APPLE TV+
Movie Recommendations!

kevin gross

THE STAGE HAS BEEN SET
agenda

1. Business Problem
2. Business Understanding
3. Data & Modeling
4. Results & Recommendations
5. Next Steps

BUSINESS PROBLEM

Stakeholder: Apple TV+

Business Problem: Increase market share in streaming industry by attracting more subscribers

Increase movies
Add additional movies to library

Recommend movies
Target the right user with the right movie

Strategic and organized using data

BUSINESS UNDERSTANDING

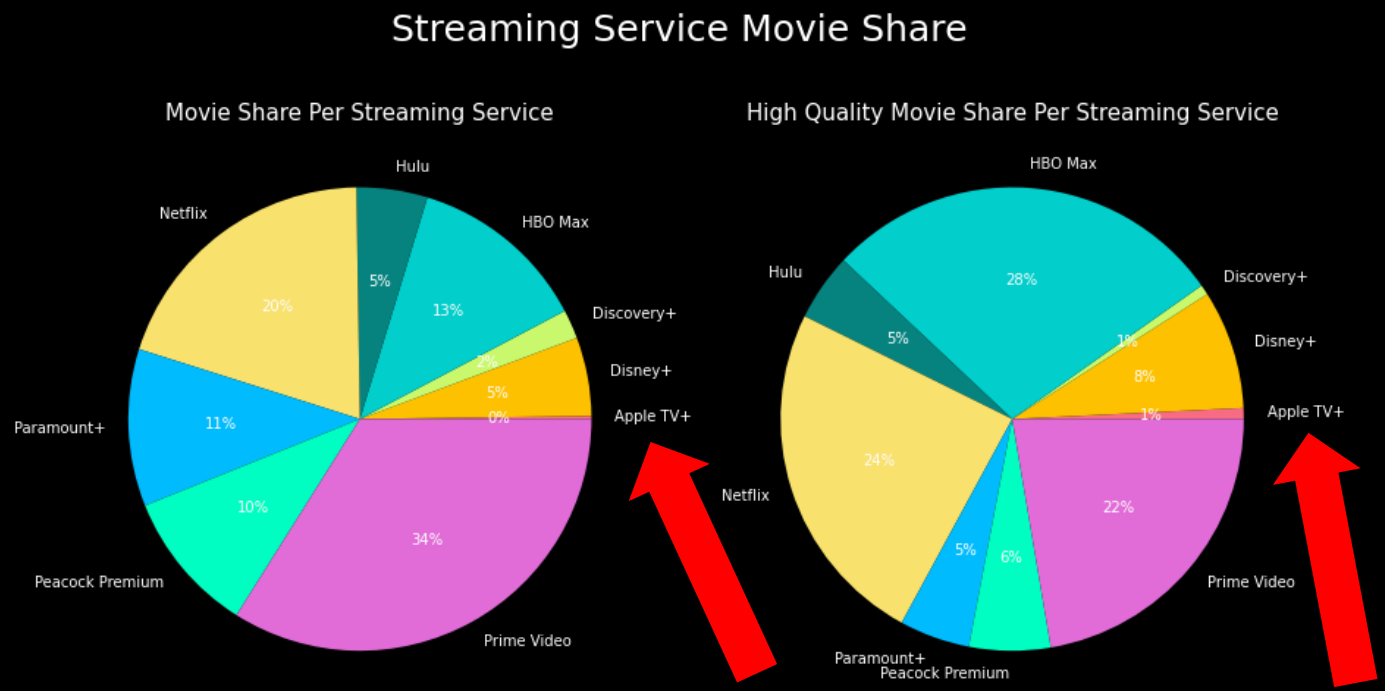
Apple TV+ has significantly less movies than its competitors

44 Total movies available

Various genres

14 “High quality” movies

Rated 7.5+ on IMDb with 300+ votes



“Consumers want access to a broad content mix, including original series, and a **SUBSTANTIAL LIBRARY OF MOVIES** and popular TV series.”

