

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

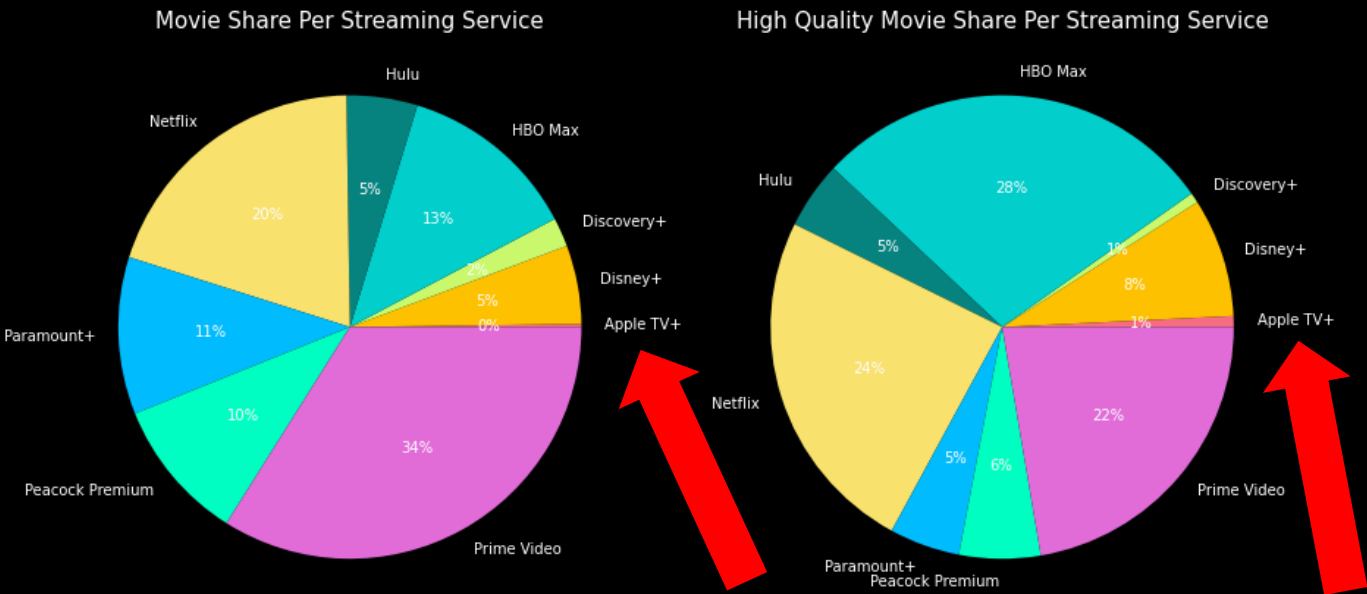
Various genres

14

“High quality” movies

Rated 7.5+ on IMDb with 300+ votes

Streaming Service Movie Share





“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)

