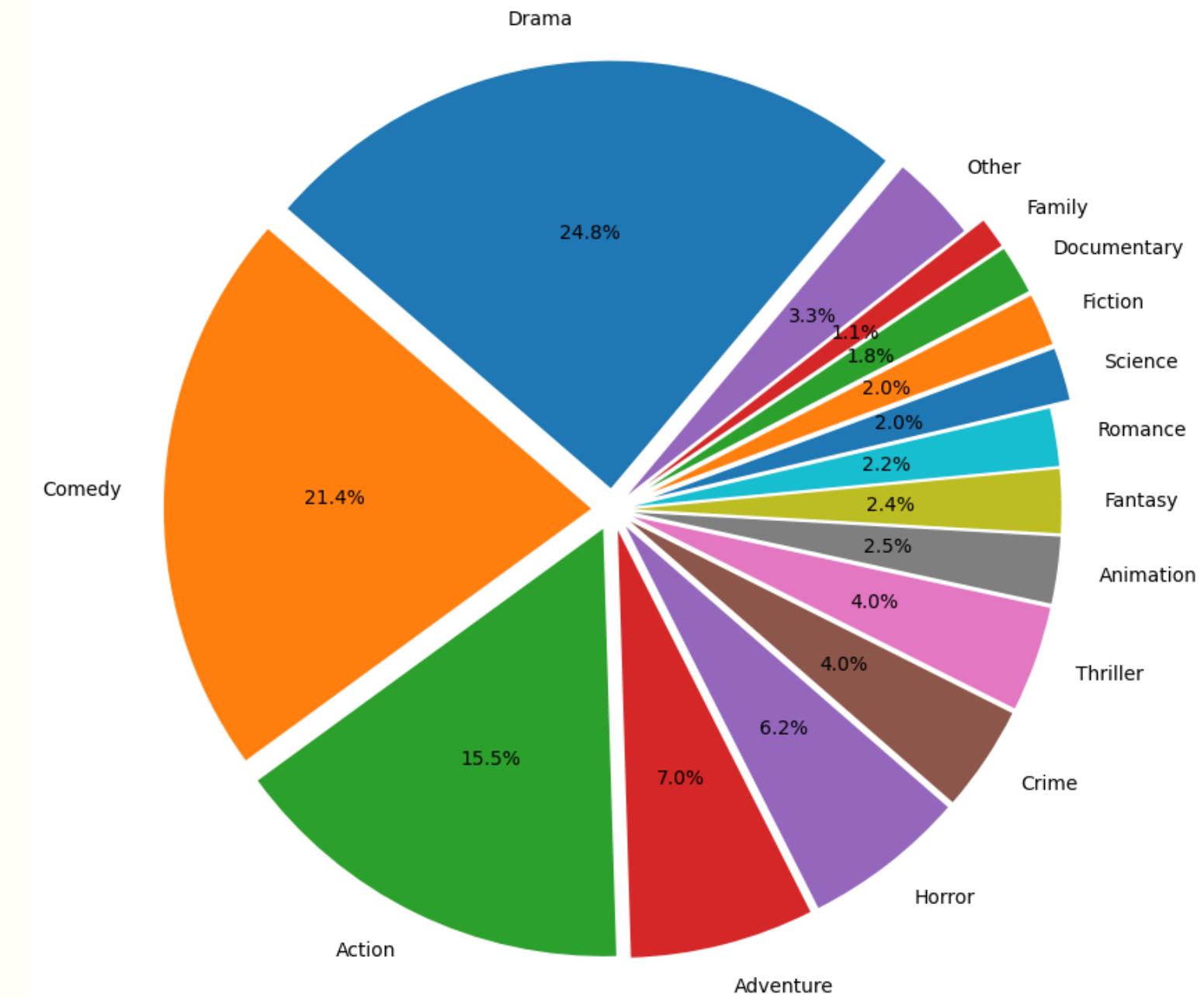
EDA

Top 10 Production Countries



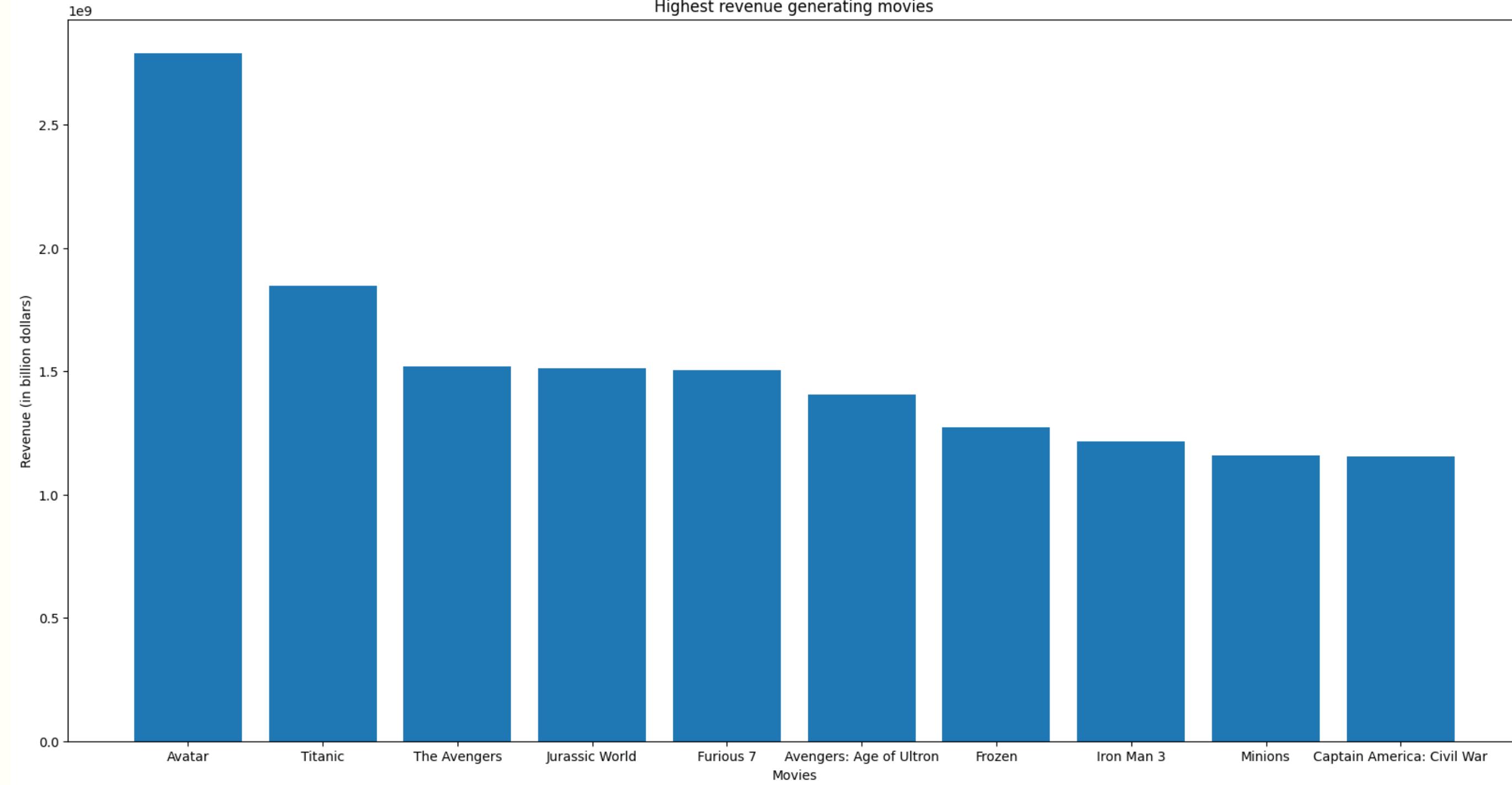
EDA

Pie Chart Representation



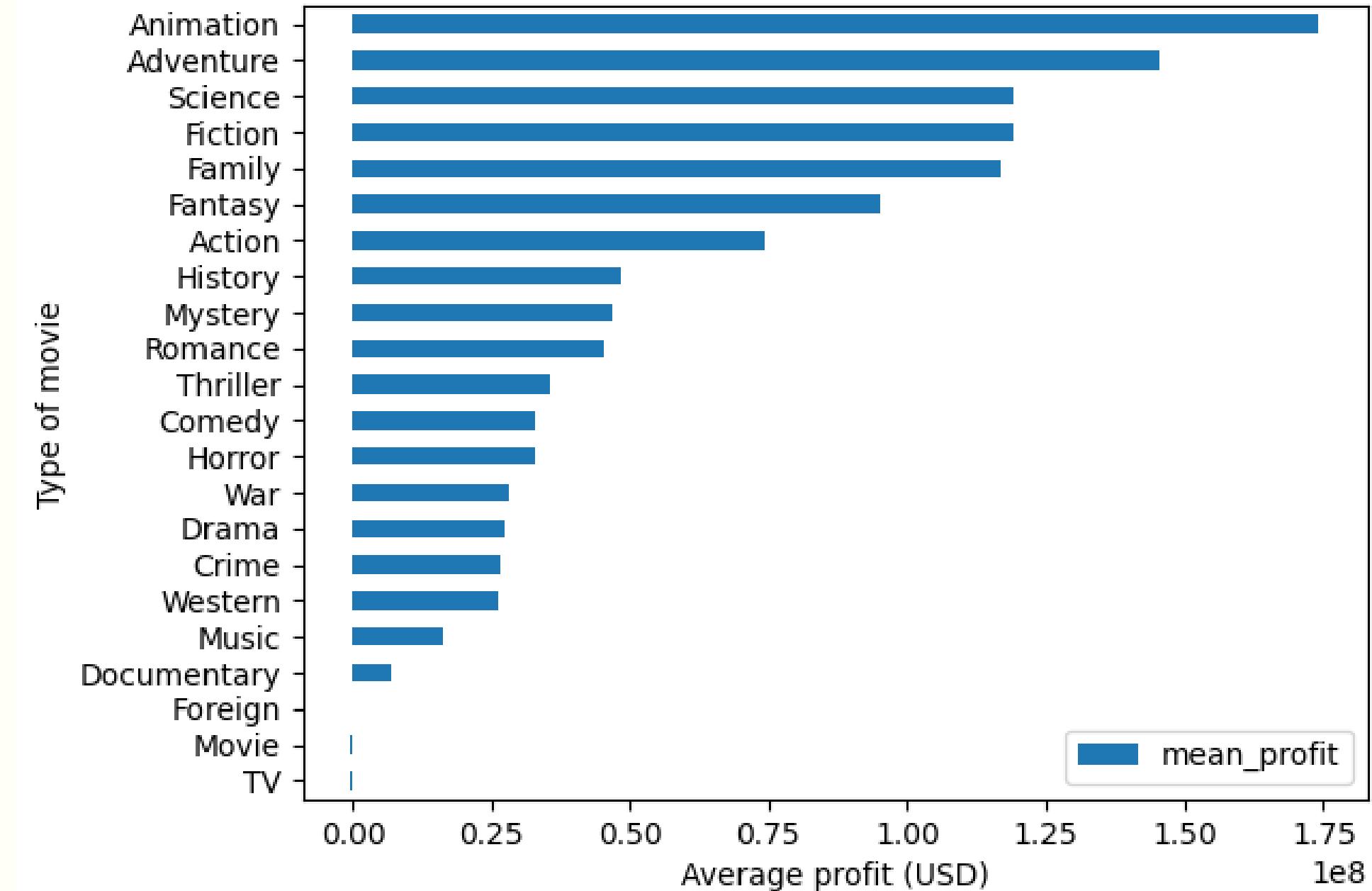
EDA