—MICHELLE WROAN, KPMG SURVEY

Data

Wikipedia Movie Plots (Kaggle)

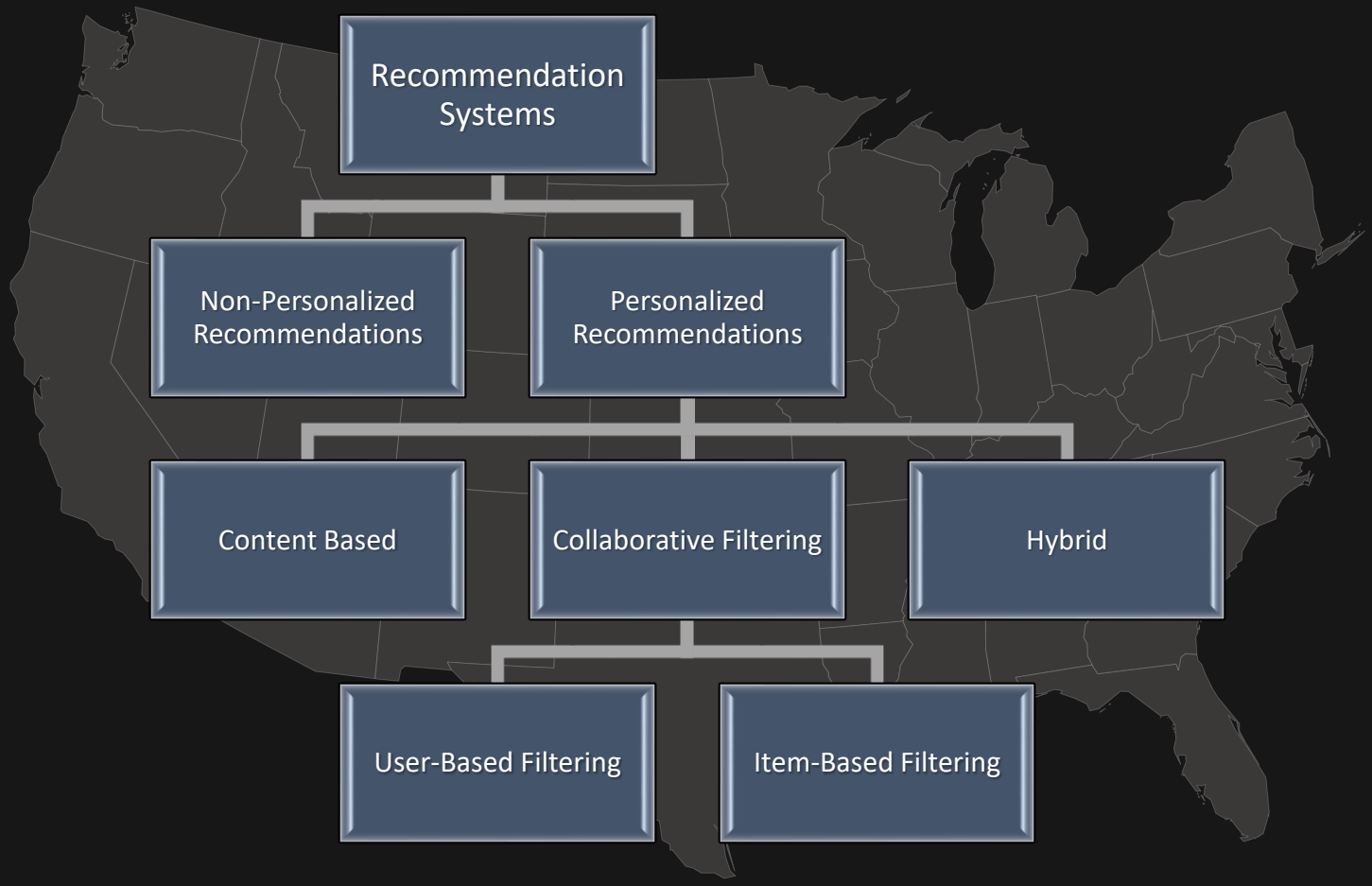
Plot descriptions for ~35,000 movies

IMDb Dataset (Kaggle)