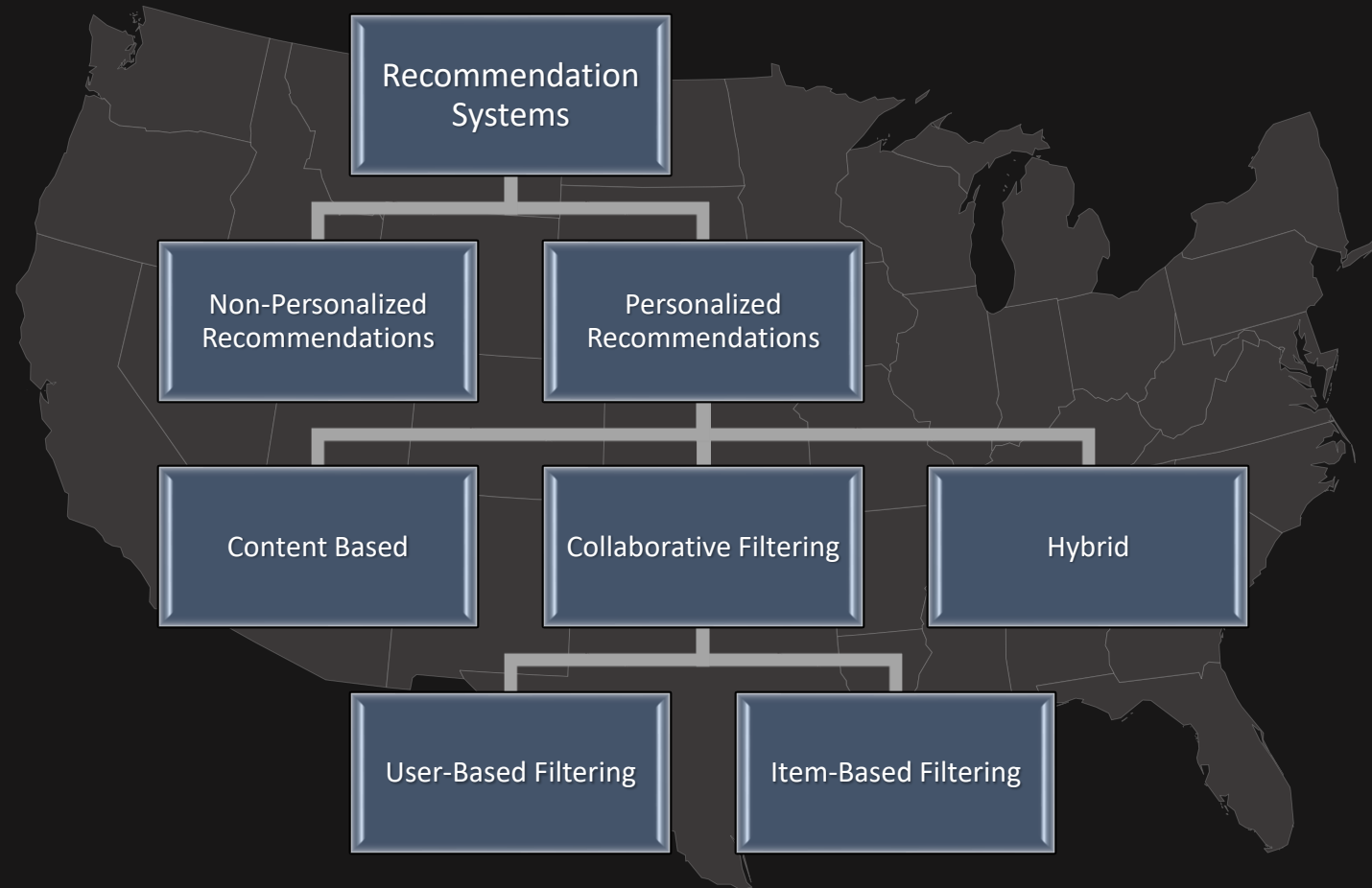
Plot descriptions for ~35,000 movies

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

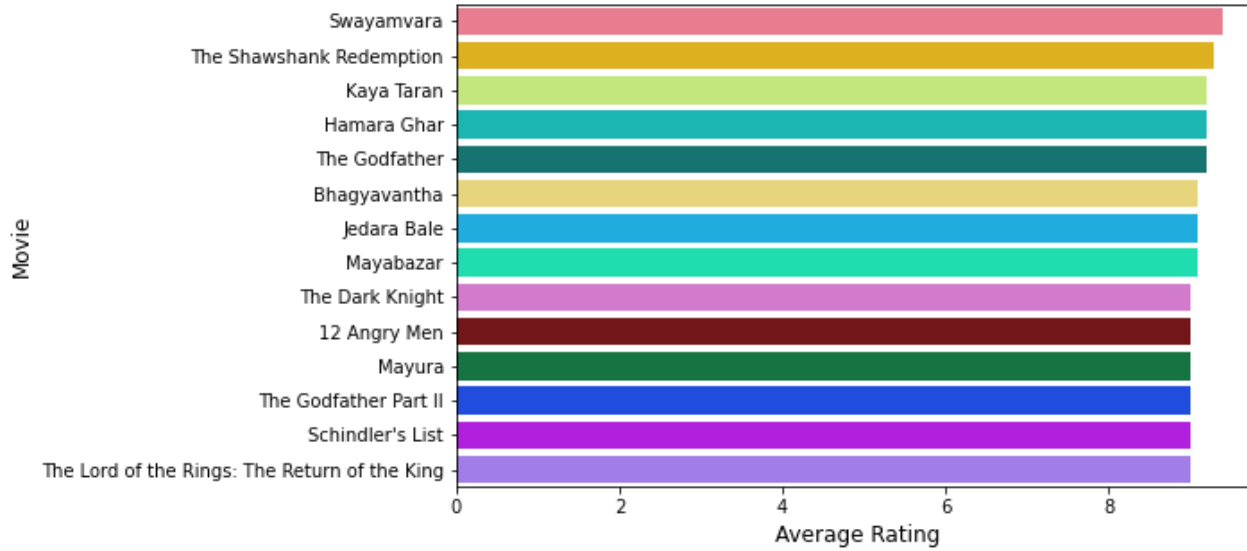
Hercules

The Wild Life

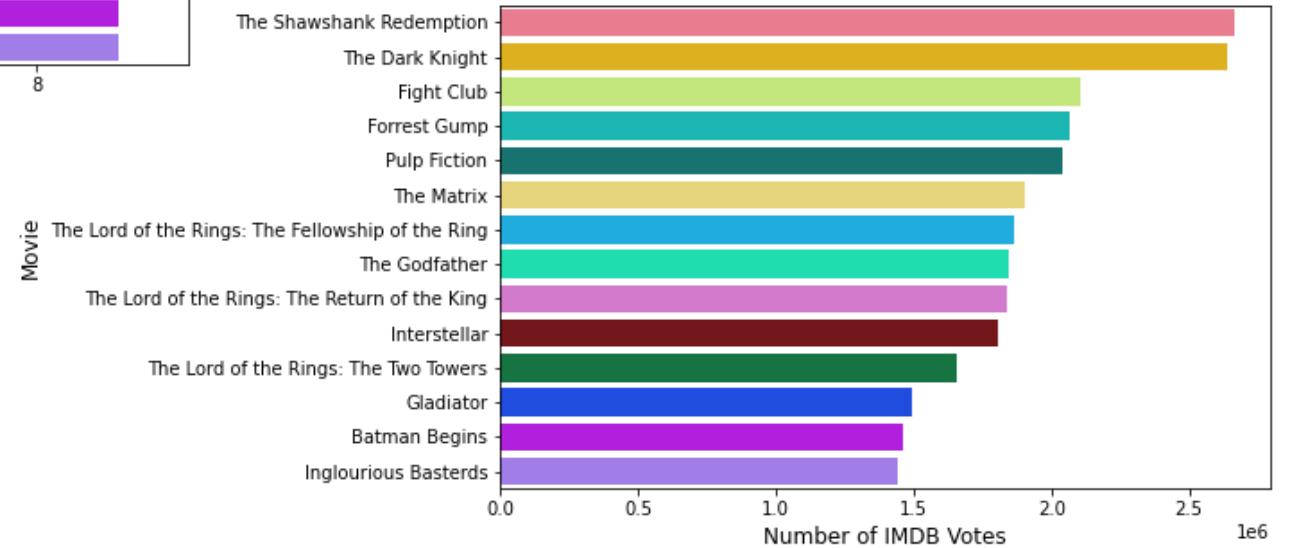