Highest revenue generating movies



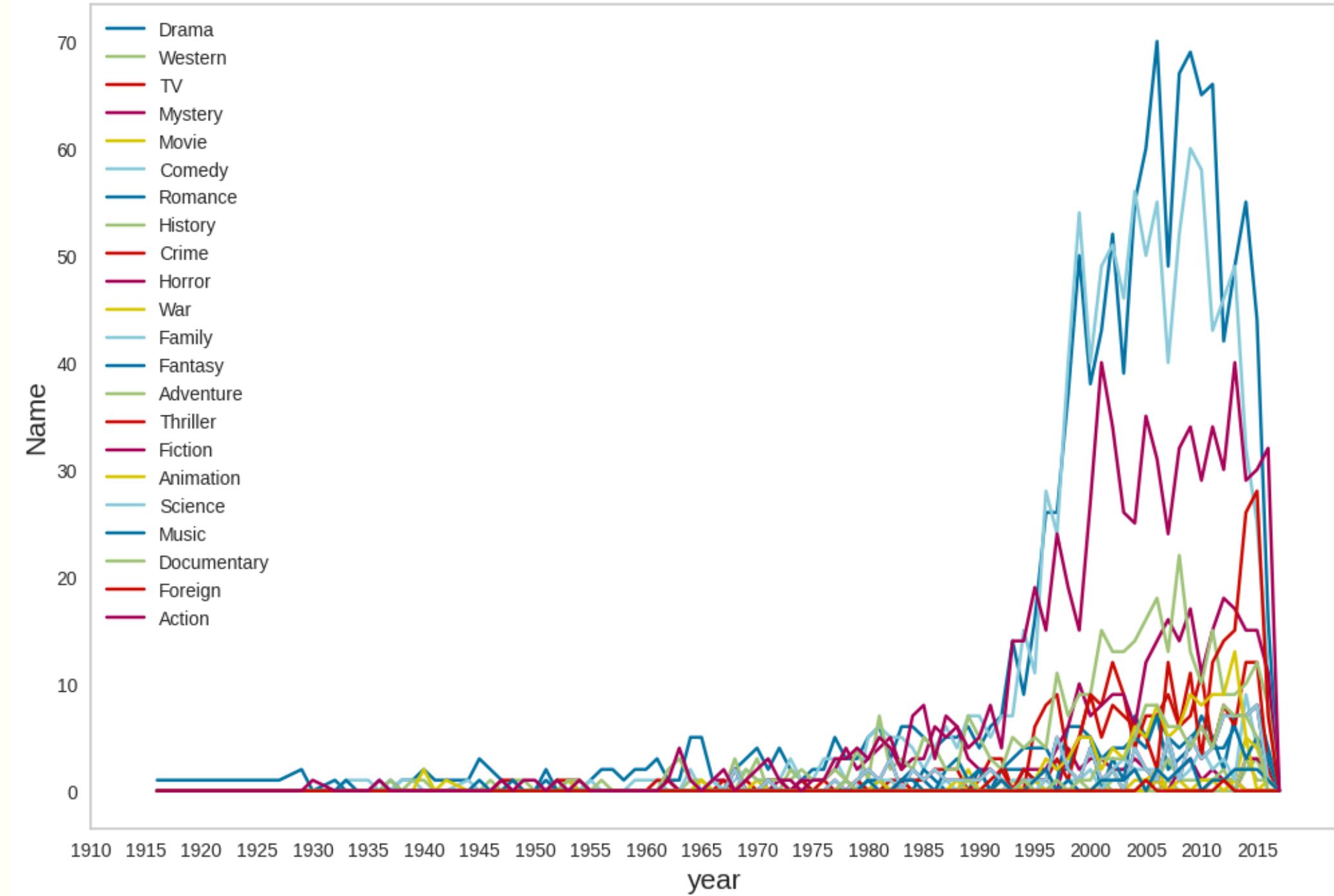
EDA

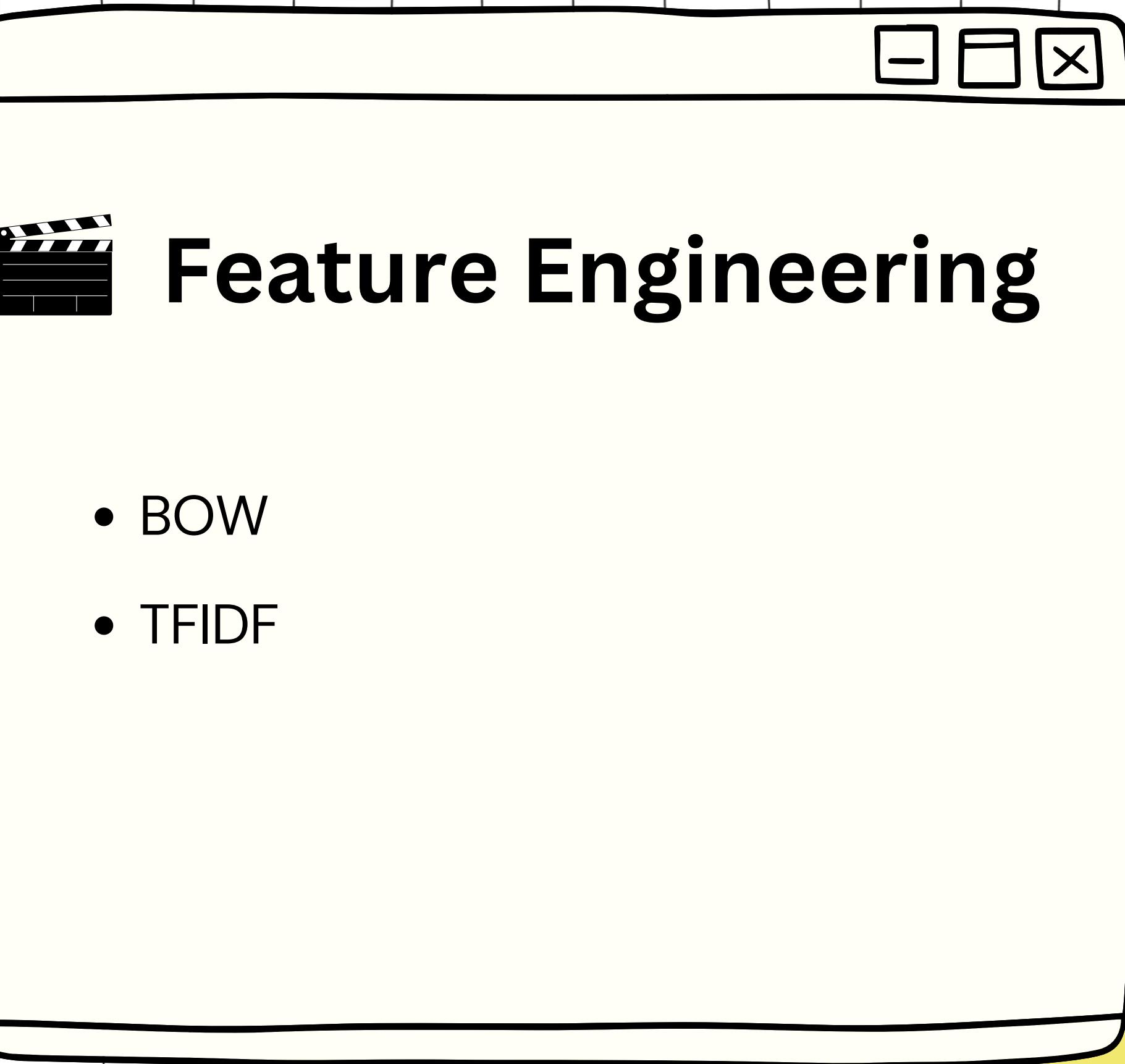
Average profit by film genre



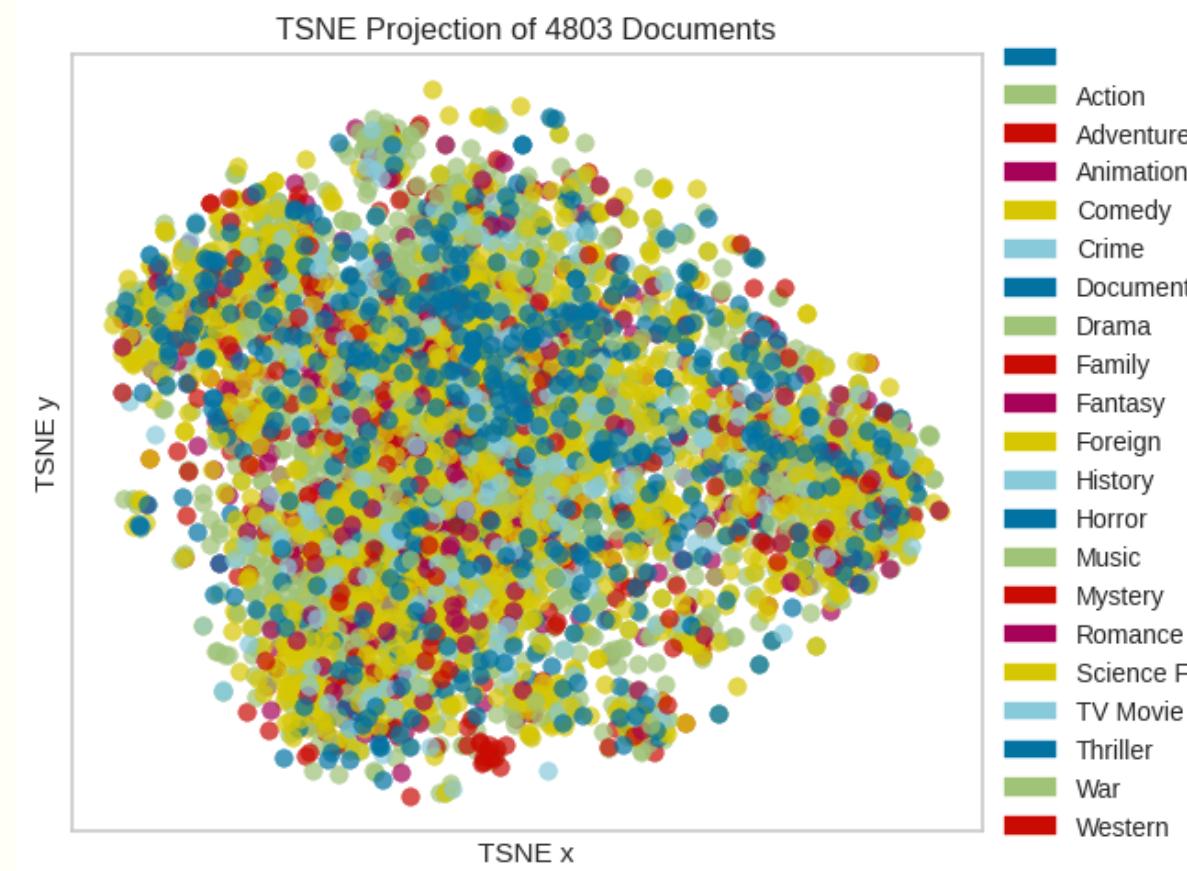
EDA