Ratings for ~1.2M movies

MovieLens Dataset (Grouplens)

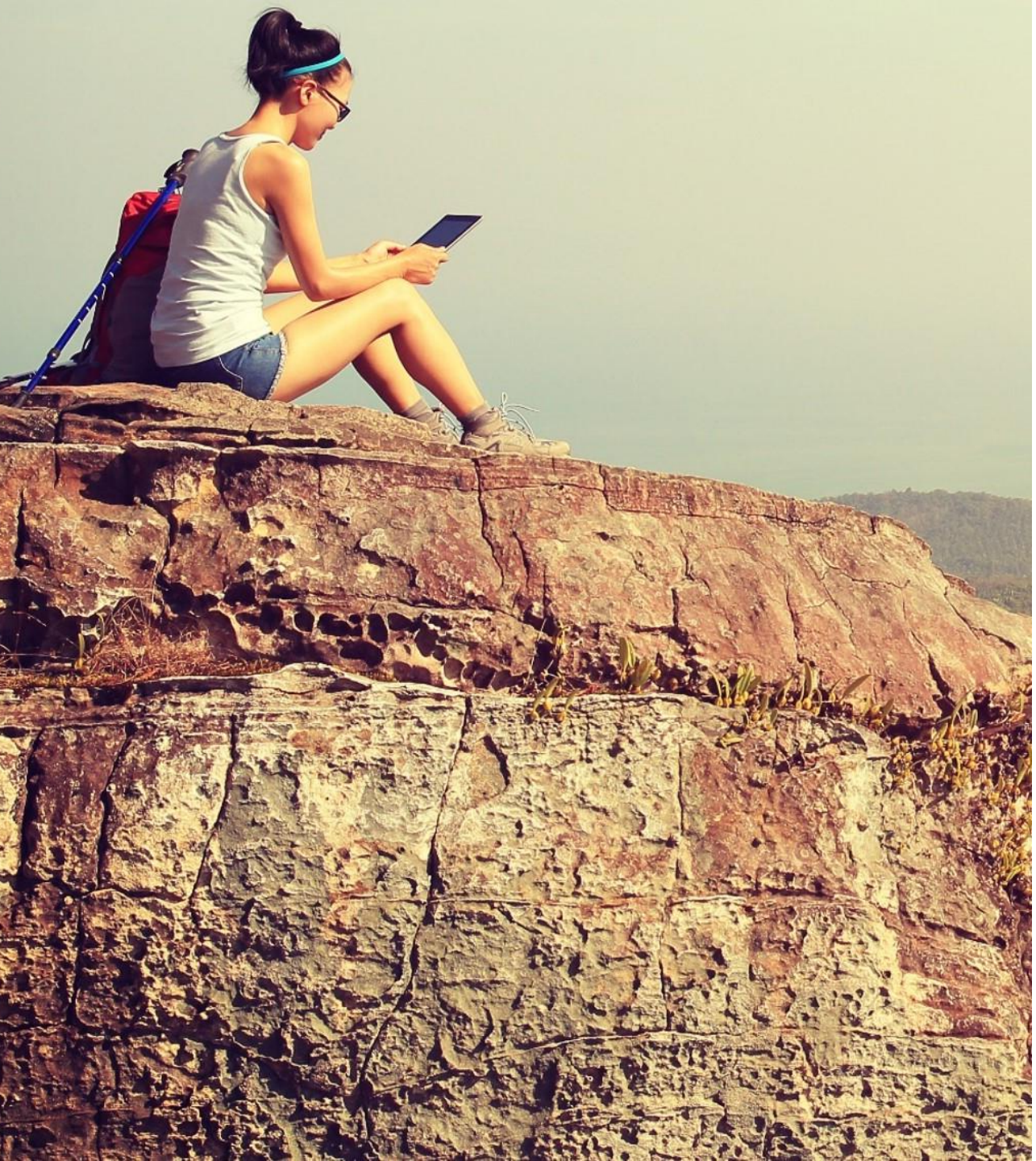
100,000 ratings applied to 9,000 movies by 600 users



