Movie Recommendation System

Create a Recommendation System for MovieLen

Introduction:

Recommending people to buy what they think they need or near to what they used to use in past is one of the most effective way to encourage people to buy more. A recommender system, or a recommendation system is one of the ways that seeks to predict the "rating" or "preference" a user would give to an item.

Problem Statement:

Making movie recommendations based on the MovieLens dataset from the GroupLens research lab at the University of Minnesota. So, build a model that provides movie recommendations to a user, based on their ratings of other movies.

Recommendation System Benefits for Business:

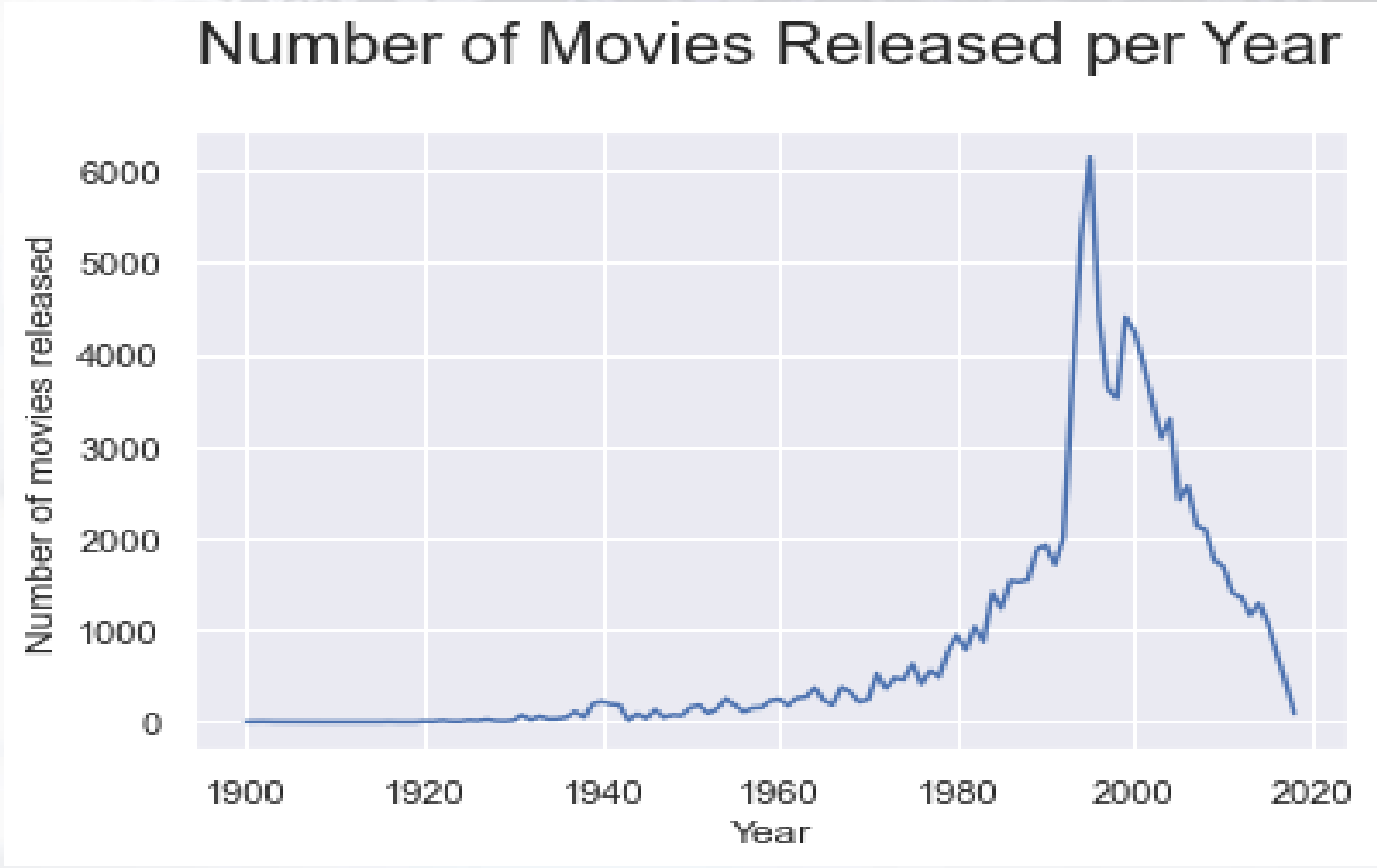
- Increased sales/conversion
- Increased user satisfaction
- Increased loyalty and share of mind
- Reduced churn