Trends in film genres over time

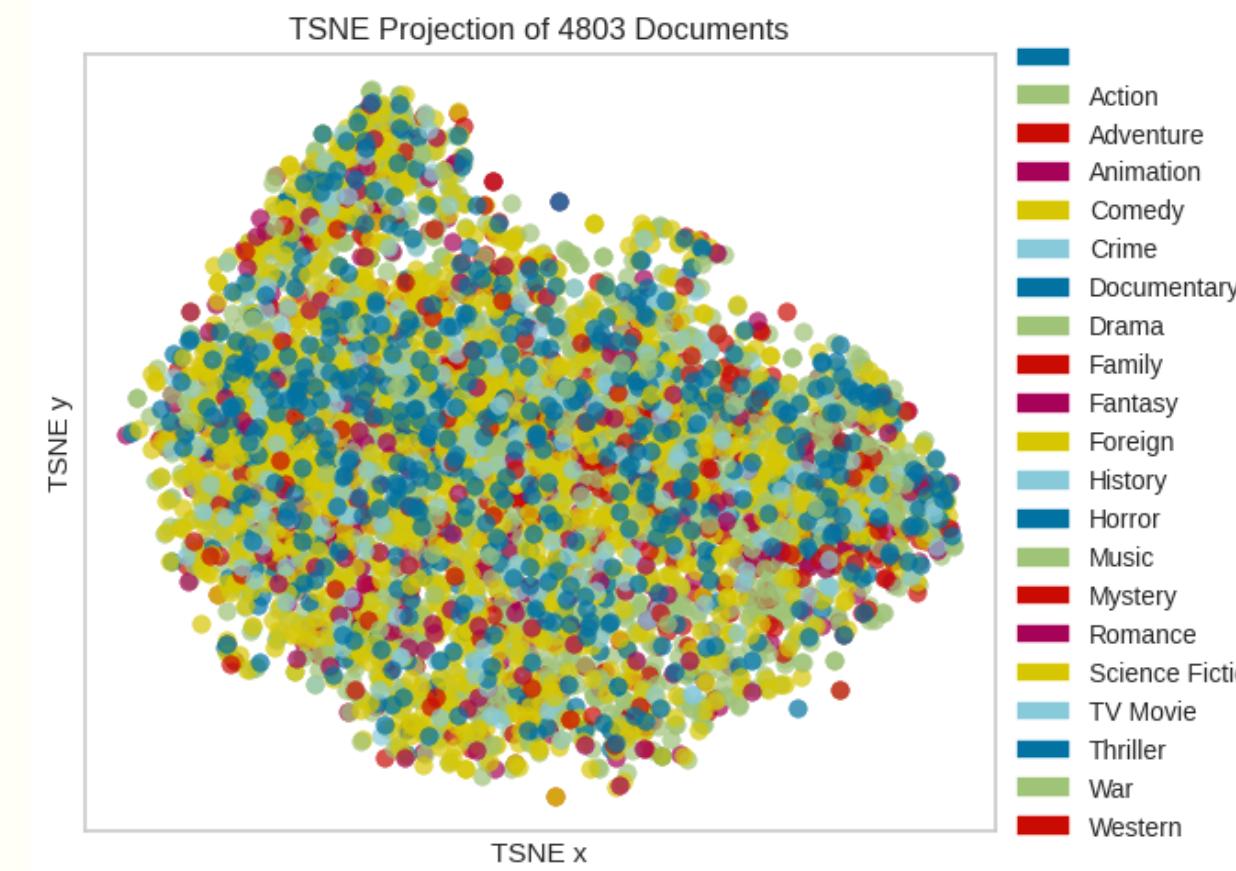


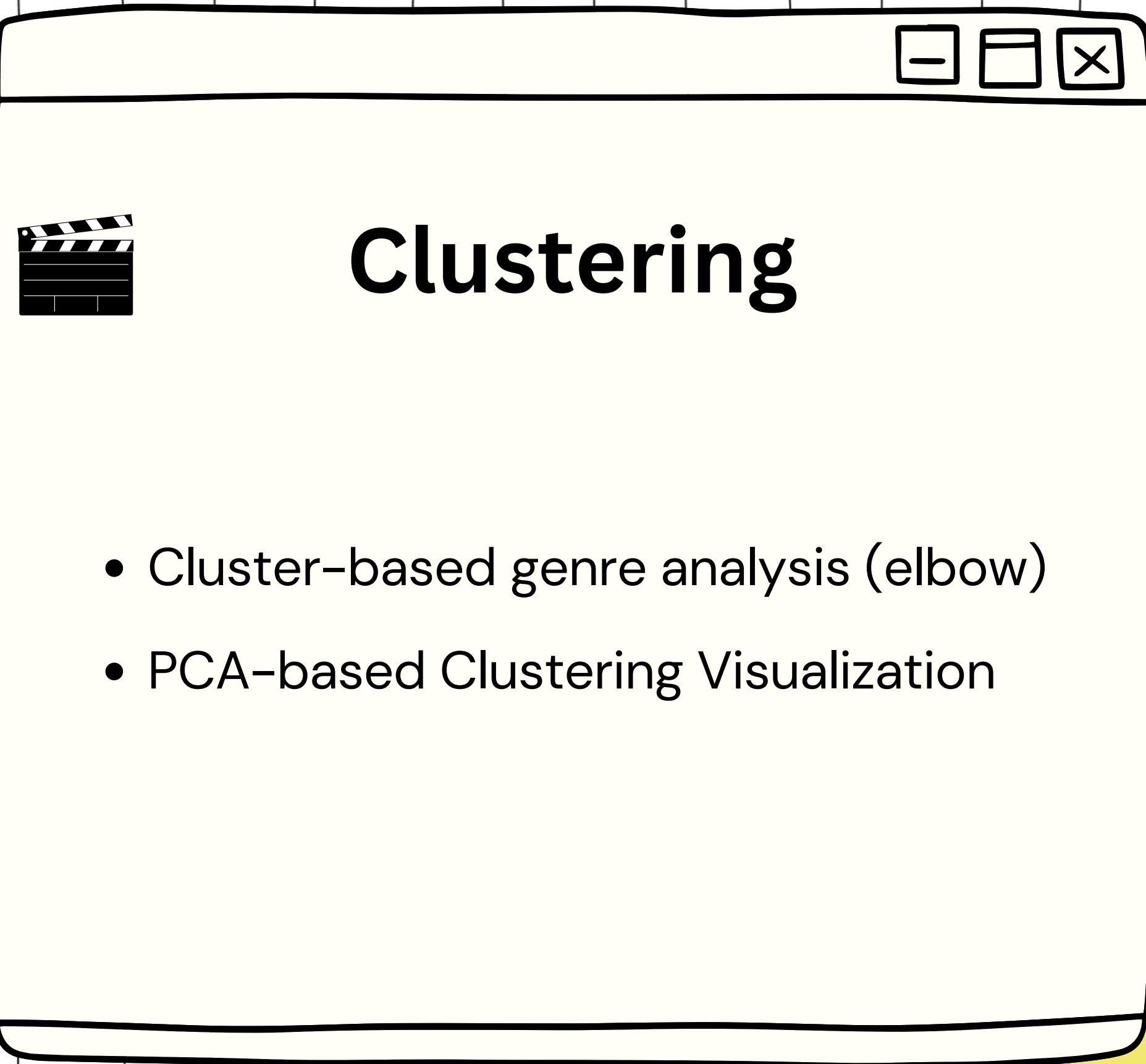


TFIDF



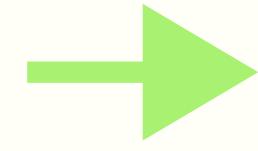
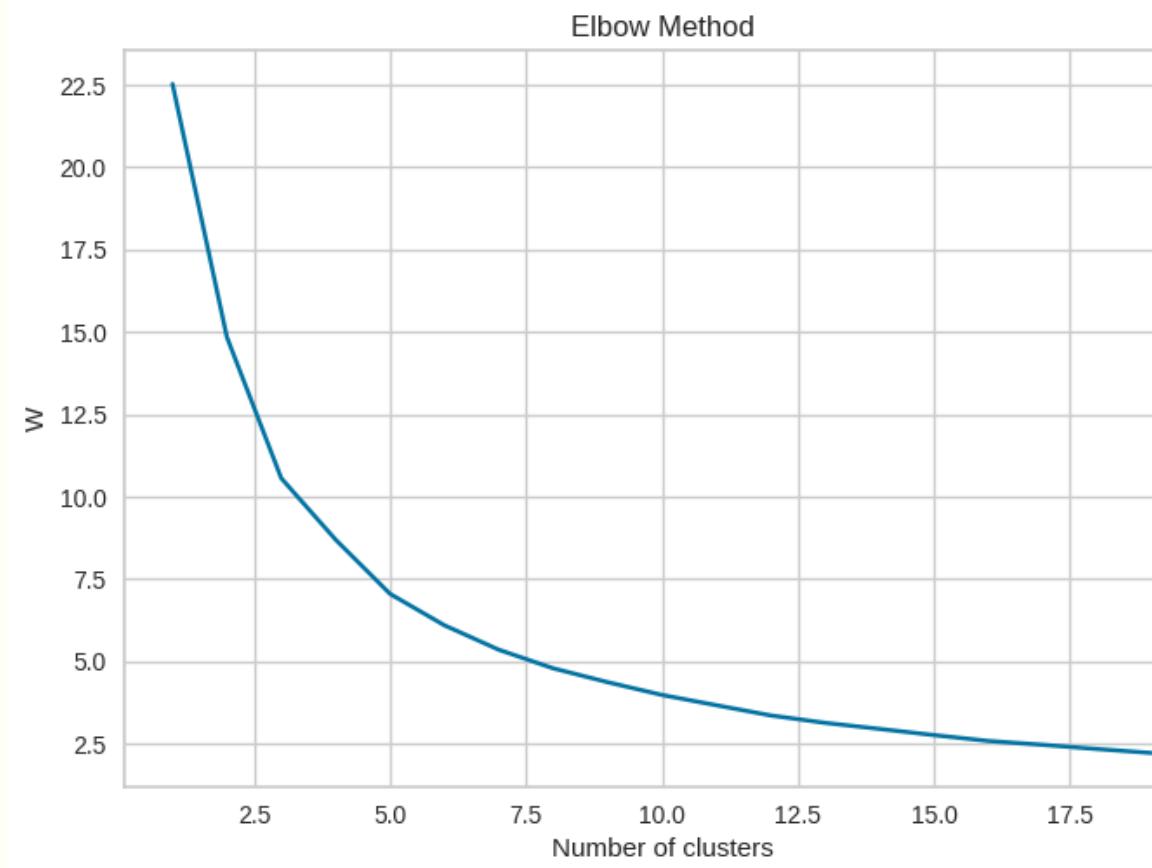
BOW