CONTENT BASED FILTERING

PLOT BASED MODEL

Titles Similar to 'Toy Story's' Plot
Toy Story 2
Destination Meatball
Toy Story 3
Puny Express
Nebraska
LUV
The Barber of Seville
Girl from Havana
Mr. B Natural
It's a Boy Girl Thing



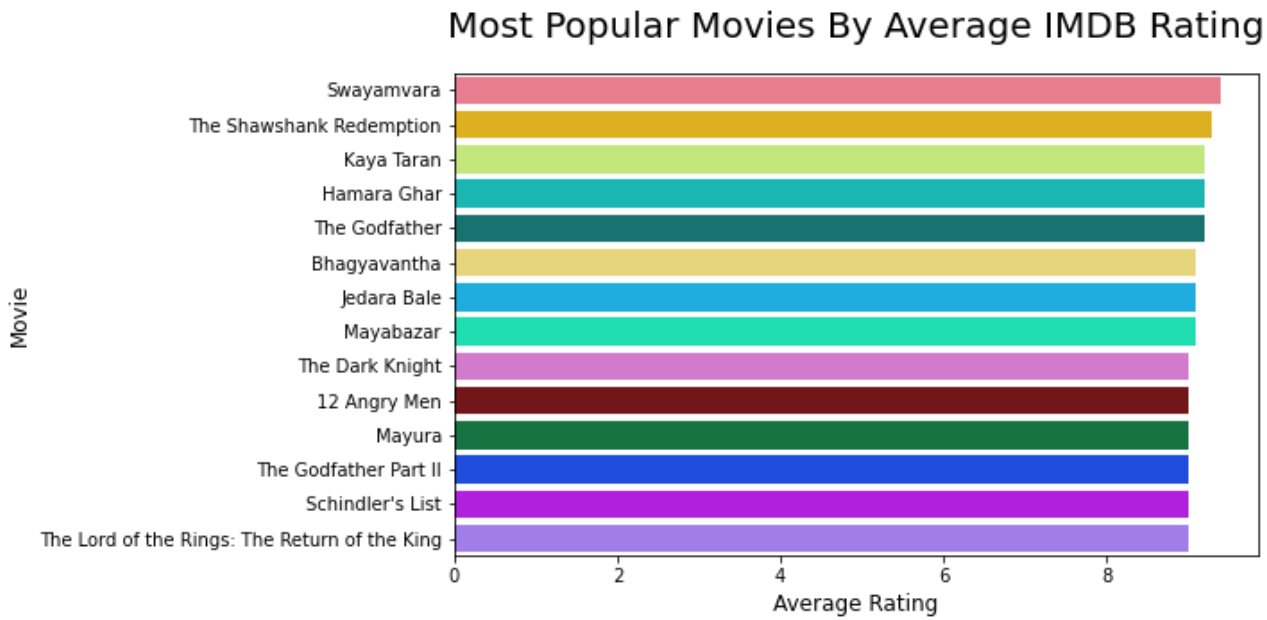
Titles Similar to 'Toy Story's' Meta-Data
Toy Story 2
The Polar Express
Raggedy Ann & Andy: A Musical Adventure
Pound Puppies and the Legend of Big Paw
DuckTales the Movie: Treasure of the Lost Lamp
Tom and Jerry: The Movie
Hercules
The Wild Life