CONTENT BASED FILTERING
METADATA-BASED MODEL



Most Popular Movies By Average IMDB Rating



Movies With Most IMDB Votes



CONTENT BASED FILTERING

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

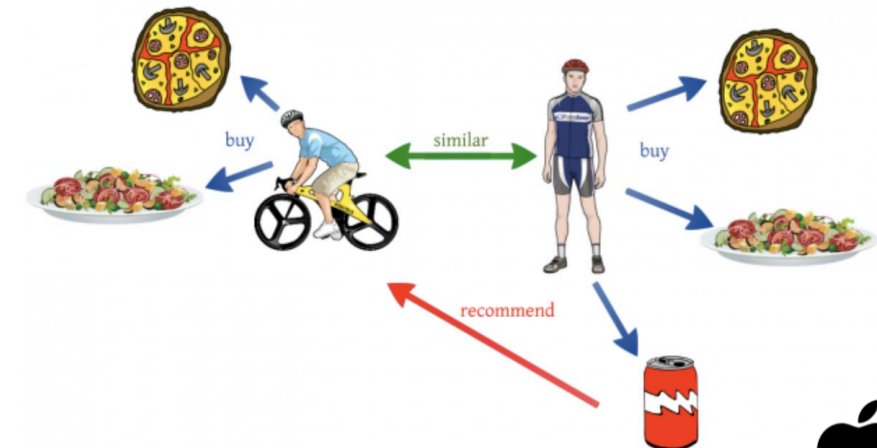