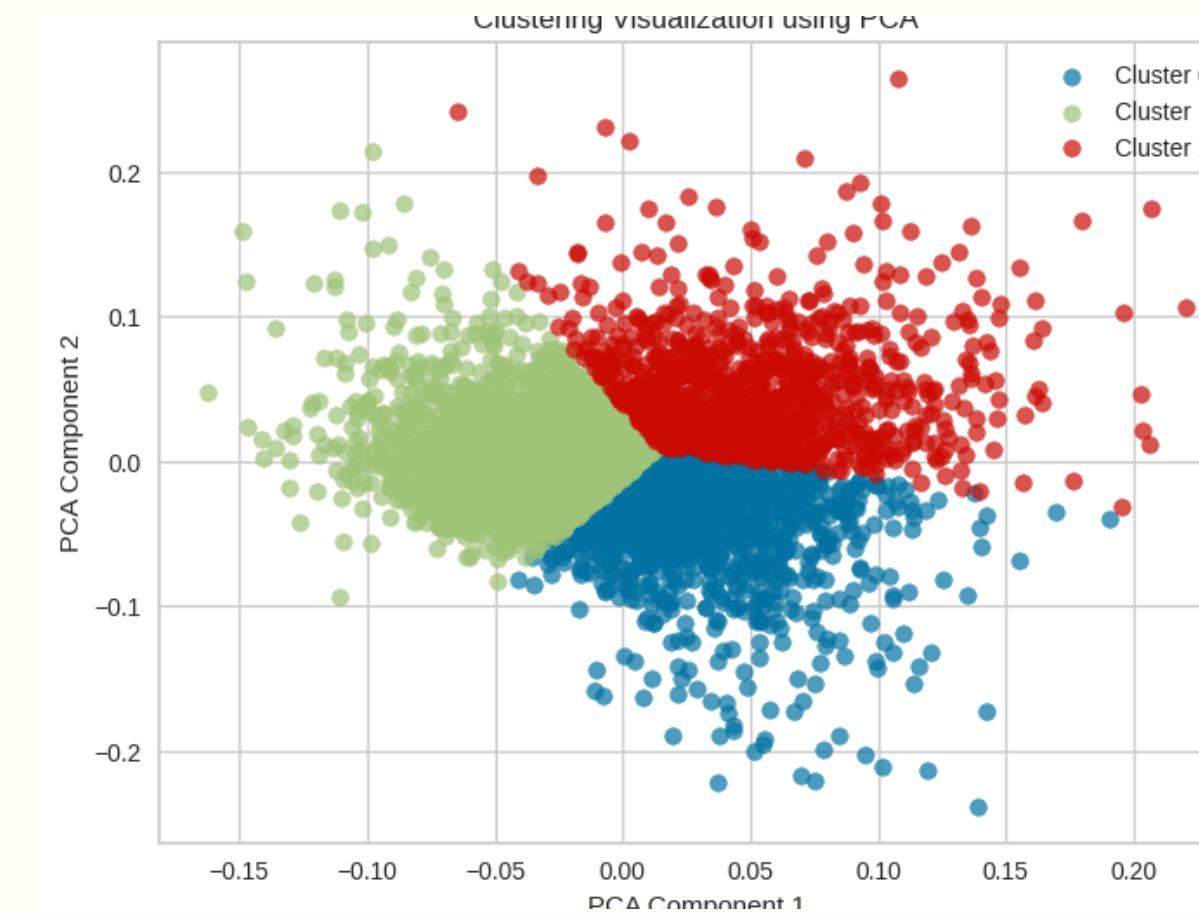


- Cluster-based genre analysis (elbow)
- PCA-based Clustering Visualization

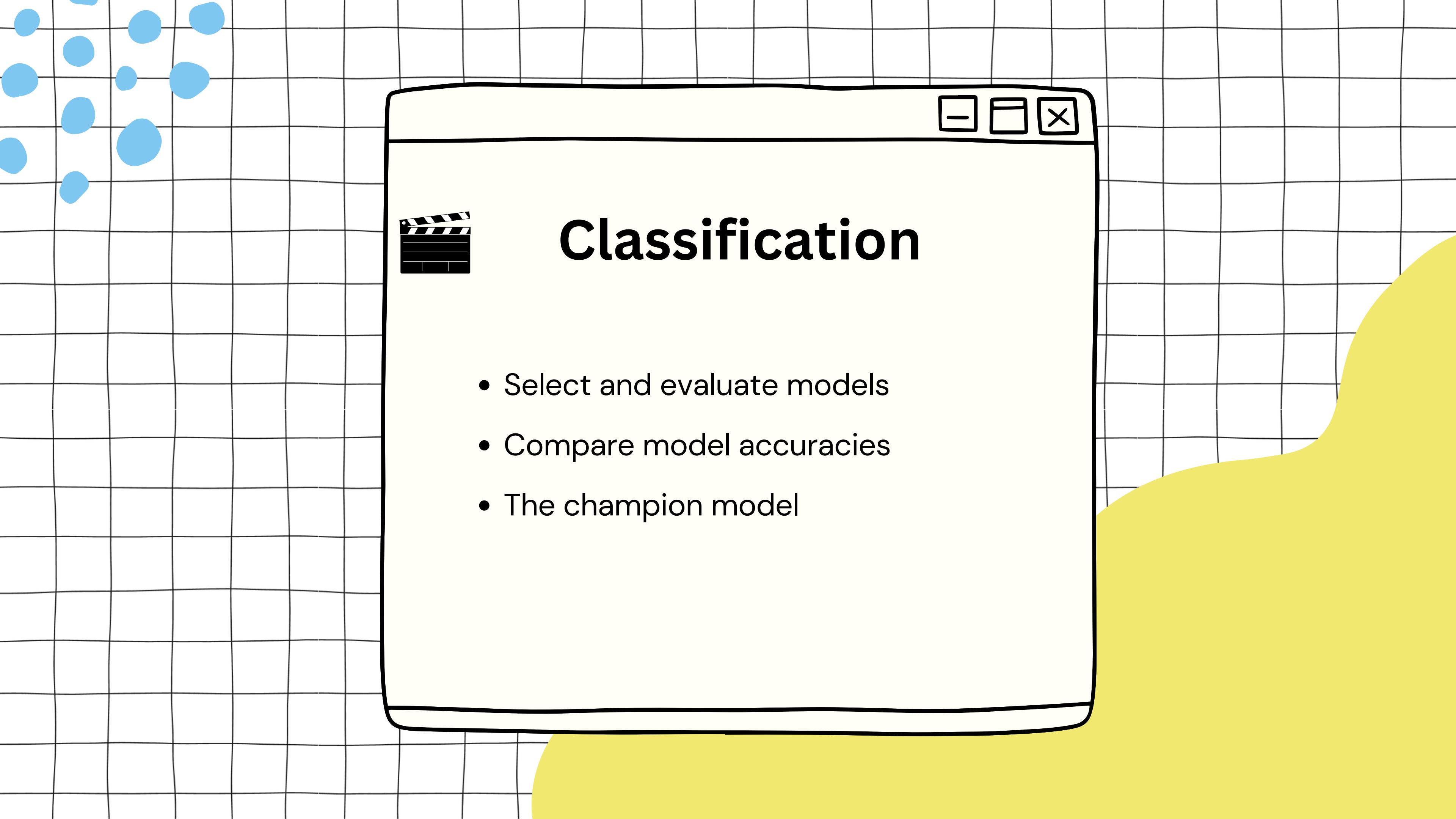
elbow



PCA-based Clustering Visualization



['Action' 'Drama' 'Comedy']

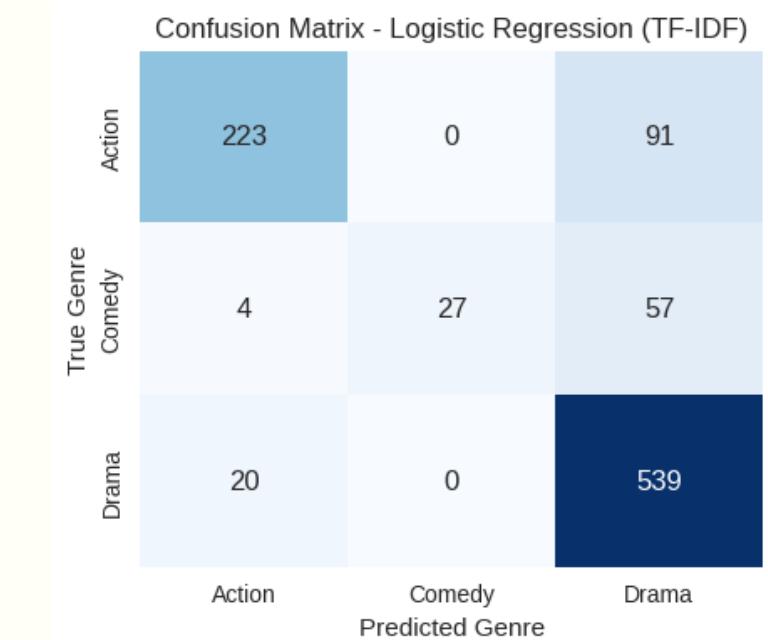
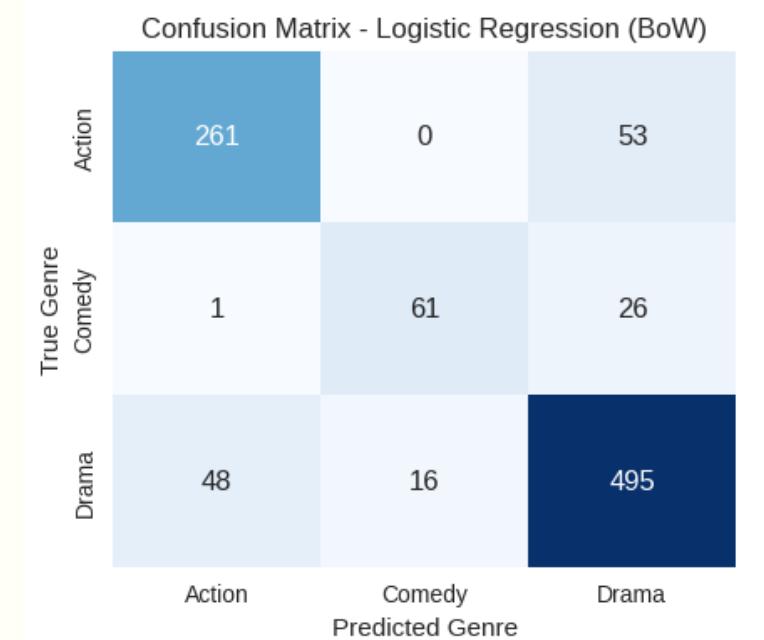


Classification

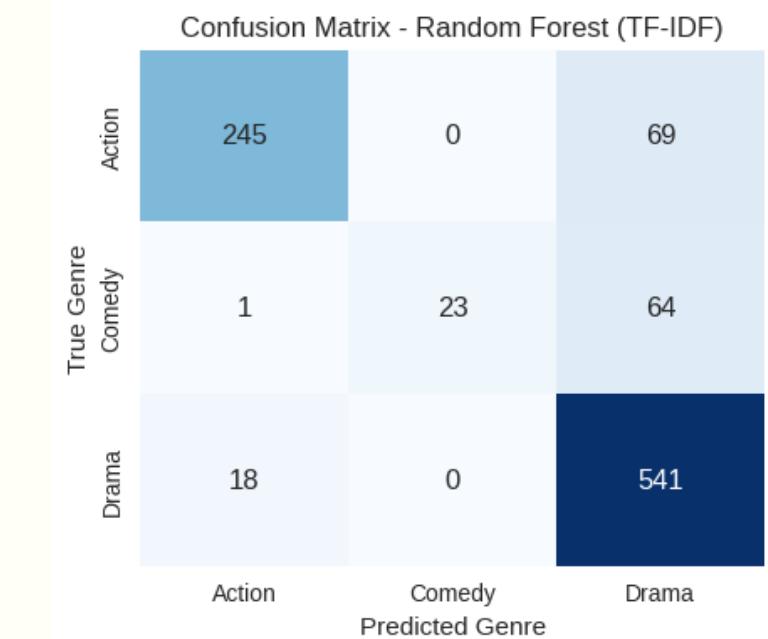
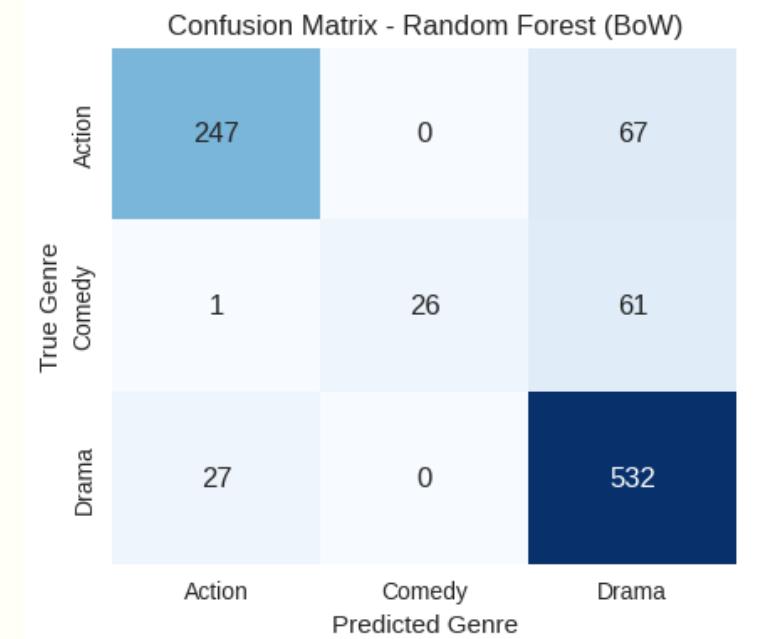
- Select and evaluate models
- Compare model accuracies
- The champion model

