

MOVIE RECOMMENDATION

Enhancing Movie
Recommendations for
MovieMagic

INTRODUCTION

MovieLens is a web-based recommender system and virtual community that recommends movies for its users to watch, based on their film preferences using collaborative filtering of members' movie ratings and movie reviews.

PROBLEM STATEMENT

MovieMagic's recommendation system lacks explicit user ratings, hindering its accuracy. Our project focuses on enhancing recommendations by incorporating user ratings. We analyze the MovieLens dataset for insights into user preferences. We develop and evaluate models to boost user engagement and satisfaction.

Project Overview

The dataset comprises several columns, including "movieId," "title," "genres," "userId," "rating," and "timestamp."

Each row represents a user's rating of a specific movie on our platform.

Our project focuses on using this data to improve the recommendation system, ultimately enhancing user satisfaction and engagement on the MovieMagic platform.

PROJECT GOAL

Improving user engagement and satisfaction through better movie recommendations.

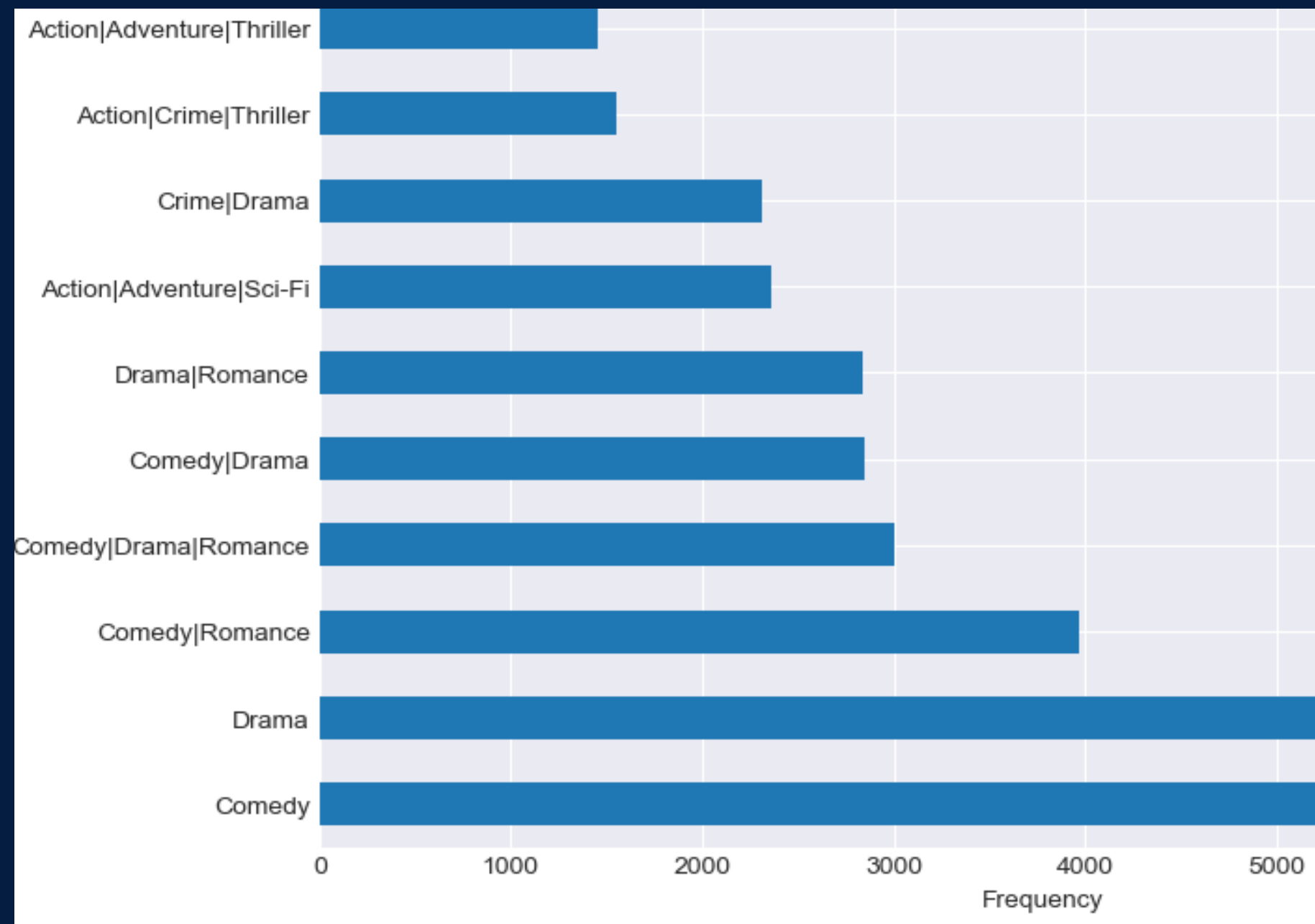
Research Questions

1. How can we enhance the accuracy of movie recommendations to improve user engagement and satisfaction?
2. What insights can be derived from the analysis of user preferences and movie ratings to enhance recommendations?
3. What recommendation models can effectively balance user personalization and engagement?
4. How do explicit user ratings contribute to the improvement of movie recommendations?
5. What impact does the implementation of improved recommendations have on user satisfaction and engagement on the MovieMagic platform?

How can we enhance the accuracy of movie recommendations to improve user engagement and satisfaction?

By Calculating the rmse and mae of our models to see how accurate they are and even employ methods like a/b testing

What insights can be derived from the analysis of user preferences and movie ratings to enhance recommendations?



from this visualization we can see that most users like comedy movies hence we can recommend a user to watch a comedy movie

What recommendation models can
effectively balance user
personalization and engagement?