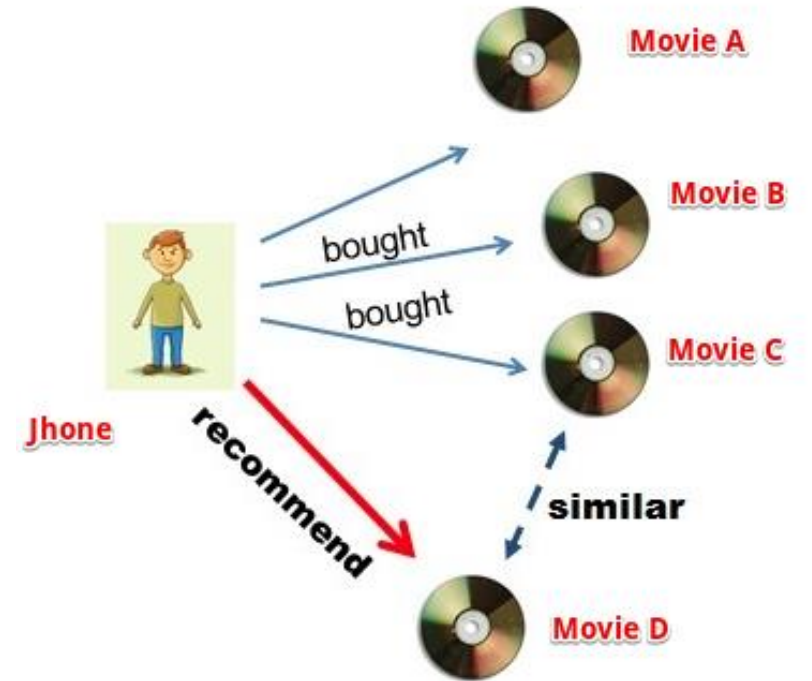
28k+ Votes
Required

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
The Dark Knight	9.0	2,636,054	9.0
12 Angry Men	9.0	786,416	9.0
The Godfather Part II	9.0	1,264,131	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