Select and evaluate models

**Logistic
Regression**

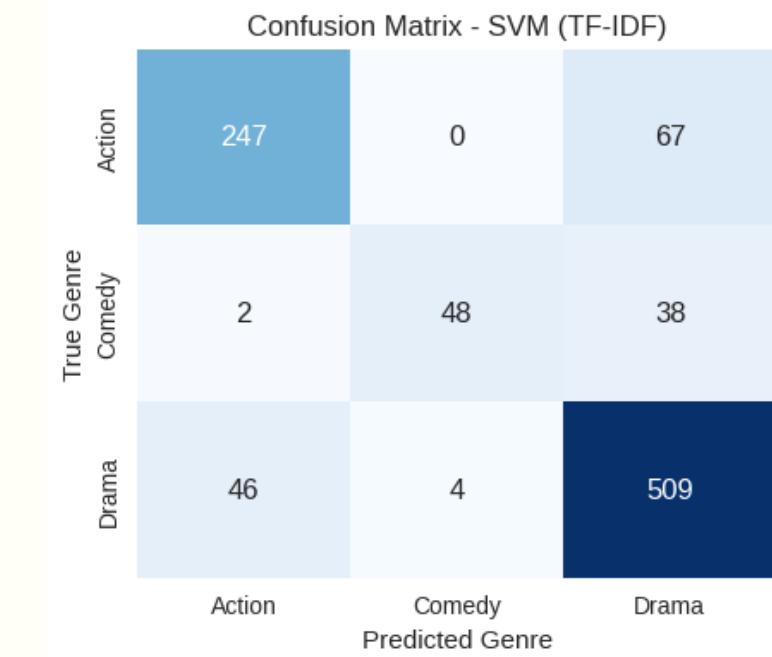
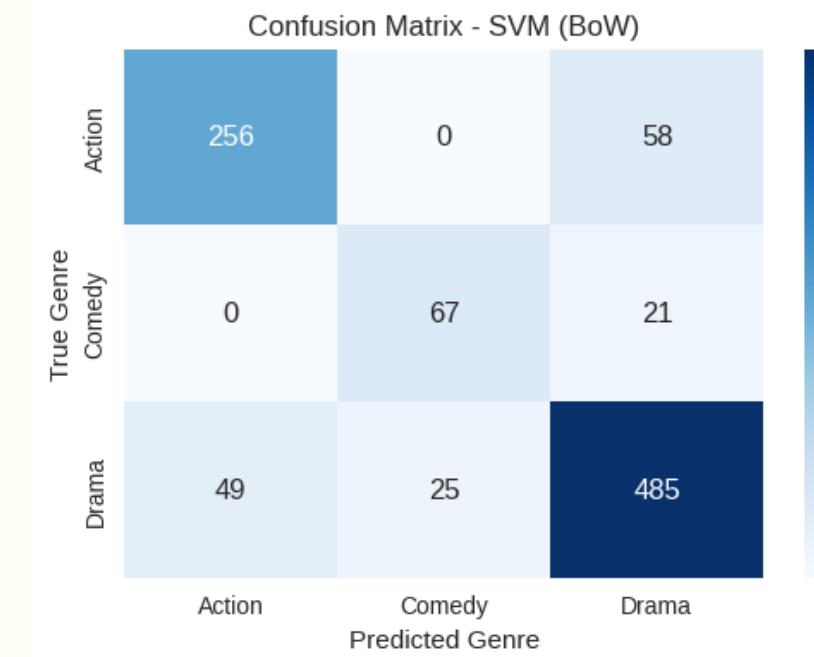


Random Forest

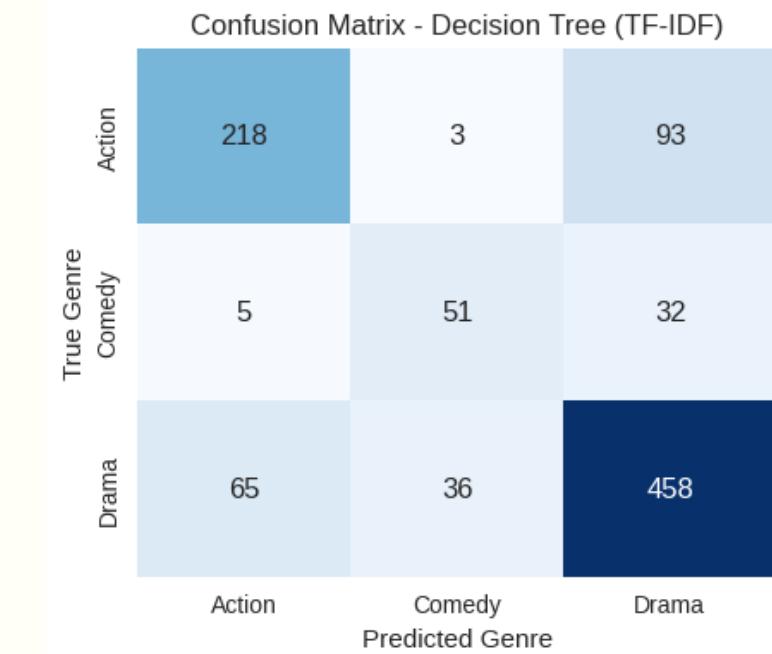
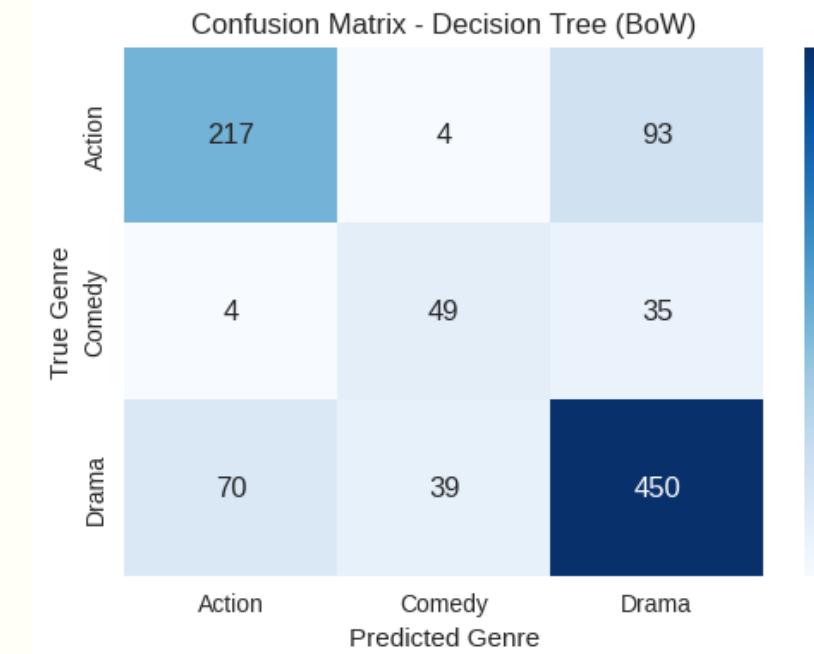


