

# MOVIE RECOMMENDER PROJECT

Presented by: Brandon Abuga



# Overview

---

Movie recommendation systems are like friendly guides that help you discover new films you'll love. Imagine a world with thousands of movies to choose from; it can be overwhelming.

That's where recommendation systems come in. They use clever math and your past movie preferences to suggest films you might enjoy.

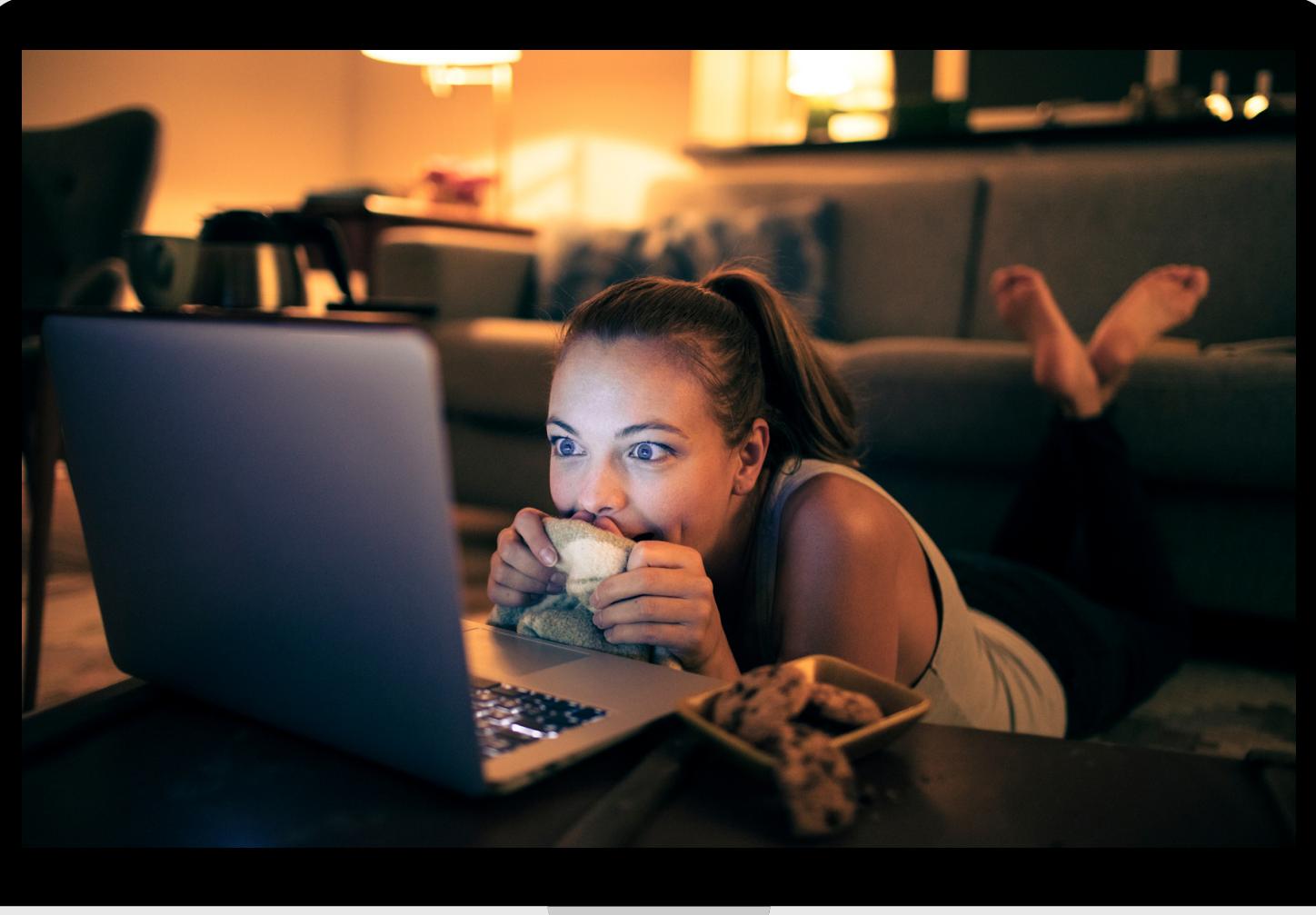




## Business Understanding

Competition among movie companies in today's digital landscape is more intense than ever before. With a vast array of streaming platforms and content providers vying for viewers' attention, the role of a robust movie recommendation system becomes paramount.

