Movie Recommendation System for S.A.W Movies

Recommending The 5 "Best" Movies - Specific to Each User

Team Introduction

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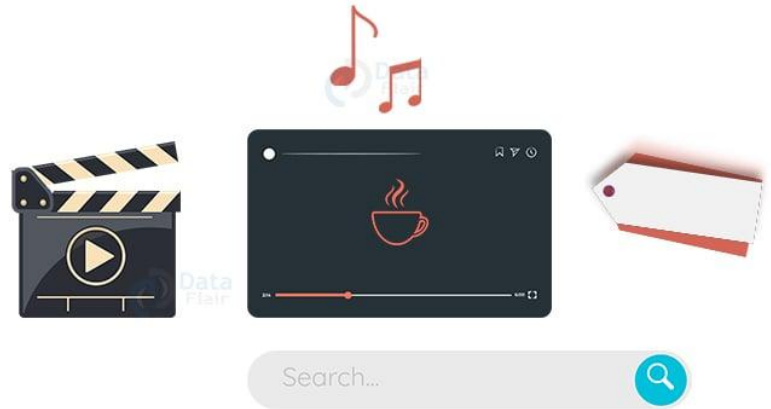Github: MansionAnthony

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Agenda

- Data Overview
- Recommendation System
- Future Steps

Business Problem:

- S.A.W Movies is starting a movie streaming service and does not yet have a recommendation system

Data Overview

Importance of Good Recommendation System

Problem Statement -

- People spend an average of **25 minutes** trying to find something to watch
- Using numbers, someone who is 18 will spend **116 days of their life** trying to find something to watch by the time they are 80

Why Good Recommendation System Matter -

- The most powerful recommendation systems are worth billions, grabs and retains the viewers attention instantly constantly
  - **TikTok** is currently the pinnacle of how hard a recommendation system can carry an app.
  - **YouTube** constantly adds various systems in order to continue to beat/keep up with new competition.
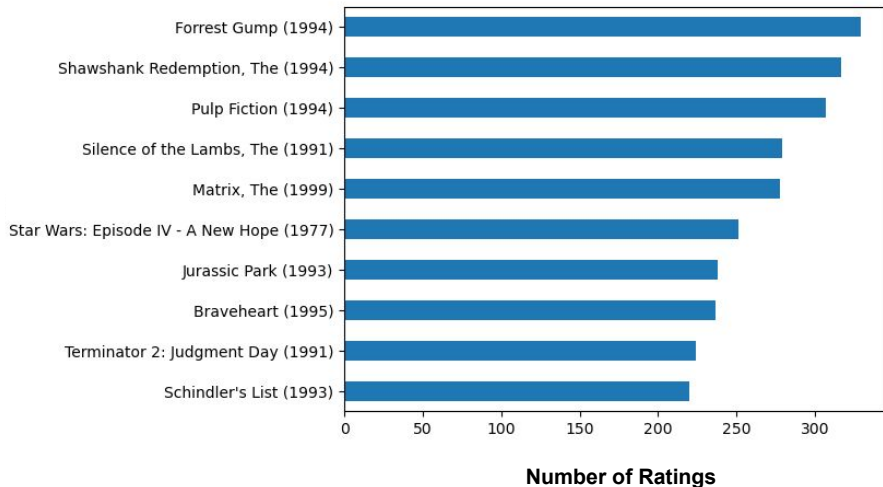
80% of all content consumed