Select and evaluate models

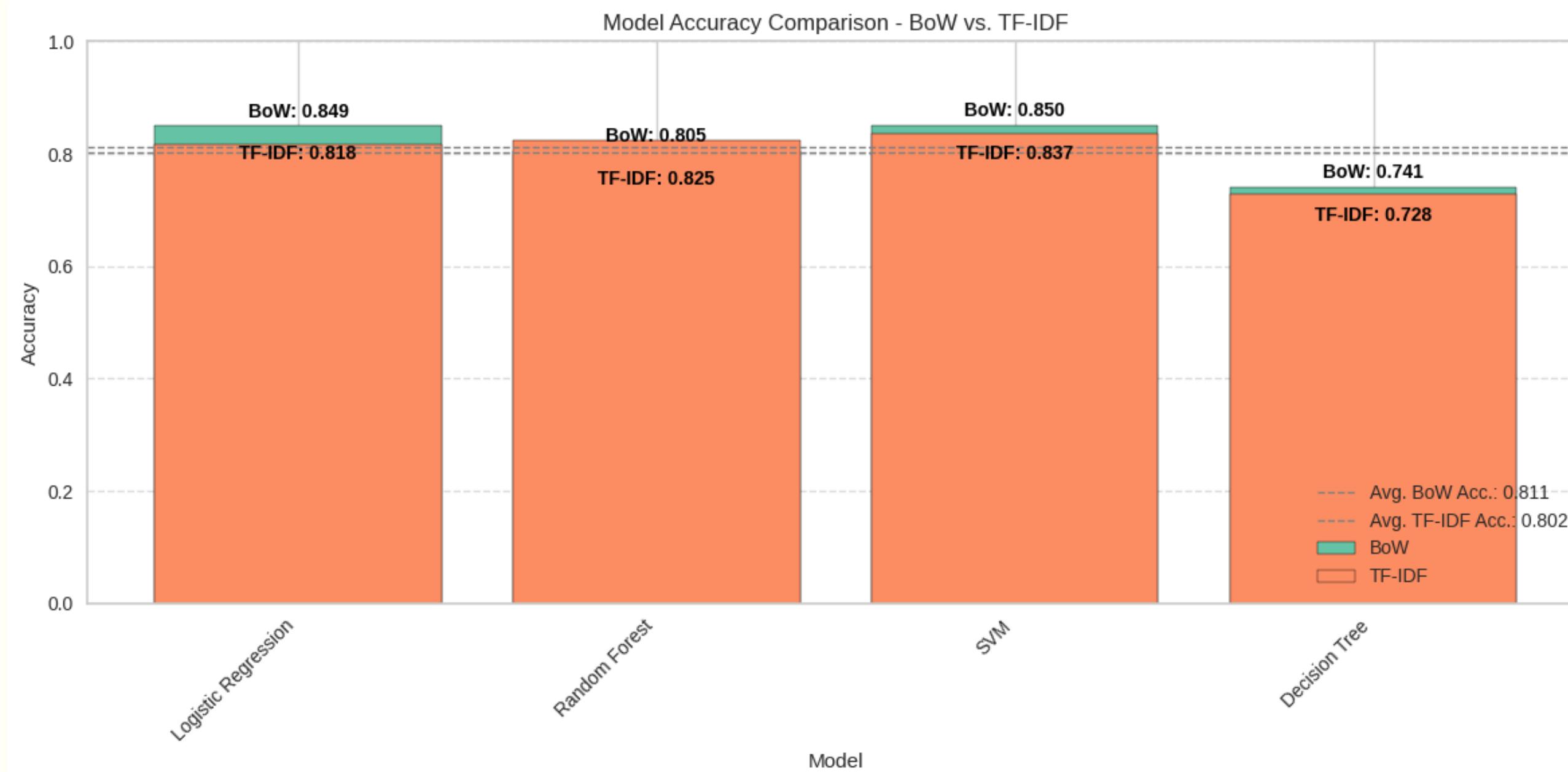
SVM



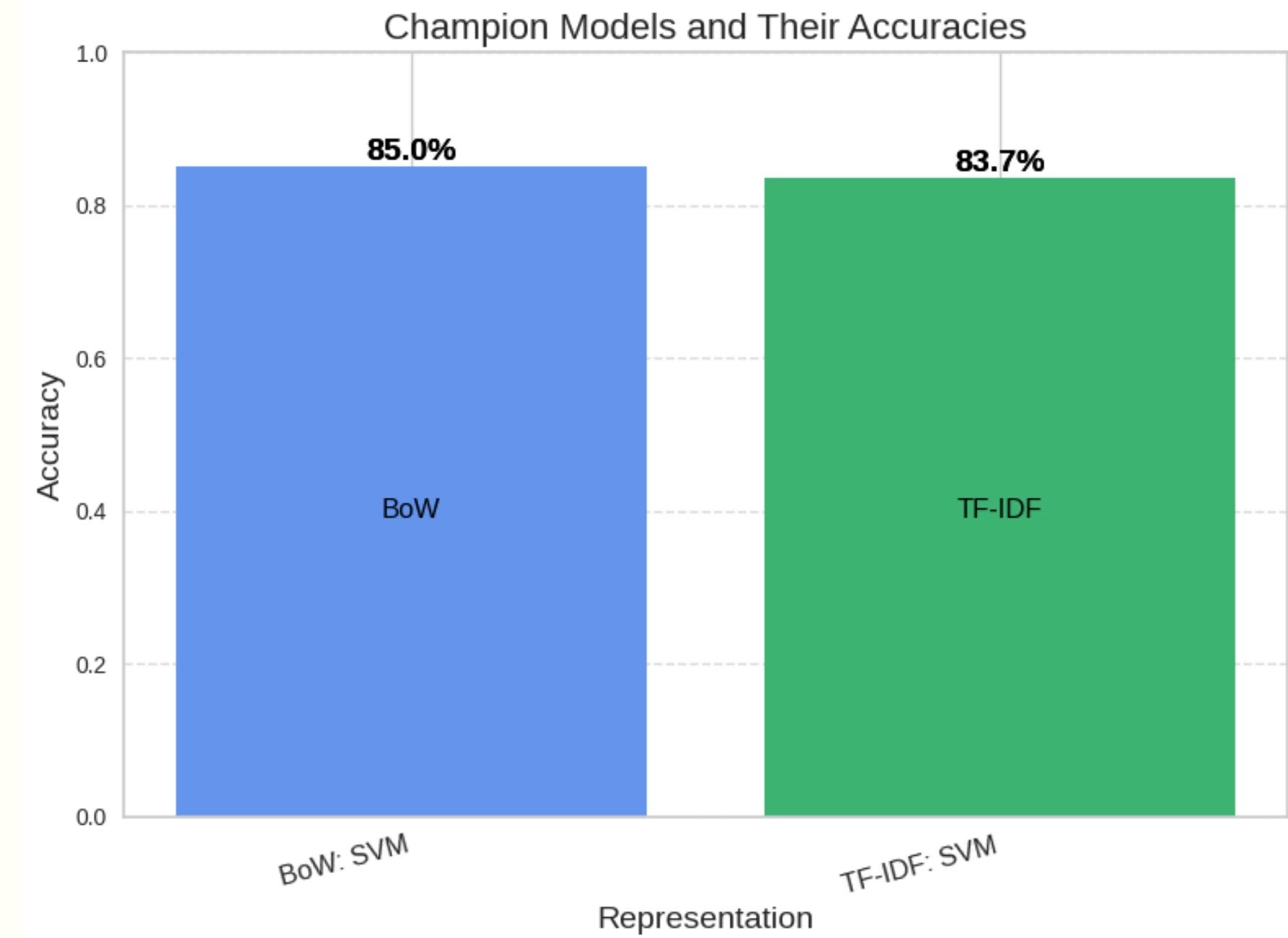
Decision Tree

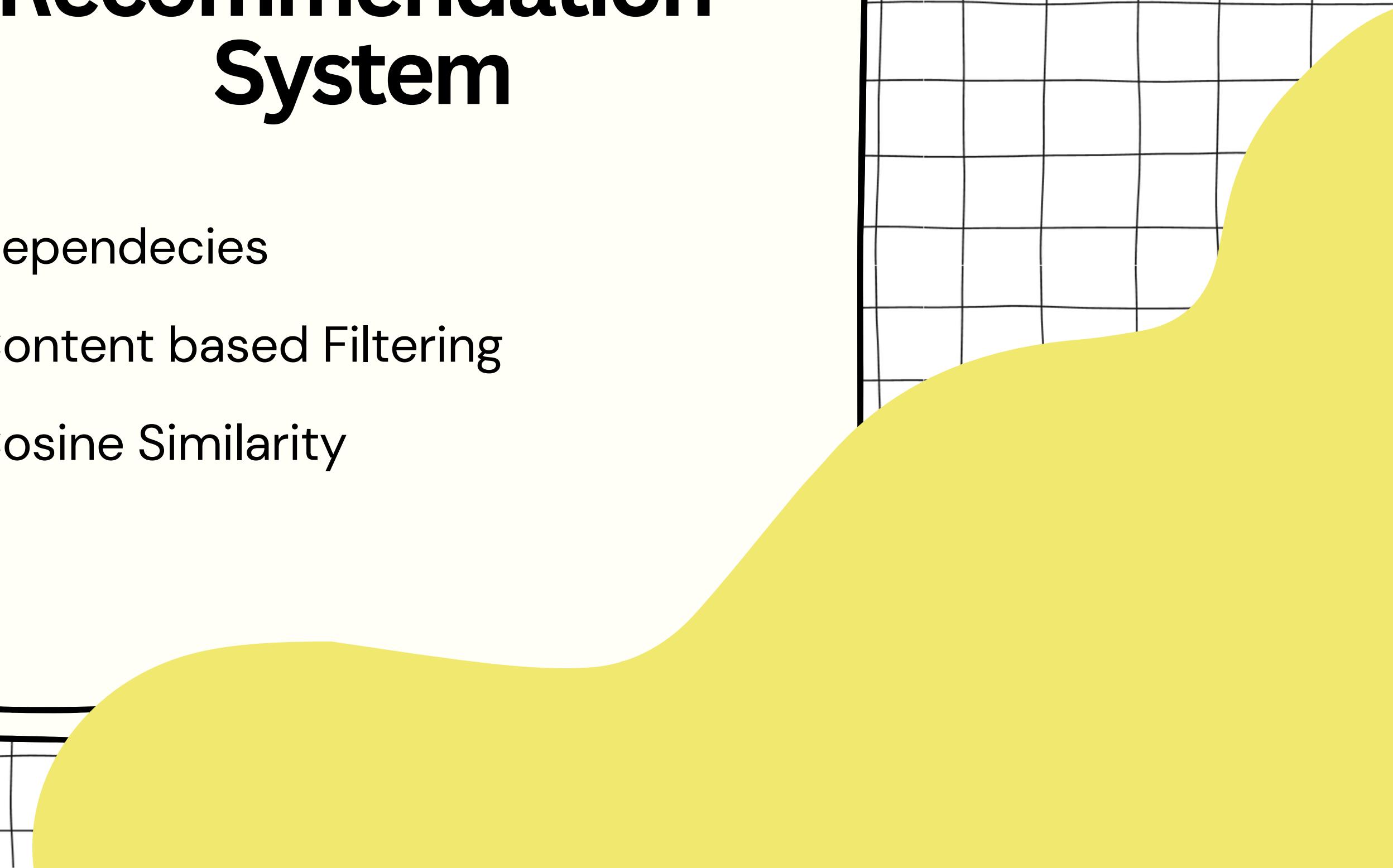
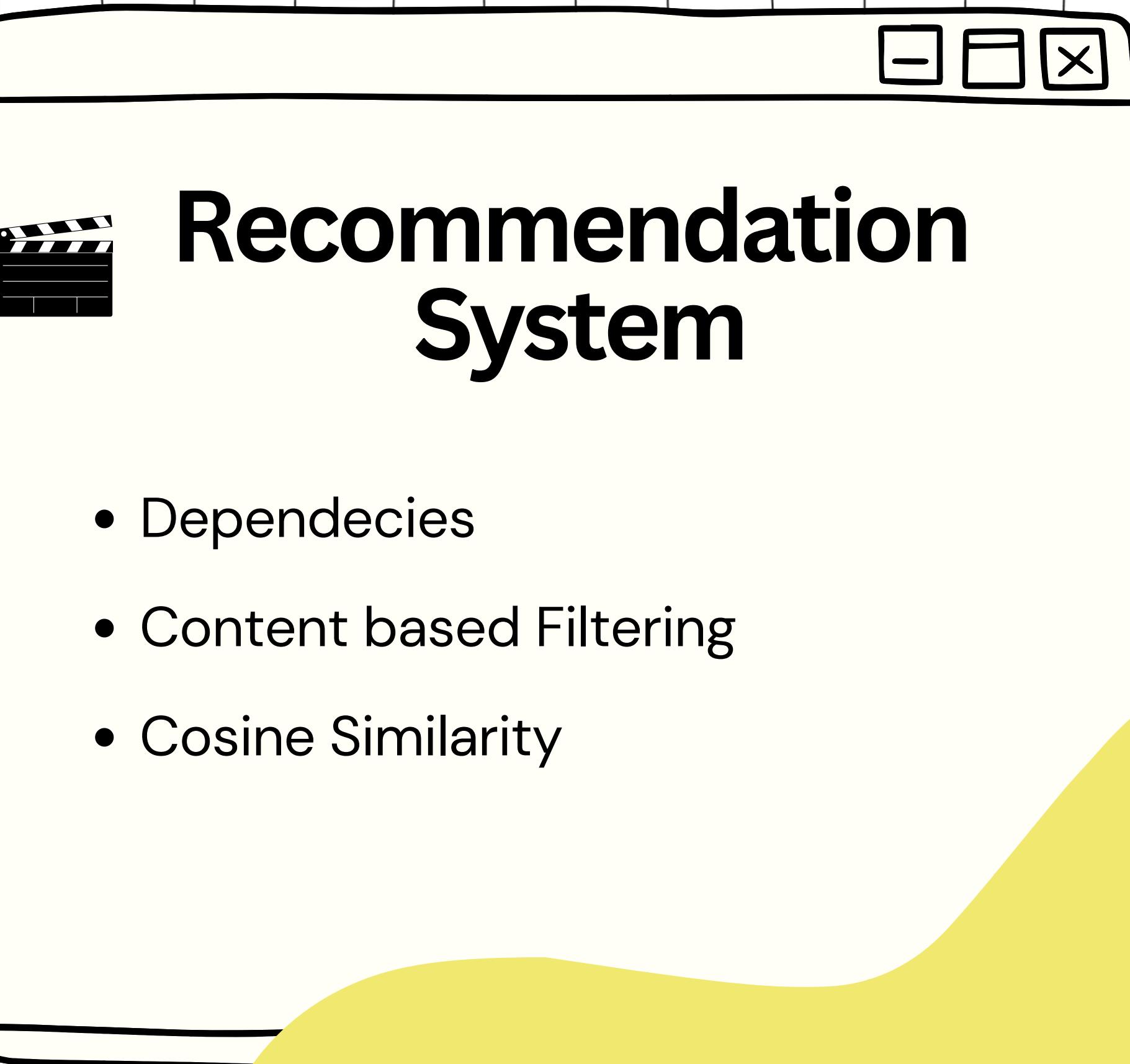