Hybrid model

Top 9 Recommendations for User 12:

Forrest Gump (1994):

48.54416293476157 Shawshank

Redemption, The (1994):

41.060918204882384 Pulp Fiction

(1994): 39.98508639896118 Silence of
the Lambs, The (1991):

36.70239852562821 Star Wars: Episode
IV - A New Hope (1977):

33.31088259352704 Matrix, The (1999):

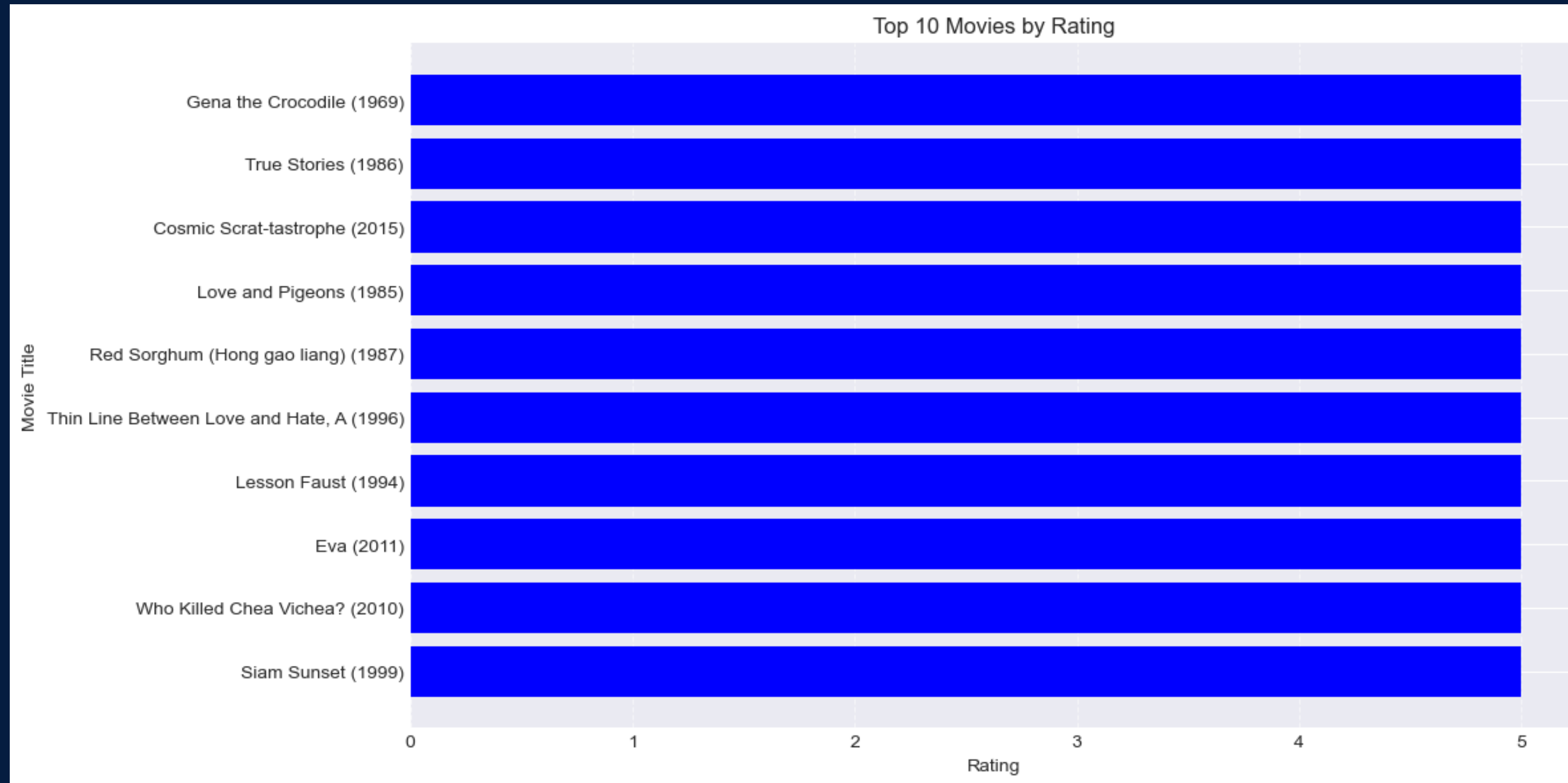
33.005667649923744 Jurassic Park

(1993): 32.18766871613846 Braveheart

(1995): 31.967403631536516 Schindler's
List (1993): 31.6287156720408

from this results of
hybrid model we can
see the top 9 rated
movies by user 12
hence if one is
affiliated to a specific
person he can watch
movies based on his
ratings

.How do explicit user ratings contribute to the improvement of movie recommendations?



From this we can see the top rated movies by users hence this will enhance recommendations based on ratings and improve recommendations criteria as opposed to when there was no ratings

Conclusion

The SVD model, with its low RMSE, is poised for deployment, promising highly accurate movie recommendations in a production setting.

Real-time recommendations empower users to rate movies and receive immediate, tailored suggestions, aligning with our goal of enhancing engagement.

The creation of user profiles, continuously updated with preferences, sets the stage for personalized recommendations.

These achievements collectively guarantee an improved recommendation system, elevating user satisfaction on MovieMagic.

Our project has met and exceeded its objectives, ensuring a more enjoyable movie-watching experience.

MovieMagic is now equipped to offer a dynamic and engaging platform to its users.

Recommendation

Implement the SVD model in a production environment to enhance movie recommendations, considering its low RMSE and promising performance.

Continuously update and utilize user profiles to provide personalized recommendations, further improving user satisfaction and engagement on MovieMagic.