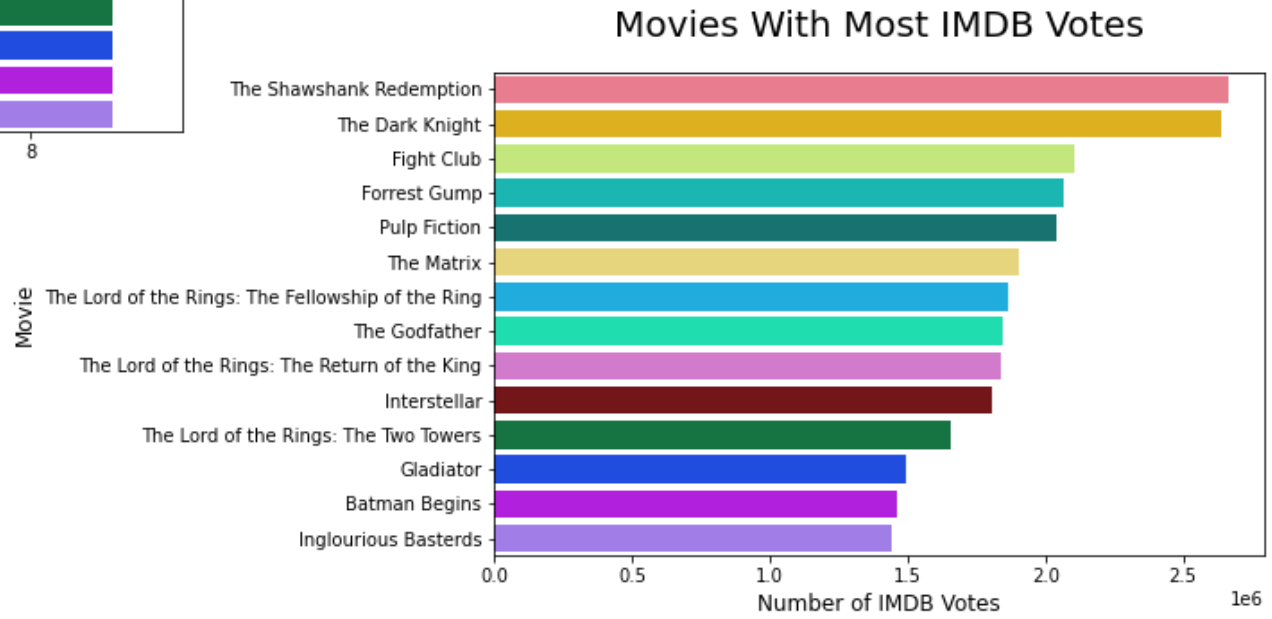
CONTENT BASED FILTERING

METADATA-BASED MODEL

CONTENT BASED FILTERING

RATINGS MODELS





CONTENT BASED FILTERING

WEIGHTED RATINGS MODELS

0 Votes Required

Title	Average Rating	Number of Votes	Weighted Score
Swayamvara	9.4	16	9.4
The Shawshank Redemption	9.3	2,663,062	9.3
Kaya Taran	9.2	7	9.2
Hamara Ghar	9.2	6	9.2
The Godfather	9.2	1,845,515	9.2