Compare model accuracies



The champion model

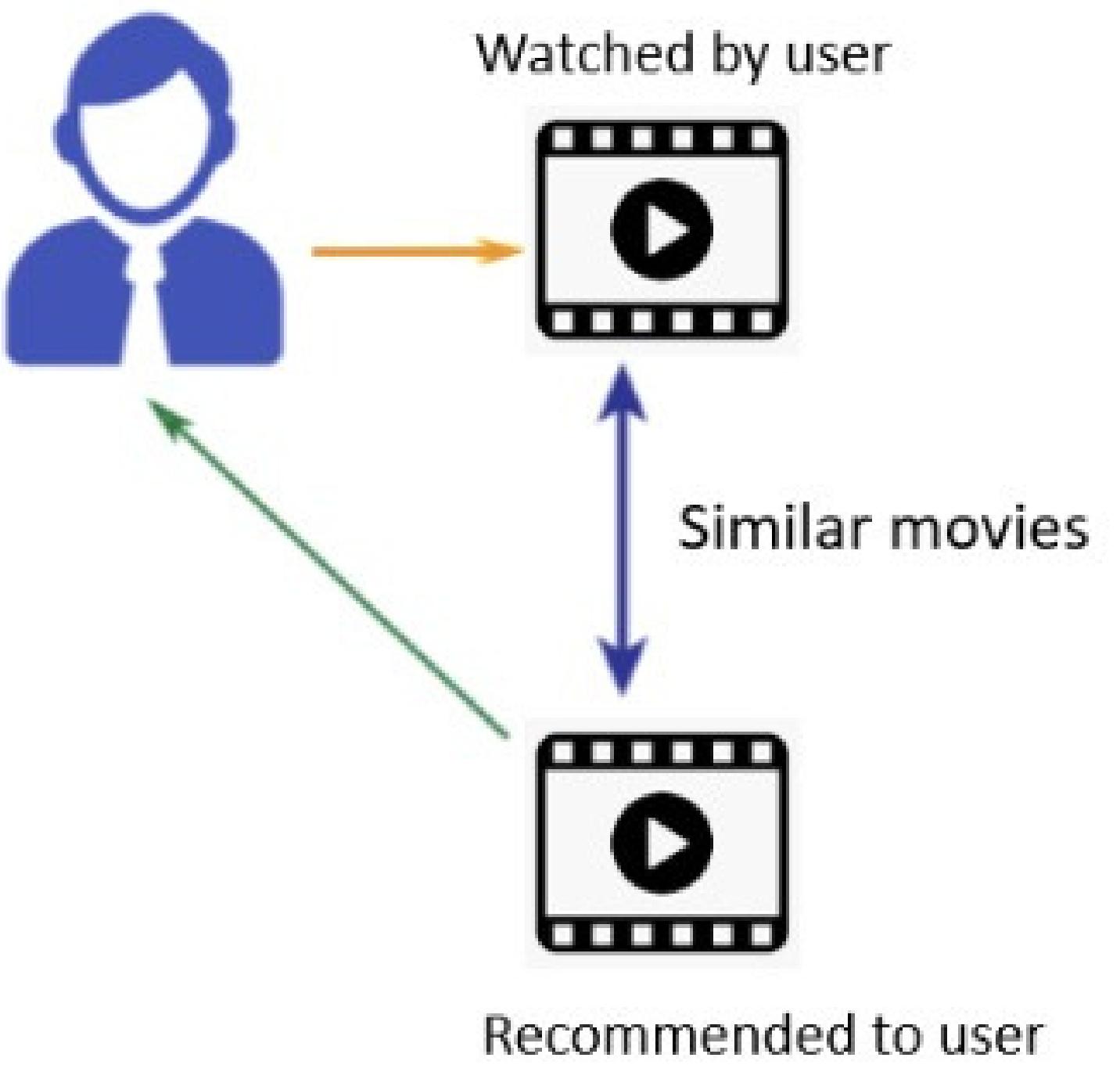




Dependencies



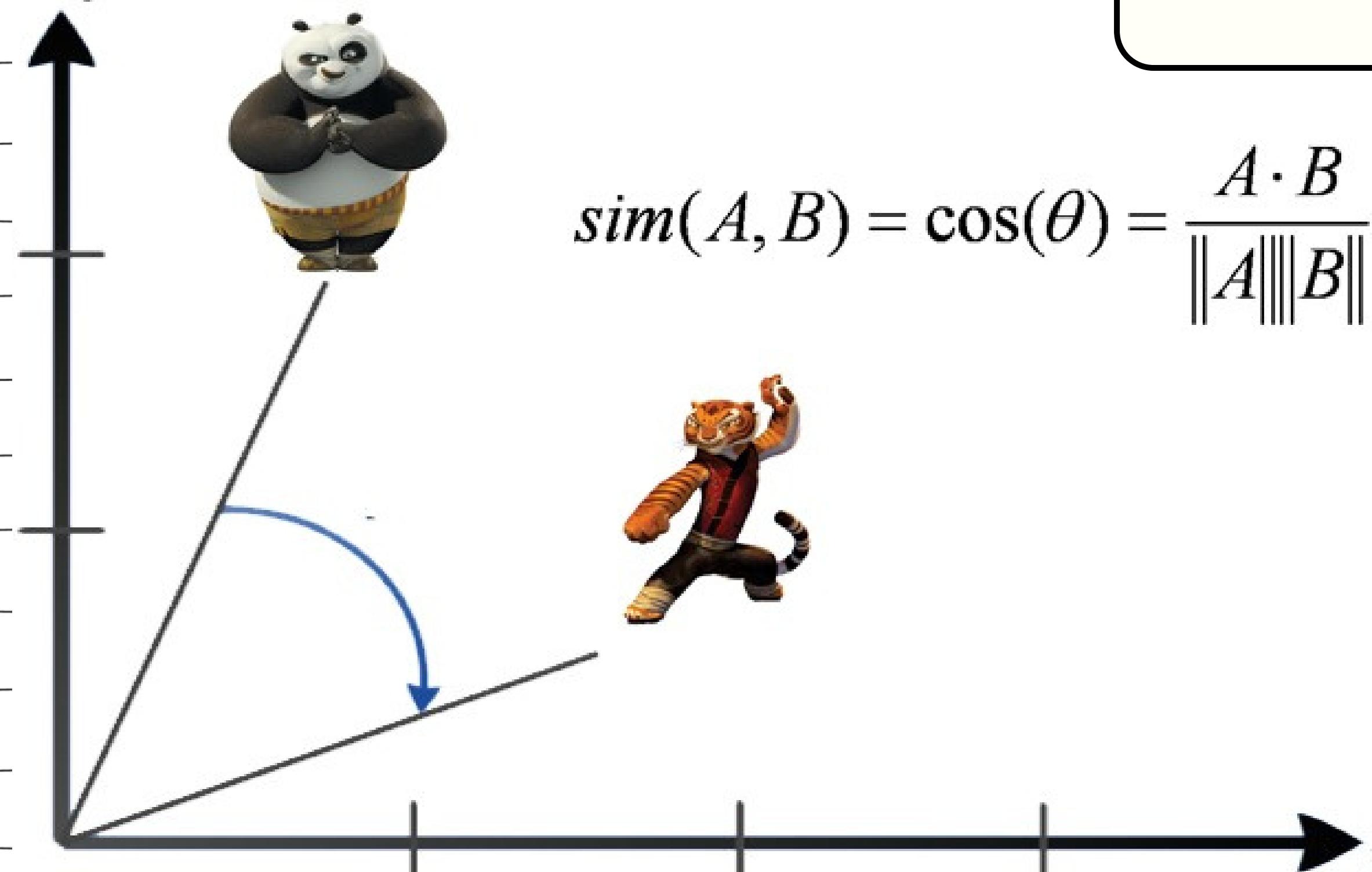
Content-Based Filtering



Cosine Similarity

Cosine Similarity

$$\text{sim}(A, B) = \cos(\theta) = \frac{A \cdot B}{\|A\| \|B\|}$$





Evaluation

USER SAYS
iron man 3

COPY CURL

DEFAULT RESPONSE

1. Iron Man 2 2. Avengers: Age of Ultron 3. The
Avengers 4. Captain America: Civil War 5. Iron
Man 6. Teenage Mutant Ninja Turtles 7. The
Helix... Loaded 8. The Lovers 9. After Earth 10.
Six-String Samurai

INTENT

Movie

ACTION

movie

PARAMETER

VALUE

age

{ "amount": 24, "unit": "ye
ar" }

movie

movie

genre

Action

favmovie

iron man 3

SENTIMENT

Query Score: 0.1

DIAGNOSTIC INFO

Agent

USER SAYS

COPY CURL

Transformers

DEFAULT RESPONSE

1. Transformers: Revenge of the Fallen 2.
Transformers: Age of Extinction 3.
Transformers: Dark of the Moon 4. Teenage
Mutant Ninja Turtles 5. Predator 6. Fantastic
Four 7. The Helix... Loaded 8. The Lovers 9.
After Earth 10. Six-String Samurai

INTENT

Movie

ACTION

movie

PARAMETER

VALUE

genre

Action

favmovie

Transformers

movie

movie

age

{ "unit": "year", "amoun
t": 21 }

SENTIMENT

Query Score: 0.1

DIAGNOSTIC INFO

Agent

USER SAYS

COPY CURL

Cheap Thrills

DEFAULT RESPONSE

1. Me You and Five Bucks 2. Amidst the Devil's
Wings 3. Compliance 4. Dom Hemingway 5.
Perrier's Bounty 6. London to Brighton 7. Madea's
Witness Protection 8. The Cookout 9. Four Lions
10. Baghead

INTENT

Movie

ACTION

movie

PARAMETER

VALUE

movie

movie

genre

Romance

favmovie

Cheap Thrills

age

{ "unit": "year", "amoun
t": 24 }

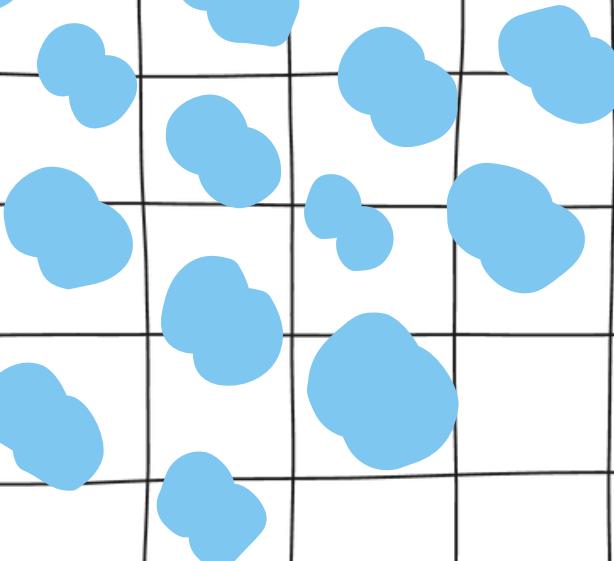
SENTIMENT

Query Score: 0.3

DIAGNOSTIC INFO

Agent	
USER SAYS	COPY CURL
The Image Revolution	
DEFAULT RESPONSE	
1. Sex With Strangers 2. I Want Your Money 3. Top Spin 4. 2016: Obama's America 5. Food Chains 6. The Hadza: Last of the First 7. Mad Hot Ballroom 8. Call + Response 9. Chats perchés 10. Aroused	
INTENT	
Movie	
ACTION	
movie	
PARAMETER	VALUE
favmovie	The Image Revolution
movie	movie
age	{ "amount": 45, "unit": "year" }
genre	documentry
SENTIMENT	
Query Score: 0.3	
DIAGNOSTIC INFO	

