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P R E S E N T A T I O N

# A HYBRID MOVIE RECOMMENDATION SYSTEM



# Business Context

- Movie streaming platforms host thousands of titles
- Users struggle to find movies they will enjoy

Poor recommendations lead to:

- Frustration
- Reduced engagement
- User churn



- KEY QUESTION:**
- How can we help users discover the right movies faster?

# Business Problem

- Not all users have the same preferences
- Generic recommendations don't work well
- New users have little or no history (cold start problem)

## CHALLENGE:

Deliver personalized recommendations for both existing and new users.



# Project Objective



**THE GOAL OF THIS PROJECT WAS TO:**

- Deliver top-5 personalized movie recommendations
- Learn user preferences from past behavior
- Continue making recommendations even when user data is limited
- Improve engagement and content discovery

# Data Used



We used historical movie platform data, including:

- User ratings on movies
- Movie titles and genres
- Descriptive movie tags added by users

# Solution Overview

The solution uses two complementary approaches:

## User behavior analysis

- Learns from how users rate movies

## Movie similarity analysis

- Finds movies similar in theme and content

These are combined into a hybrid recommendation system.



# How the System Works

User watches & rates movies



System learns preferences



System predicts what the user might enjoy next



Top-5 movie recommendations are displayed



# Handling New Users (Cold Start)

- New users often have little or no history
- Traditional recommendation systems struggle here



## Our solution:

- Uses movie content similarity when user history is limited
- Ensures recommendations are still relevant from day one



# Example Output

## What the user sees:

- A list of 5 recommended movies
- Based on:
  - Their past ratings (if available)
  - Similar movies they might like

Results include well-rated, diverse, and relevant films.



# Key Results

- Successfully generated personalized movie recommendations
- Recommendations aligned with critically acclaimed and relevant movies
- System worked for:
  - Active users
  - Users with limited history
- Demonstrates strong potential to improve user experience.



# Business Value



This system can help a streaming platform:

- Increase user engagement
- Reduce time spent searching for content
- Improve customer satisfaction
- Support user retention

Better recommendations = happier users.

# Limitations

- Recommendations depend on the quality of available data
- New movies with no interaction may require additional content data
- System performance can improve with more user interactions over time



# Future Improvements

## Possible next steps include:

- Using additional content features (genres, summaries, reviews)
- Improving recommendation ranking metrics
- Deploying the system in a real-time application
- Continuous learning as new data arrives



# Conclusion



- A hybrid recommendation system was successfully developed
  - The system balances accuracy and practicality
  - It provides meaningful recommendations for all users



# THANK YOU

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