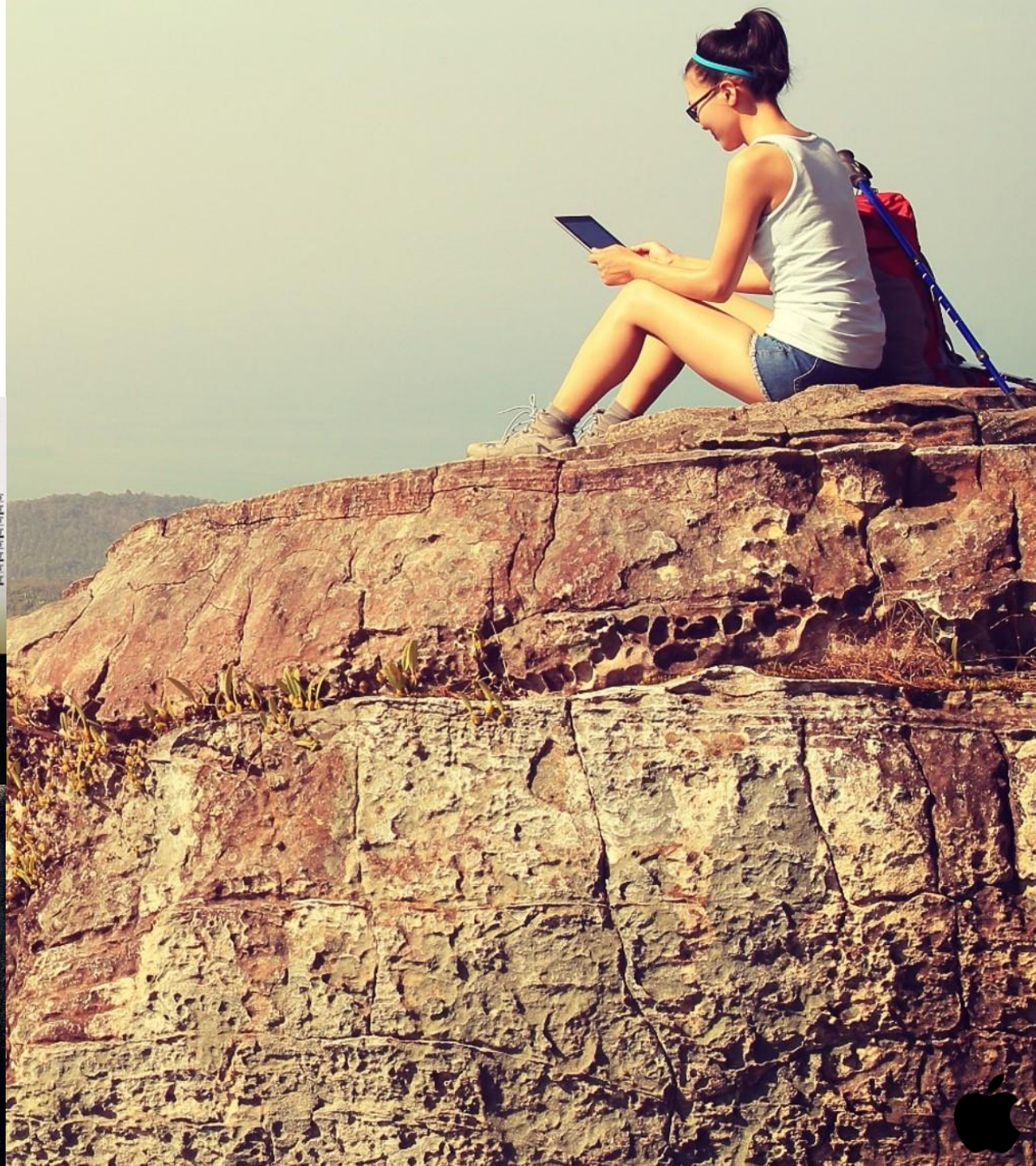
RMSE: 0.739



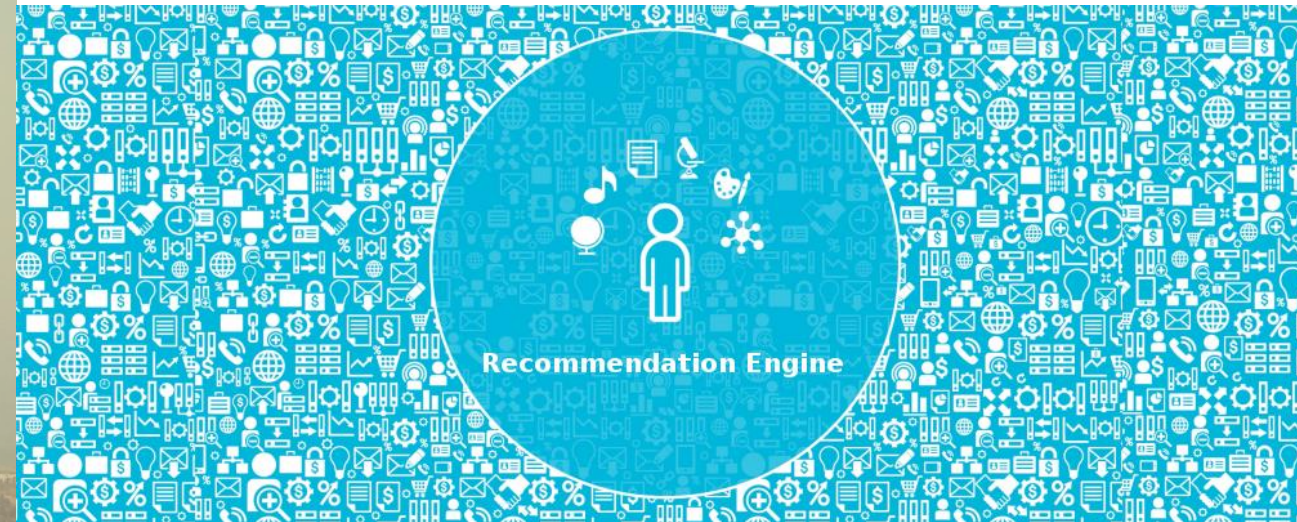
Recommendation

#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