Agent	
USER SAYS	COPY CURL
Smiling Fish & Goat On Fire	
DEFAULT RESPONSE	
1. Me You and Five Bucks 2. The Ugly Truth 3. My Big Fat Greek Wedding 2 4. Lage Raho Munna Bhai 5. Beauty Shop 6. Un Plan parfait 7. Say It Isn't So 8. Think Like a Man Too 9. My Boss's Daughter 10. Easy Virtue	
INTENT	
Movie	
ACTION	
movie	
PARAMETER	VALUE
movie	movie
age	{ "unit": "year", "amount": 50 }
genre	comedy
favmovie	Smiling Fish & Goat On Fire
SENTIMENT	
Query Score: 0.4	
DIAGNOSTIC INFO	

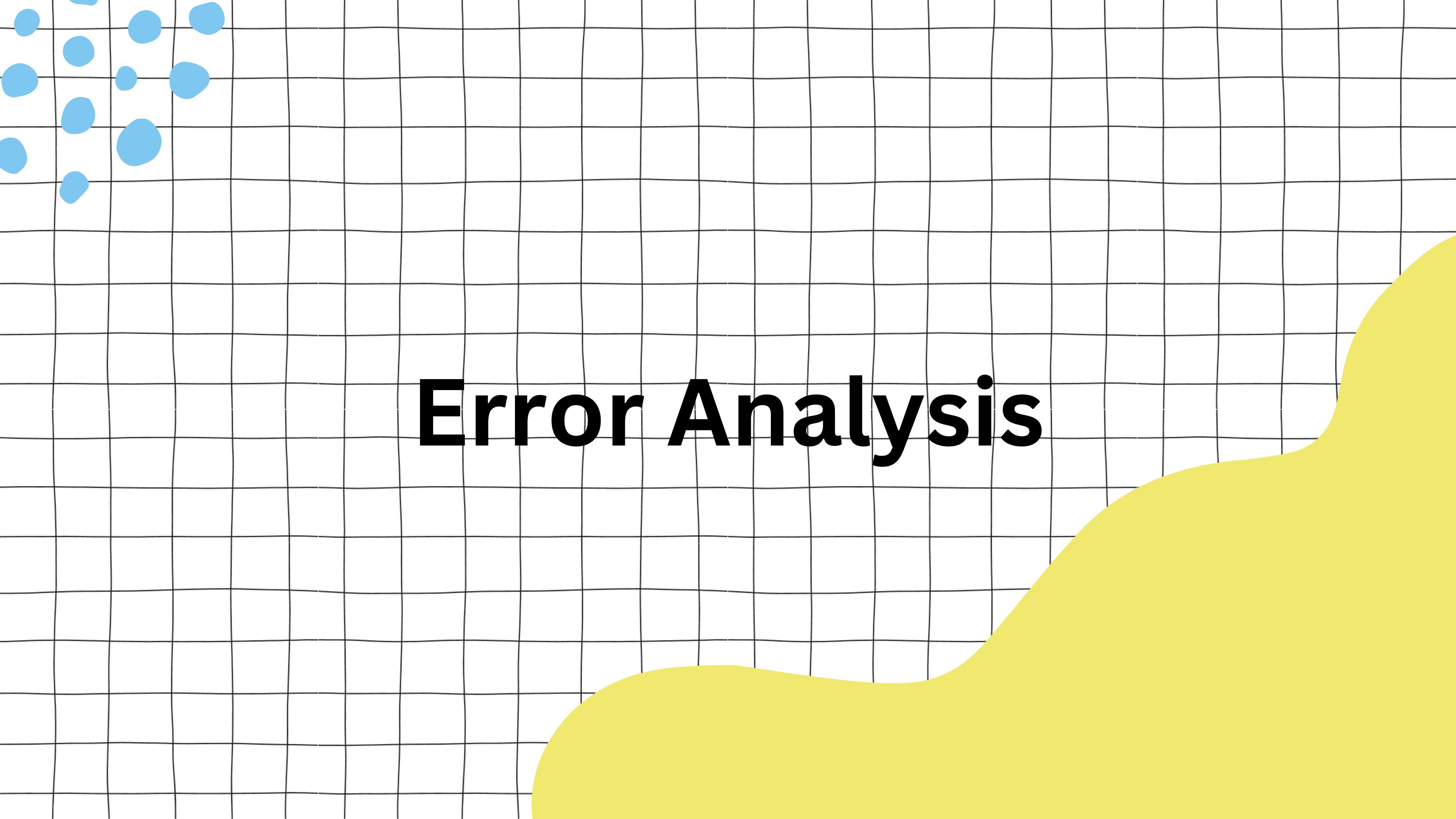


Flask



Flask

Error Analysis





Classification & Clustering

Logistic Regression Accuracy: 50.3%

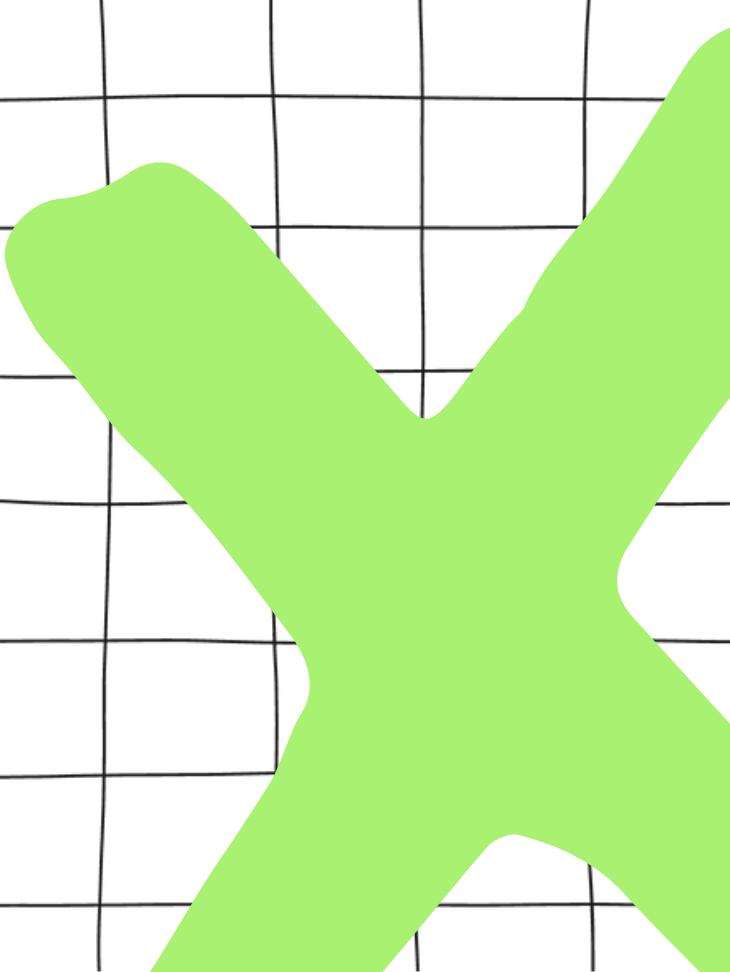
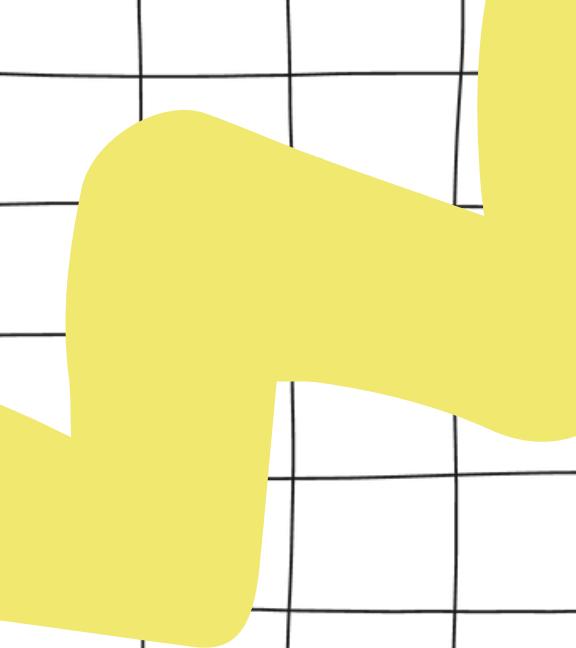
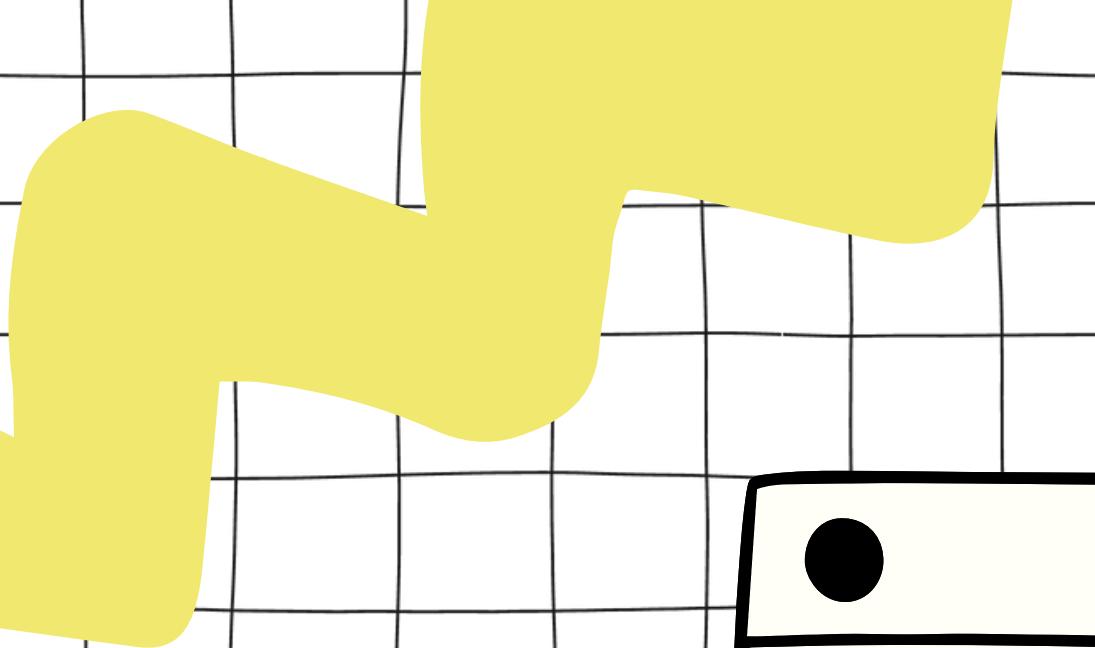
Classification Report - Logistic Regression (TF-IDF):

	precision	recall	f1-score	support
Action	0.56	0.76	0.64	259
Adventure	1.00	0.02	0.03	58
Animation	0.00	0.00	0.00	22
Comedy	0.47	0.75	0.58	234
Crime	1.00	0.01	0.03	67
Documentary	0.00	0.00	0.00	20
Drama	0.47	0.51	0.49	212
Family	0.00	0.00	0.00	2
...				
accuracy			0.50	961
macro avg	0.26	0.12	0.11	961
weighted avg	0.55	0.50	0.43	961

Decision Tree Accuracy: 37.4%

Classification Report - Decision Tree (TF-IDF):

	precision	recall	f1-score	support
Action	0.46	0.52	0.48	259
Adventure	0.16	0.12	0.14	58
Animation	0.09	0.05	0.06	22
Comedy	0.38	0.46	0.42	234
Crime	0.24	0.18	0.21	67
Documentary	0.33	0.30	0.32	20
Drama	0.37	0.39	0.38	212
Family	0.00	0.00	0.00	2
Fantasy	0.00	0.00	0.00	5
Foreign	0.00	0.00	0.00	0
...				
accuracy				961
macro avg	0.13	0.12	0.12	961
weighted avg	0.35	0.37	0.36	961



Thank you