This personalization not only keeps viewers engaged but also helps companies differentiate themselves in a crowded market.



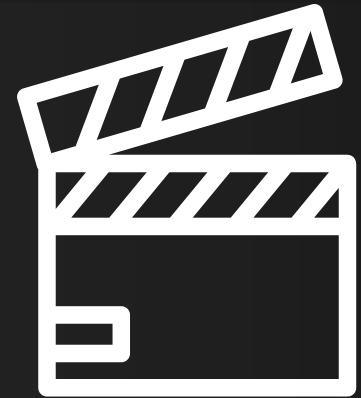
## Problem Statement

The problem at hand revolves around the development of an effective movie recommendation system that caters to the diverse preferences of users based on their past movie ratings.

Have you ever spent a lot of time scrolling through a movie streaming service, unsure of what to watch because there are so many options? This happens because there are thousands of movies available, and it's hard to pick the right one. My project aims to solve this problem.



# Why Movie Recommendation system?



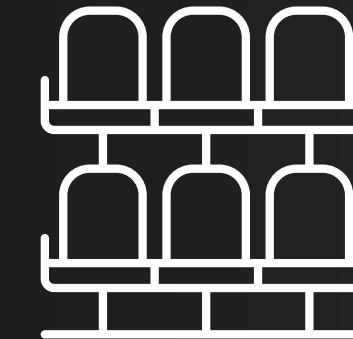
### Content Discovery

Recommender systems introduce users to a broader range of content. Users may discover hidden gems, niche films, or lesser-known titles they might have otherwise missed.



### Revenue Generation

For movie platforms, user engagement and retention driven by recommender systems can translate into increased revenue.



### Increased User Engagement

Personalized recommendations keep users engaged with the platform for longer periods. Users are more likely to return and explore additional content, leading to higher user retention rates.



## Goals

- **Data Collection:**

Gather a dataset containing information on movies, user ratings, and user profiles.

- **Data Preprocessing:**

Clean and preprocess the dataset to handle missing values, remove duplicates, and format it for analysis.

- **User Profiling:**

Understand each user's preferences by analyzing their past movie ratings.

- **Model Building:**

Develop a recommendation model which uses collaborative filtering to generate personalized movie recommendations.

- **Evaluation:**

Assess the model's performance using appropriate evaluation metrics such as accuracy, RMSE or MAE.



## Data Understanding

---

For this project, I am provided with two datasets. The first dataset, which I'll refer to as the "Movie Data" dataset, contains key information about movies. It comprises three columns: 'moviedb,' 'title,' and 'genres.'

The second dataset, which I'll refer to as the "User Rating Data" dataset, captures user interactions with movies, specifically their ratings. It consists of three columns: 'userId,' 'moviedb,' and 'rating.'



# Modeling

### Baseline Model

I used Singular Value Decomposition (SVD), a matrix factorization technique, to build the baseline recommendation system.

The model was able to predict accurately about 87% of the movie ratings for each user.

Accuracy: 87%





# Modeling

### Final Model

For the final model, I performed a grid search to obtain the best parameters for the SVD model. In the final model, I achieved a solid 91% accuracy, which means that it's doing a great job in suggesting movies that match users' preferences most of the time. This is a positive outcome.