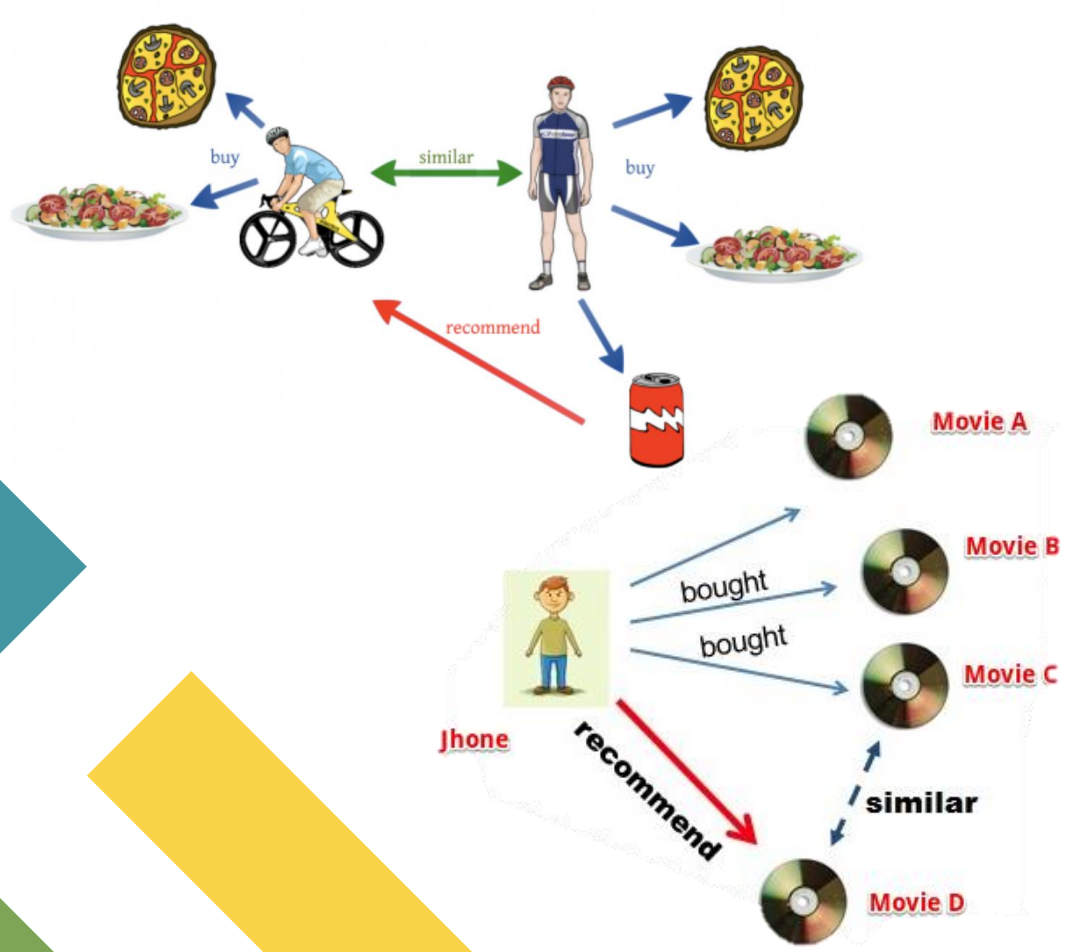
237 Votes Required

Title	Average Rating	Number of Votes	Weighted Score
The Shawshank Redemption	9.3	2,663,062	9.3
The Godfather	9.2	1,845,515	9.2
Mayabazar	9.1	5,149	9.1
Schindler's List	9.0	1,348,587	9.0
Aha Naa Pellanta	9.0	3,056	9.0

28k+ Votes Required

Title	Average Rating	Number of Votes	Weighted Score
The Shawshank Redemption	9.3	2,663,062	9.3
The Godfather	9.2	1,845,515	9.2
Schindler's List	9.0	1,348,587	9.0
The Dark Knight	9.0	2,636,054	9.0
12 Angry Men	9.0	786,416	9.0

COLLABORATIVE FILTERING



Type of Model	RMSE
Baseline Model (User Based)	1.141
Mean Model (User Based)	0.963
KNN Basic (Item Based)	0.893
KNN Baseline (Item Based)	0.830
KNN With Means (Item Based)	0.852
SVD (Item Based)	0.828
SVD With GridSearch (Item Based)	0.824

Hybrid Model

Content Filter: Top performing movies with >50k votes

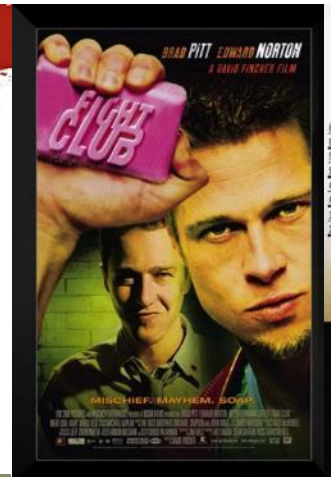
Collaborative Filter: K-Neighbors algorithm taking into account baseline rating