$98 billion of annual revenue

Data from ABC Audio

Exploring The Data
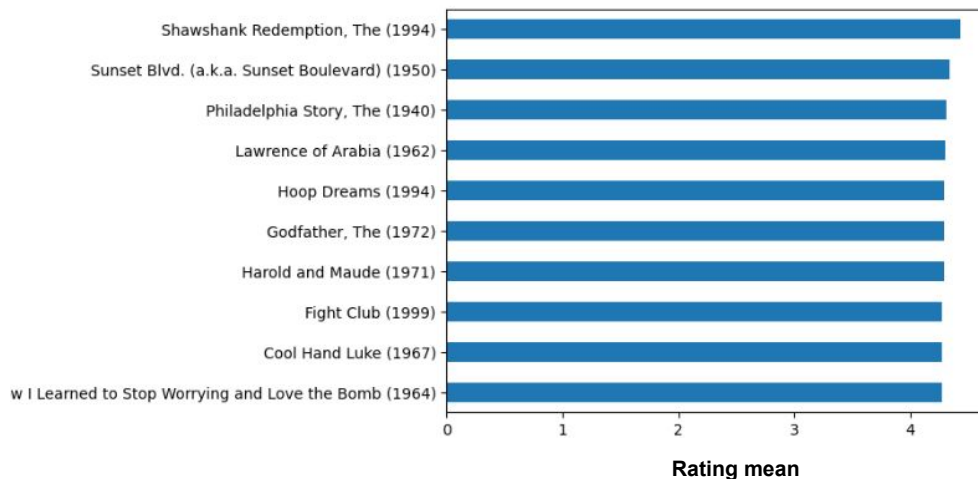
- MovieLens dataset from the GroupLens research lab at **Univ. of Minnesota**
- **~100K user ratings** between 1996 and 2018 on movies from 1902 to 2018
  - 610 unique users and 9,685 unique movies
  - Traditional 5 star rating system in 0.5 units

Top 10 most popular movies

Movie	
Forrest Gump (1994)	
Shawshank Redemption, The (1994)	
Pulp Fiction (1994)	
Silence of the Lambs, The (1991)	
Matrix, The (1999)	
Star Wars: Episode IV - A New Hope (1977)	
Jurassic Park (1993)	
Braveheart (1995)	
Terminator 2: Judgment Day (1991)	
Schindler's List (1993)	

Number of Ratings

Top 10 highest rated movies

Shawshank Redemption, The (1994)
Sunset Blvd. (a.k.a. Sunset Boulevard) (1950)
Philadelphia Story, The (1940)
Lawrence of Arabia (1962)
Hoop Dreams (1994)
Godfather, The (1972)
Harold and Maude (1971)
Fight Club (1999)
Cool Hand Luke (1967)
w I Learned to Stop Worrying and Love the Bomb (1964)