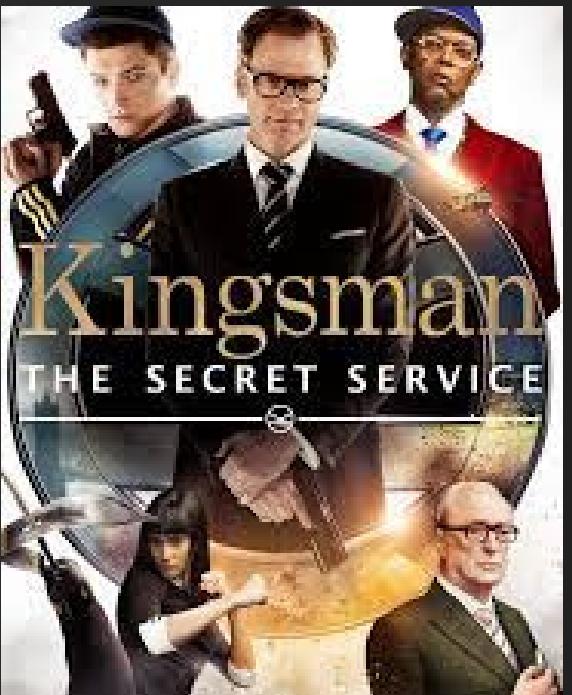
Accuracy: 91%



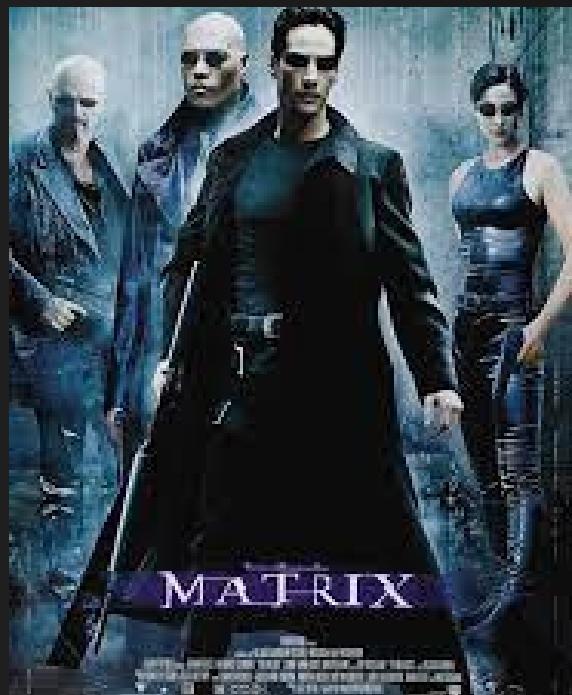


## Making 5 Recommendations

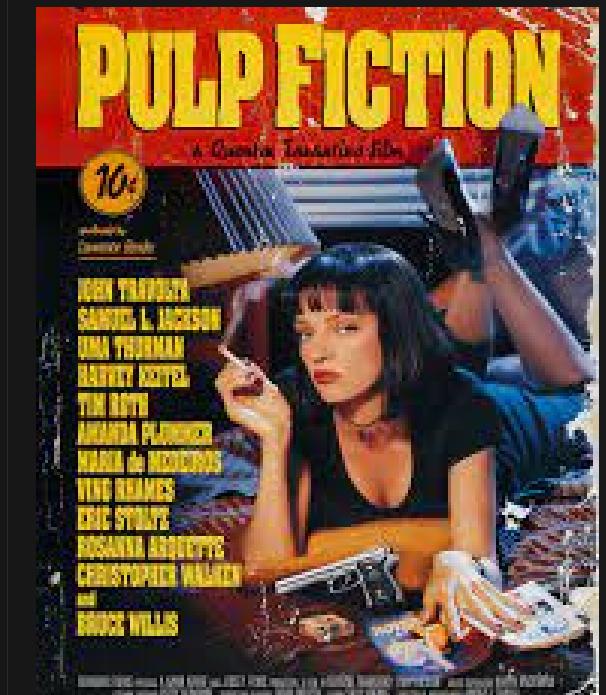
I sampled a random user with userID 438 and made recommendations based on their past movie ratings. using the final model.



