BUILDING USER-BASED RECOMMENDATION MODEL FOR AMAZON

ABSTRACT

"Recommendation model algorithms" plays a major role in our daily life. There are some many recommendation model algorithms are used to predict interest, like of a user and recommend the data related to our rating, interest. These algorithms are used to recommend the songs, movies, gadgets, restaurants, etc. Based on our pervious data these algorithms recommend the new data. In this Amazon would like to take this as an opportunity and build a machine learning recommendation algorithm which provides the ratings for each of the users. So, I want to find movies have maximum views/ratings, the average rating for each movie, the top 5 movies with the maximum rating, the top 5 movies with the least audience, divide the data into training and test data, build a recommendation model on training data, make predictions on the test data and build recommendation Model provides the ratings for each of the users.

INTRODUCTION

A recommender system, or a recommendation system, is a subclass of information filtering system that seeks to predict the "rating" or "preference" a user would give to an item. They are primarily used in commercial applications. These algorithm main purpose is "Prediction Perspective, Conversion Perspective, Recommending Perspective, Interaction Perspective, Retrieval Perspective".

Recommender system reduce the information overload by estimating relevance. There are four type of "Personalized Recommendation, Collaborative filtering Recommendation, Content-Based Recommendation and knowledge-based recommendation".

In "Personalized Recommendation" the most relevant item based on the user profile and contextual parameters.

In "Collaborative filtering Recommendation" it find the what popular among our peers.

In this system the rating data to calculate the similarity between items and it does not consider sematic relationship between different items.

In "Content-Based Recommendation" it display products similar to the products that we have liked before. It works based on user's profile. If more information mare accuracy increased.

In "knowledge-based recommendation" the products based on user's requirements.

ANALYSIS

In this project first we have got the dataset of Amazon customers movie reviews from simplilearn.

1. Loading: Take the given data and read it.
2. Dropna: If there are any null or empty values in the column drop them.
3. Sum: Add all the ratings.
4. Count: Find the count of user watch the each movie.
5. Drop: Drop unwanted rows and columns
6. Avg: Find the Average of each movie by dividing the movie rating sum and movie viewers count.
7. Find: MOVIE HAVING MAXIMUM VIEWS
8. Find: MAXIMUM AVERAGE OF EACH MOVIE
9. Find: THE TOP 5 MOVIE WITH THE MAXIMUM RATING
10. Find: THE TOP 5 MOVIE WITH THE LEAST RATING
11. Re-Loading: Loading in new variable
12. Mean: Find the mean of the movie rating
13. Apply Recommendation System: with Collaborative Filtering
14. Finally: Make predictions on the test data