Rating mean
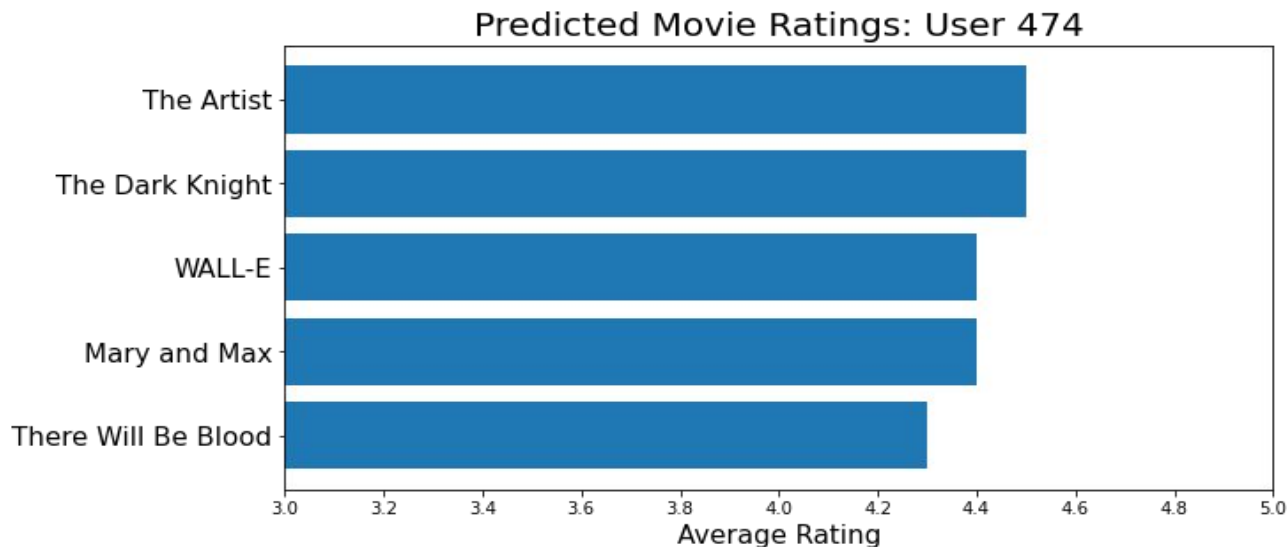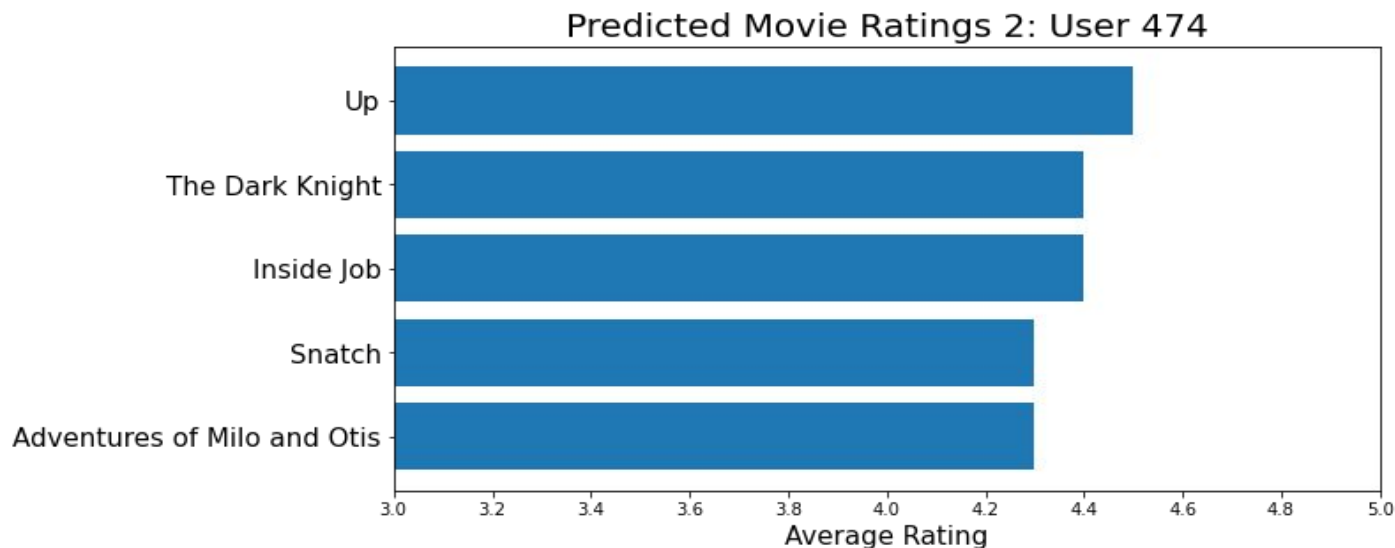
Movie Recommendation System

- Provides predicted ratings for movies a user.
- Predictions are within 0.37 rating of actual.
- User ratings are compared and used to help predict.

Predicted Movie Ratings: User 474

Insights and Limitations

- Less user data means less accuracy.
- Hidden gems don't get recommended.
- Newer movies are less likely to be recommended.

Predicted Movie Ratings 2: User 474

Future Analysis

Future Steps

The more recommendation systems, the better. Future rec sys ideas:
- Improve current rec sys to be biased to user's most recent ratings
- Sections automatically showing new/trending (Hidden gems?)
- Diversity recommended content
- Make use of repeating patterns

Questions?