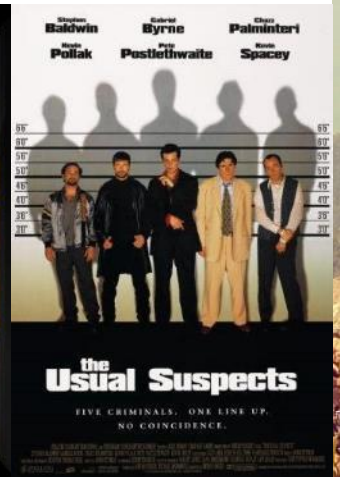
RMSE: 0.739

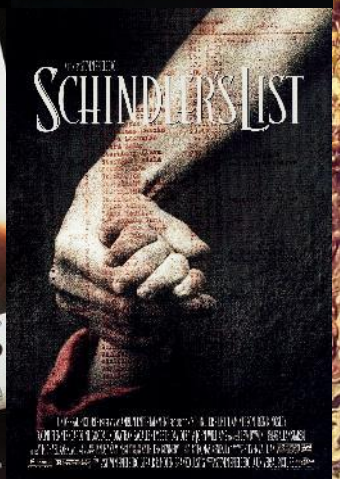
Recommendation

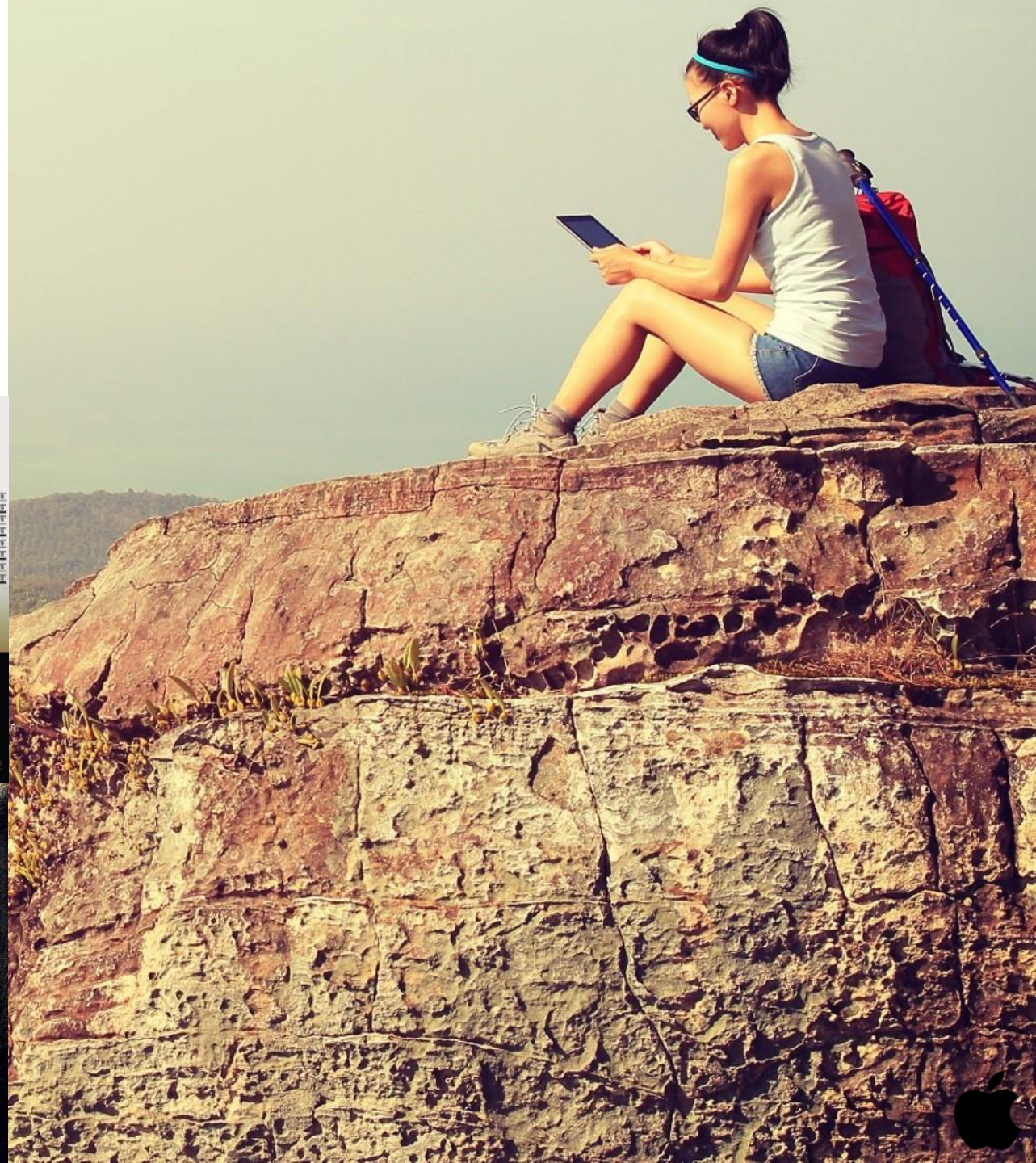
#1

Add Specific Movies To Apple TV+

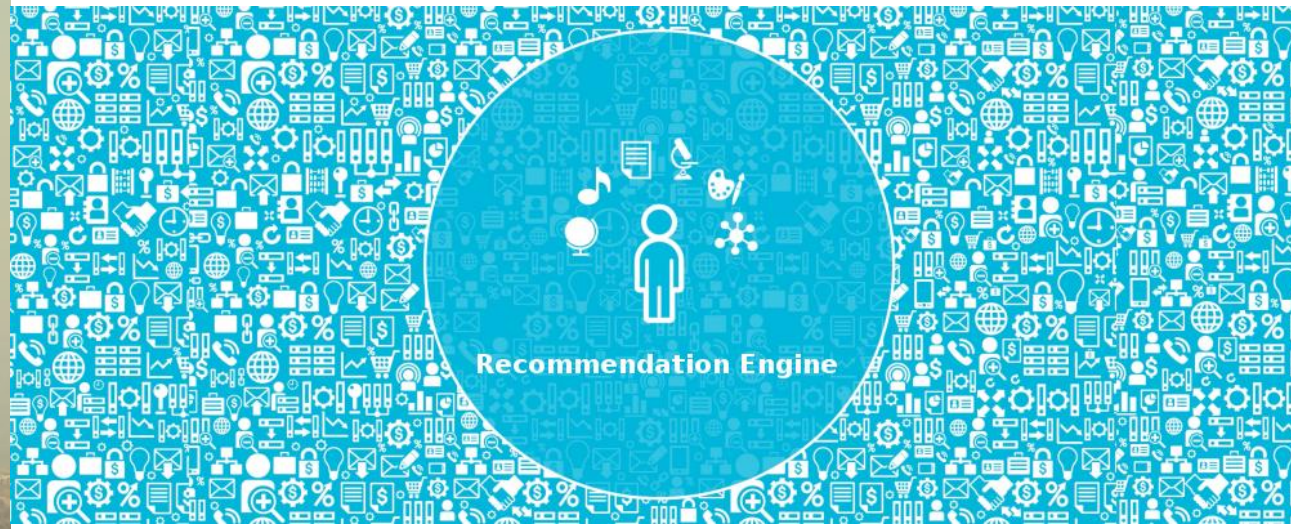








Utilize Movie Recommendation Engines



Recommendation

#2

NEXT STEPS

Where do we go from here…?

Continue to acquire movies

If the number of subscribers grows, continue to add movies to the platform

Use data to dial in movie preferences

Recommend content that is tailored towards an individual user

Compare demographics to competitors

Look at Netflix, Amazon Prime, Disney+, Paramount+, Hulu, Peacock, etc.…

APPLE TV+ MOVIE RECOMMENDATIONS!

THANK YOU

Kevin Gross | kevgross89@gmail.com | github.com/kevgross89/