
# Watching Great Movies and Uncovering Similar Movies Employing Recommendation Systems

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# Outline

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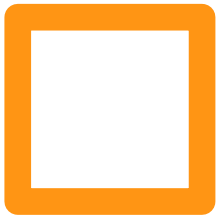
# Overview/Business Problem

I am acting as a data scientist in a research lab at the University of Minnesota to build a recommendation system that recommends 5 highly rated movies to people in the University of Minnesota area based on some past information and opinions on great movies expressed by these people. I want to use a collaborative filtering method to define movie recommendations for these people.

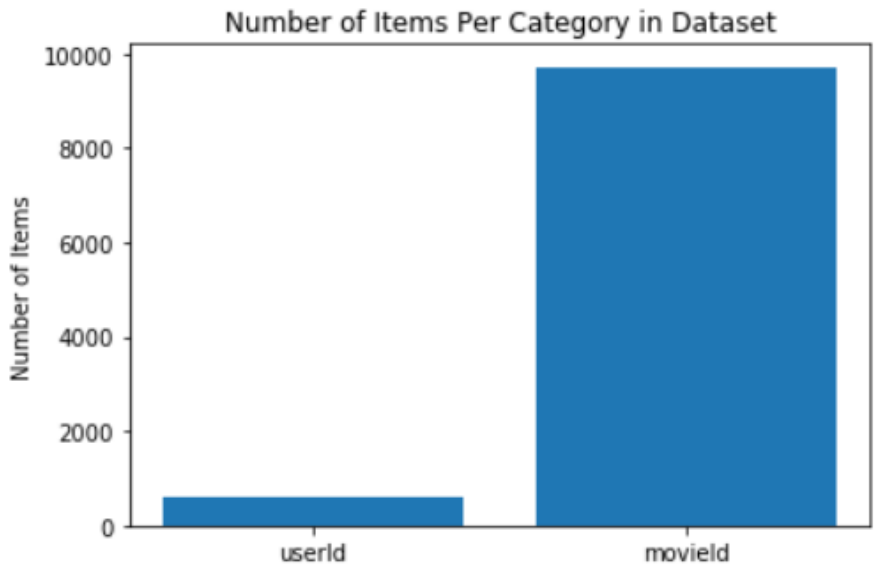


# Data

- Data from the MovieLens dataset from the GroupLens research lab at the University of Minnesota.

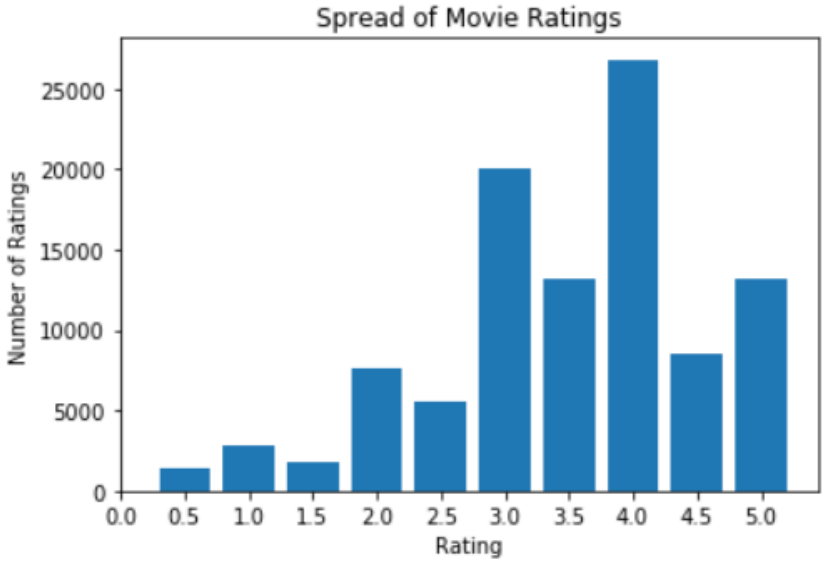
- Dataset covers 100836 ratings of movies from past viewings of movies.

- 610 individual movie raters and 9724 unique rated movies in the dataset.