**Kingsman: The  
Secret Service  
(2015)**



**The Matrix  
(1999)**



**Pulp Fiction  
(1994)**



**Heat  
(1995)**



**Equilibrium  
(2002)**



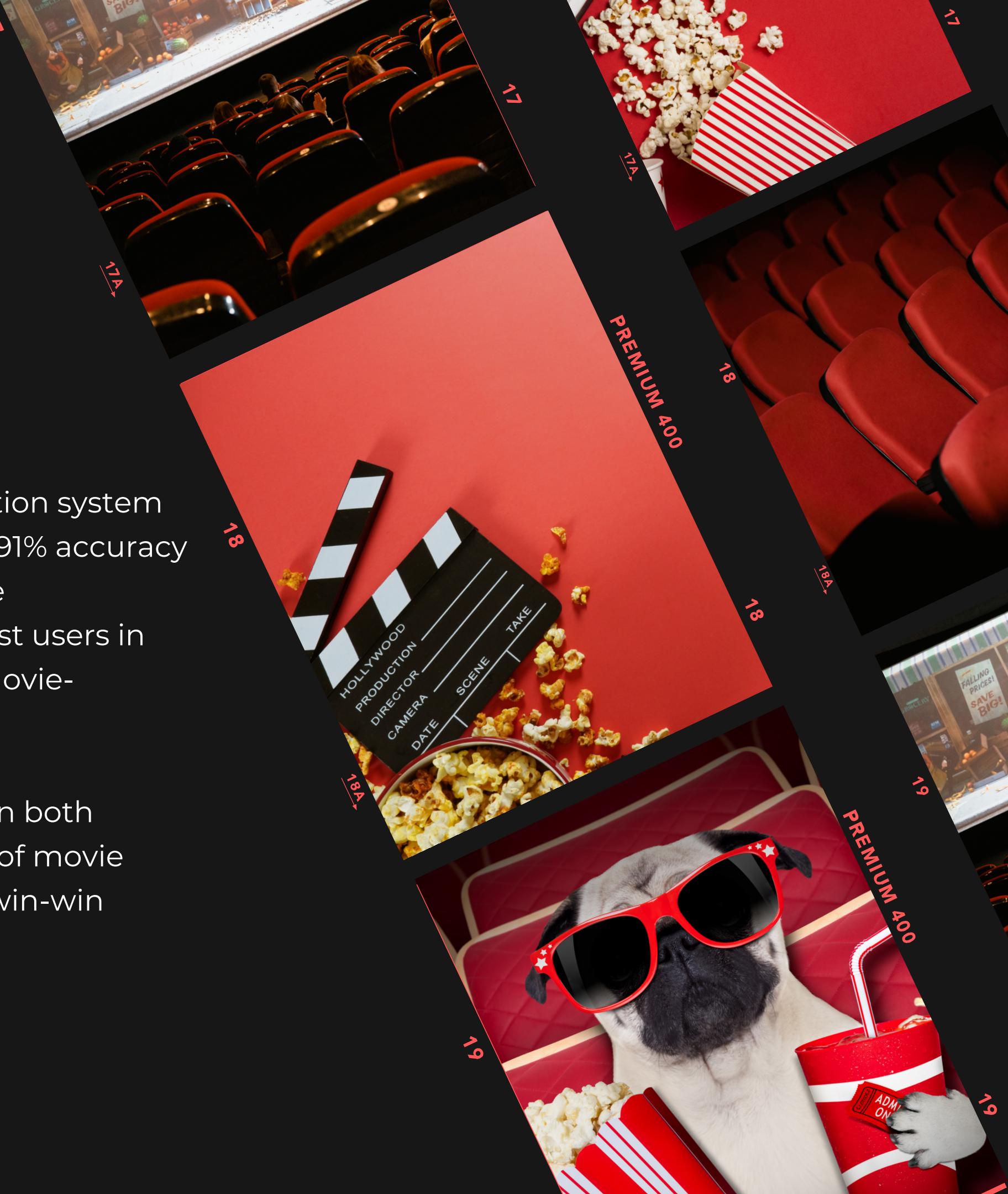


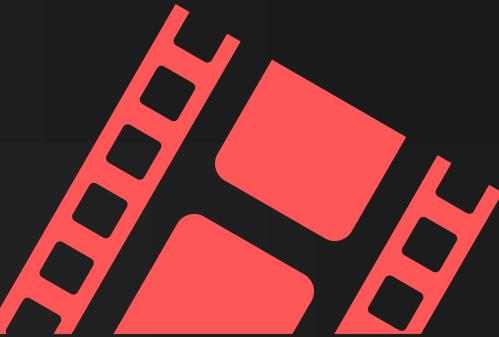
## Movie Recommender

# Conclusion

In this project, I have successfully developed a movie recommendation system that harnesses user ratings to suggest films. With a commendable 91% accuracy rate, the model is proficient at aligning user preferences with movie recommendations. This accuracy reflects the system's ability to assist users in discovering movies they're likely to enjoy, enhancing their overall movie-watching experience.

Having a robust recommendation system plays an important role in both increasing user satisfaction and contributing to the overall success of movie platforms. A well-designed recommendation system can lead to a win-win scenario for users and the platform itself.





**THANK YOU**

QUESTIONS?