Dataset:

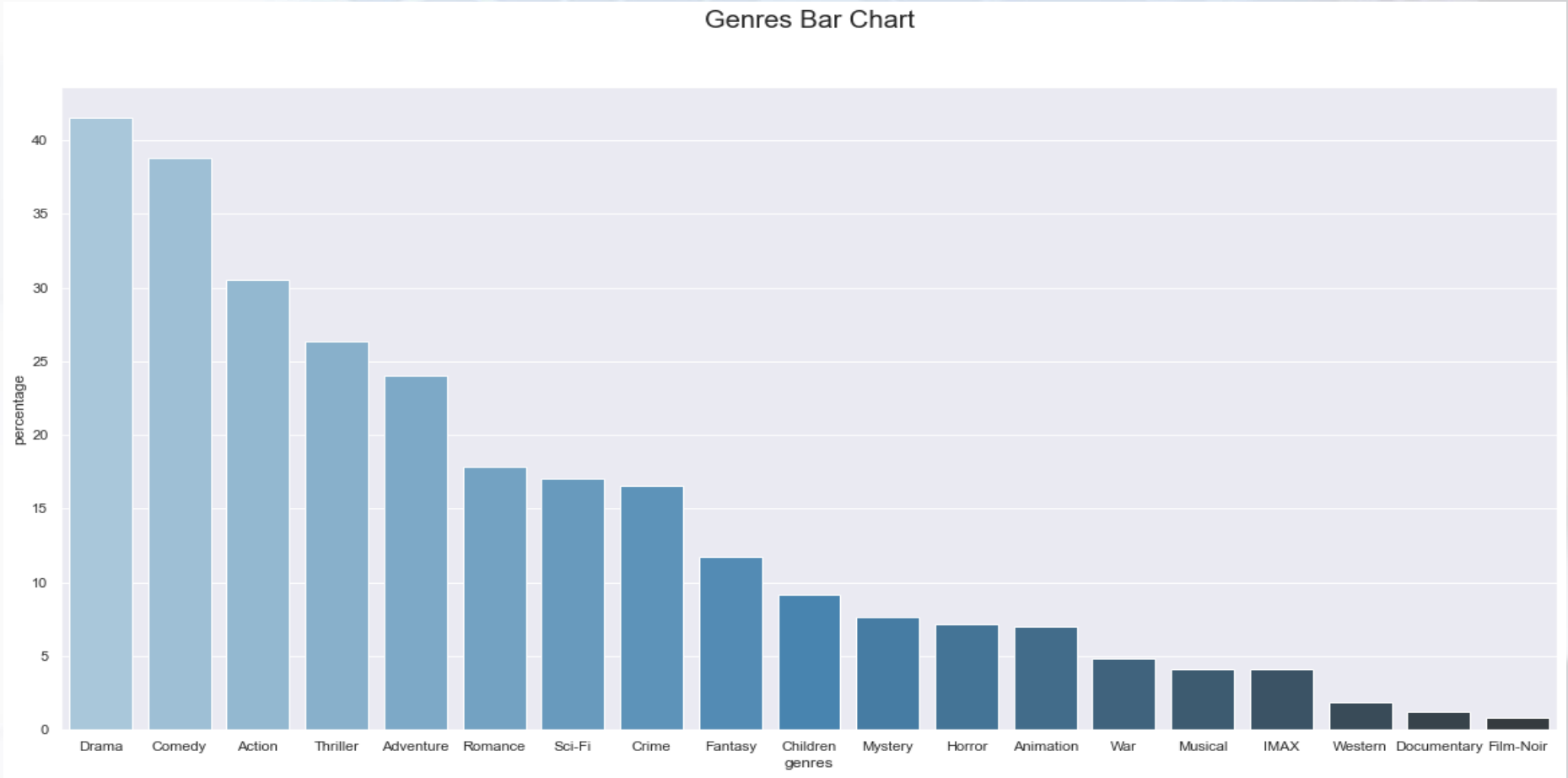
This dataset contains:

- 100,836 Ratings
- 3,683 Tags
- 9,742 Movies
- 620 Users

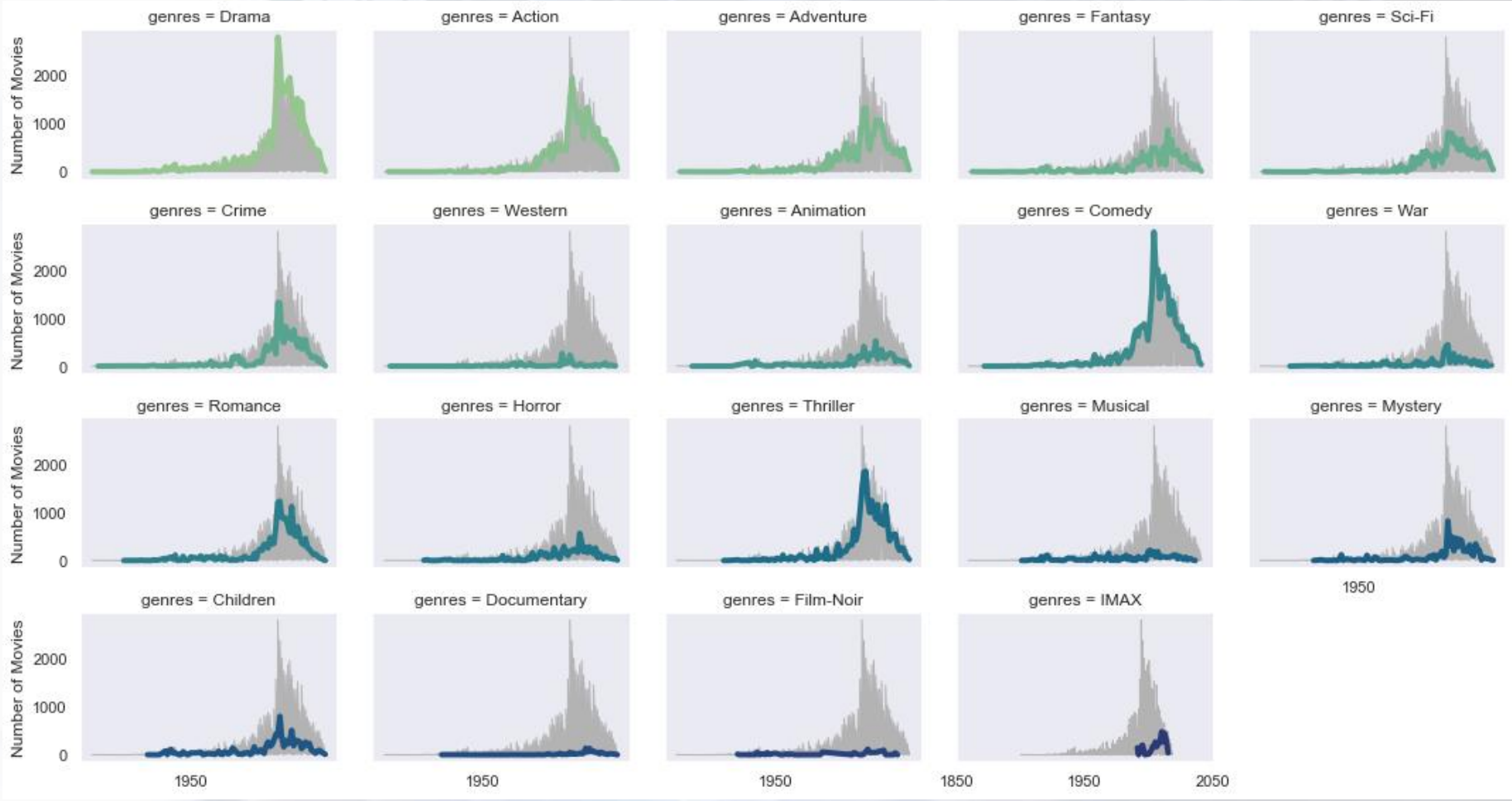
Number of Movies Released:



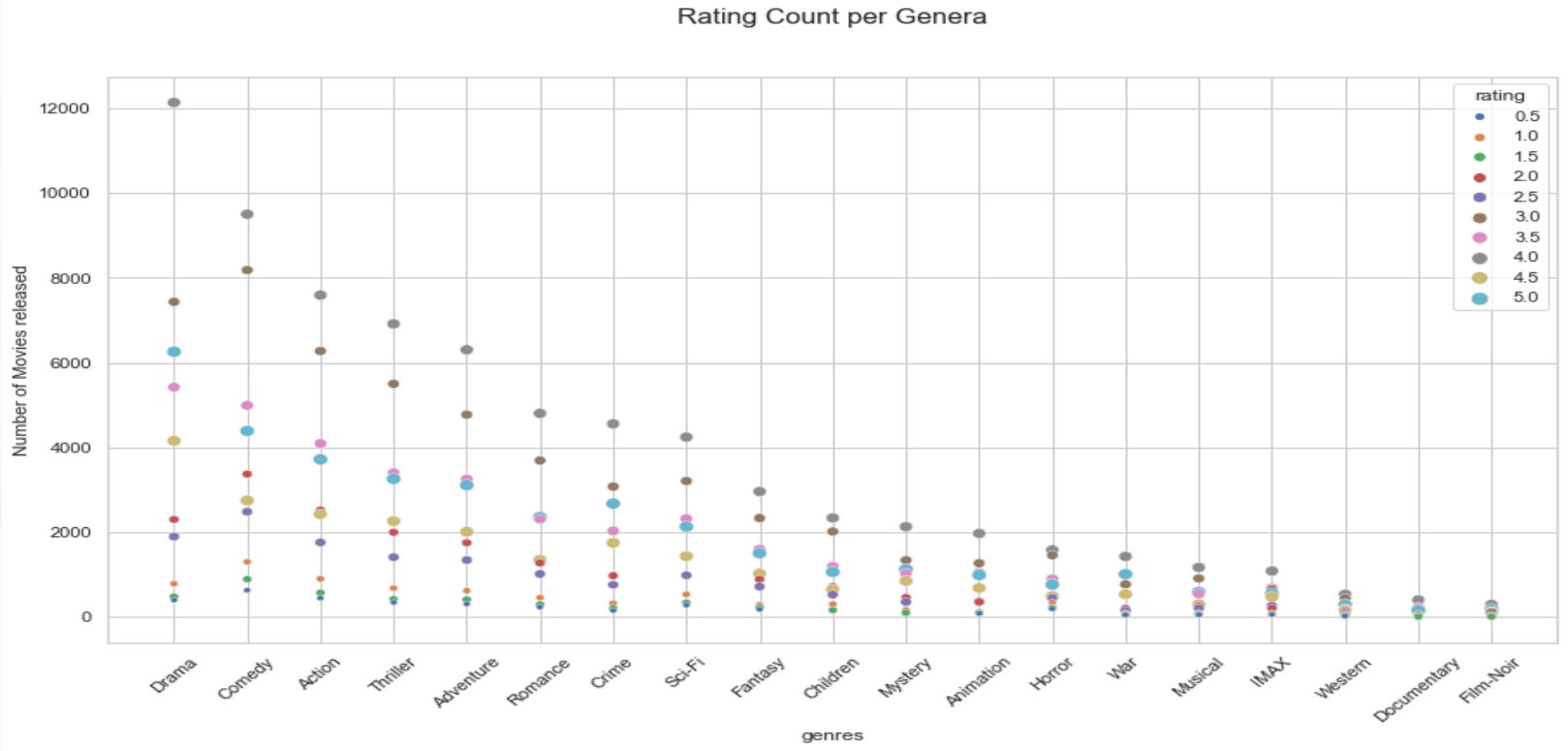
Genres Distribution:



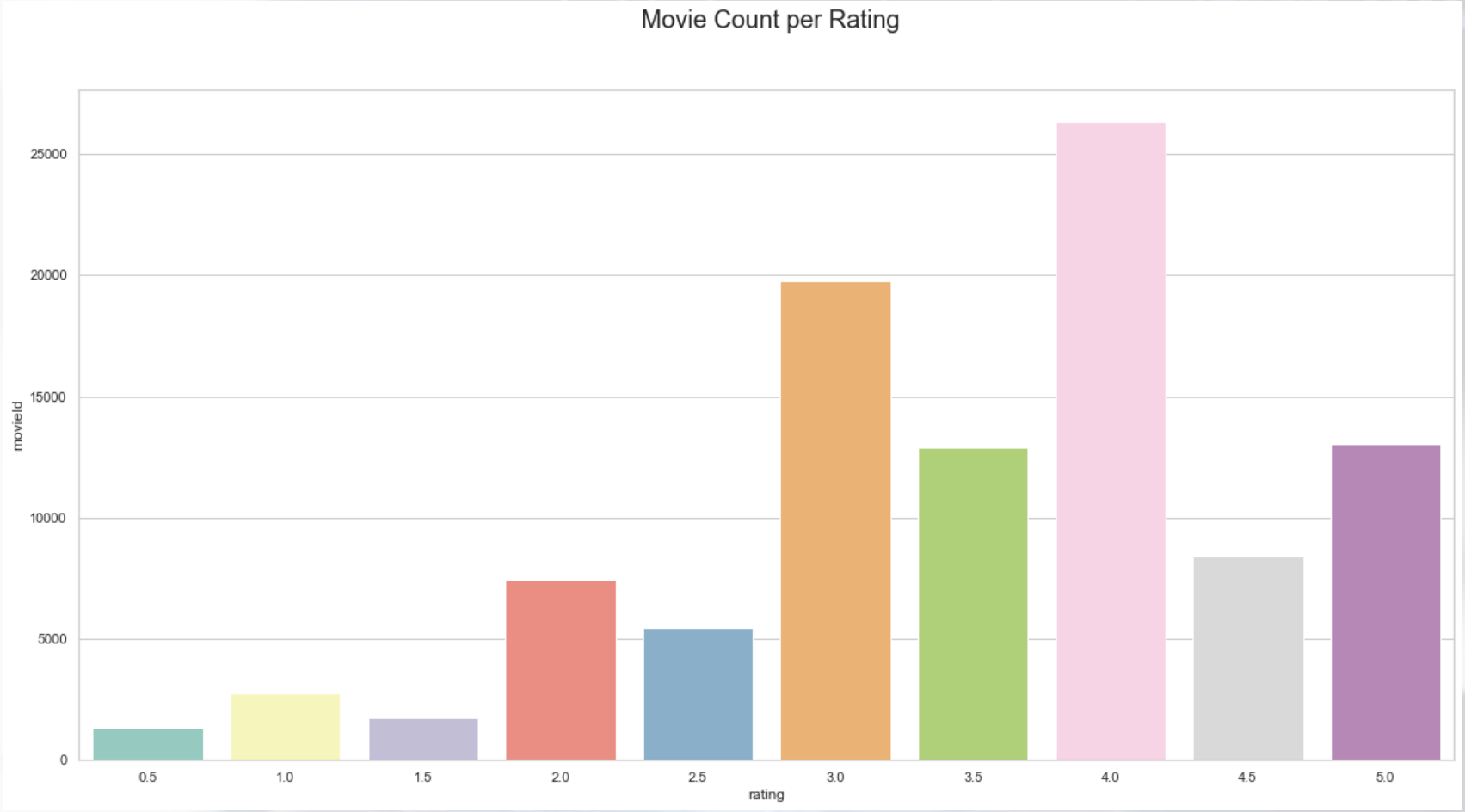
Genres Distribution Per Year:



Rating Distribution by Genres:



Movie Rating:



Building Recommendation:

Algorithms	Explanation	Root-Mean-Square
KNNBasic	A basic collaborative filtering algorithm.	0.974
KNNBaseLine	A basic collaborative filtering algorithm taking into account a *baseline* rating	**0.89**
KNNWithMeans	A basic collaborative filtering algorithm, taking into account the mean ratings of each user.	0.9012
KNNWithZScore	A basic collaborative filtering algorithm, taking into account the z-score normalization of each user.	0.9063
SVD	Singular Value Decomposition	0.9386

Future Work:

- Support filtering movie recommendation by genres, movie released year.
- Add filtering for adult and children movie recommendation.
- Recommend movies based on time specific occasions, such as Thanksgiving, Christmas, Valentin,…

Thank you!

Links for more information:

https://grouplens.org/datasets/movielens/latest/

http://surpriselib.com/

https://spark.apache.org/docs/latest/api/python/index.html