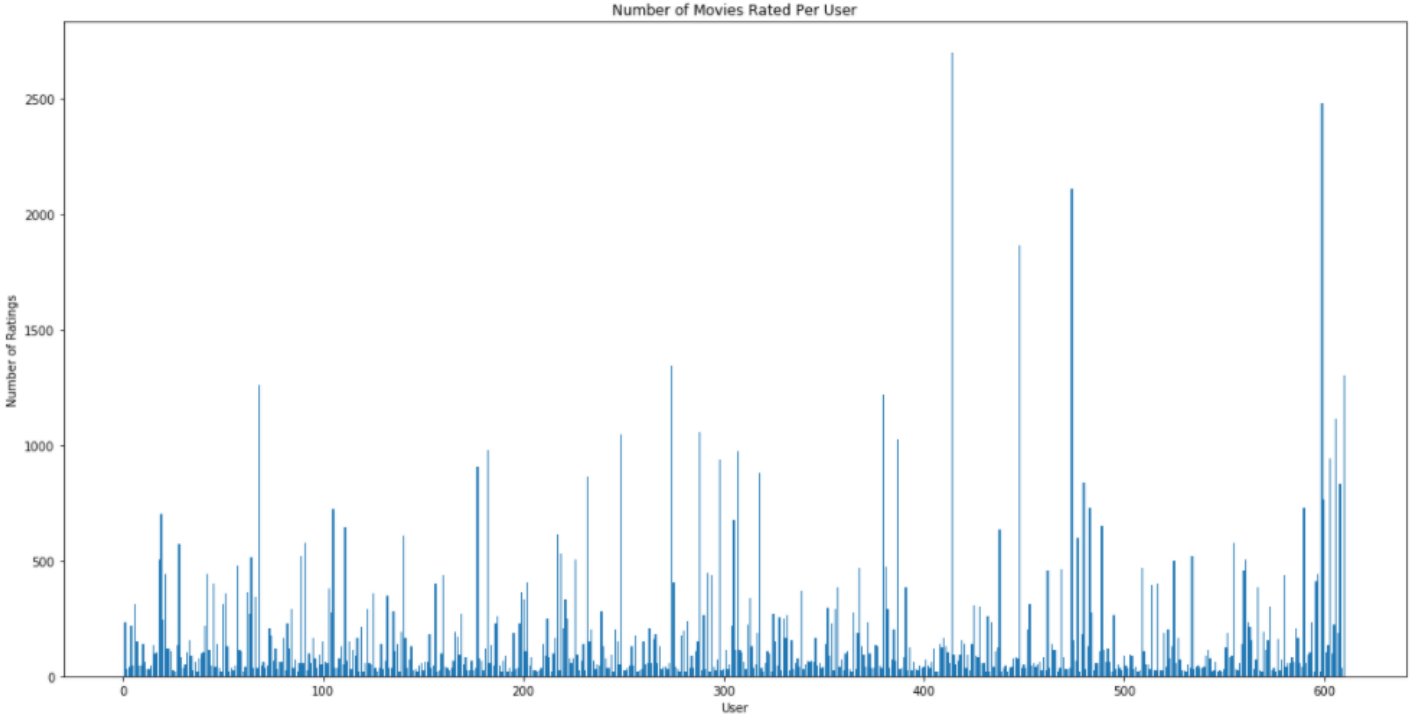


# Data Preparation

**-looked at spread of movie ratings**



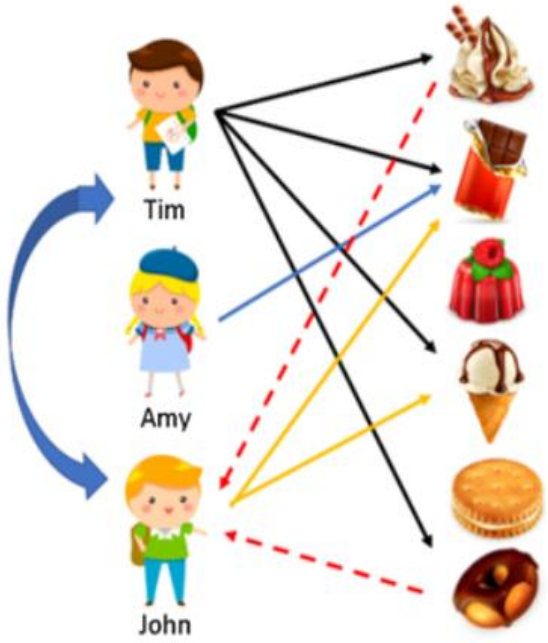

**-constructed a graph of number of ratings for each user**



# Data Modeling

**SVD model-Best Recommendation System**

- Movies similar to user 43 who watched Toy Story and rated it a ‘5’
- Most movies recommended were released around the same year Toy Story was released
- Highly rated movies were mostly recommended




- Lowest RMSE of .8724
- Able to recommend any movie to any user in the dataset with estimated ratings
- Addresses the cold start problem

# Cold Start Problem

- occurs when lacking new user information
- addressed using SVD matrix with provided information
- movies released around the same year as ‘Toy Story’ recommended
- movies considered popular with estimated rating a ‘5’

# Conclusions

**5 Similar Movies with SVD Model to “Toy Story”**

- Apollo 13 (1995)/4.9
- Forrest Gump (1994)/5.0
- Star Wars: Episode IV - A New Hope (1977)/5.0
- The Jungle Book (1994)/4.8
- Mrs. Doubtfire (1993)/4.8

# Recommendations for Further Analysis

- Change the distance metric and parameters for function-based recommendation system

- Deploy a recommendation system for use to new users

- Generate a genre-based movie recommendation system

# Thank you!

Email:
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Github Link:

https://github.com/jmstipanowich/MovieRecommendations

Picture Sources:

https://myjourneymyride.co.nz/2017/08/29/old-school-childhood-fav-movies-top-10/

https://predictivehacks.com/how-to-run-recommender-systems-in-python/