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Movie Recommendation System

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Abstract

Movie recommendation system is important Because of its strength to the provide the enhanced entertainment in suggesting the recommended movies. This system suggests bunch of movies to the users based on their likes or the popularities of the movie. Although there are set of recommendation systems that have been proposed but most of the systems can not recommend movies efficiently either to an existing user or to a new user at all. In this paper the main goal for a movie recommendation system is to provide a recommended movie to the new user as well as other. It needs movie database to collect all the prime information, like name of movies, their cast names who have work in that movie and their information, reviews of that movies etc.

The purpose of movie recommendation system is to provide only those movies that user most likely want to watch and based on their choice.

Keywords: K-Cliques, Quasi-Complete, Euclidean Distance, Manhattan Distance, Hamming Distance, Cosine Algorithm, API Key.

1. Introduction

The main motive behind of movie recommendation system is quite simple. Mostly, there are two main element of recommendation system user & items. This system creates a movie prediction for its users, when item is the movie themselves.

The main aim of movie recommendation system is to provide only those movies that user most likely want to watch. Movie recommendation system is filtering system that used to filter the user's preference and make the suggestion on the basis of preferences. These have become famous over few years and now exploit in most online platforms that people use.

The content of such platforms varies from movies, music, books and videos to friends and stories on social media platforms, to products on e-commerce websites, to people on professional and dating websites, to search results returned on google. Frequently, these systems are able to gather information about users likes, and use this information to renovate their suggestions in the future. The ML algorithm for the movie recommendation system use the information about some particular user form the systems database. this information helps to predict the future aspect of the users concerned based in the data from the past.

A recommendation system is a modern way to describe a procedure that are used to predict your favourites items based on you or people similar to you. we can say that the recommendation system is tool to designed to filter the items as per the user's choice.

2 Proposed System

In the introduced methods there are content based recommendation system, collaborative based recommendation system and the hybrid recommendation system that are used to proposed the recommendation systems. The purpose of recommendation systems is basically search for the content that would be interesting to an individual.

The proposed movie recommendation system is basically on the essence most faction method. This was the first social networking method that was used to familiarize in the recommender system and found to be effective. The k-cliques are a quasi-complete sub graph in which the distance between any two vertices is less than k. The k-cliques connect to the k vertices and its very impressive method that used to build group in the social networks analysis is introduced.

The improved method k-cliques, provides the maximal exactitude with the recommender system. For performance assessment use the Movie Lens data, where common information available about the movies in the recommendation system. To judge the impact of Movie Lens dataset, it is split into experimental and test data that are mostly used in the artificial intelligence. In the proposed perspective, measure of cosine used to measure similarities between the users .There are so many ways that are used to measure the different kind of distance such as Euclidean distance which is used to measure the distance between the two points in the Euclidean space, Manhattan distance that the distance between two points measured along axes at right angles and hamming distance describe the number of points at which two corresponding pieces of data can be different.

This mentioned distance are used to measure the following things such as videos, articles, music,OTT platforms, search engines, etc. where the recommendation system commonly applied.

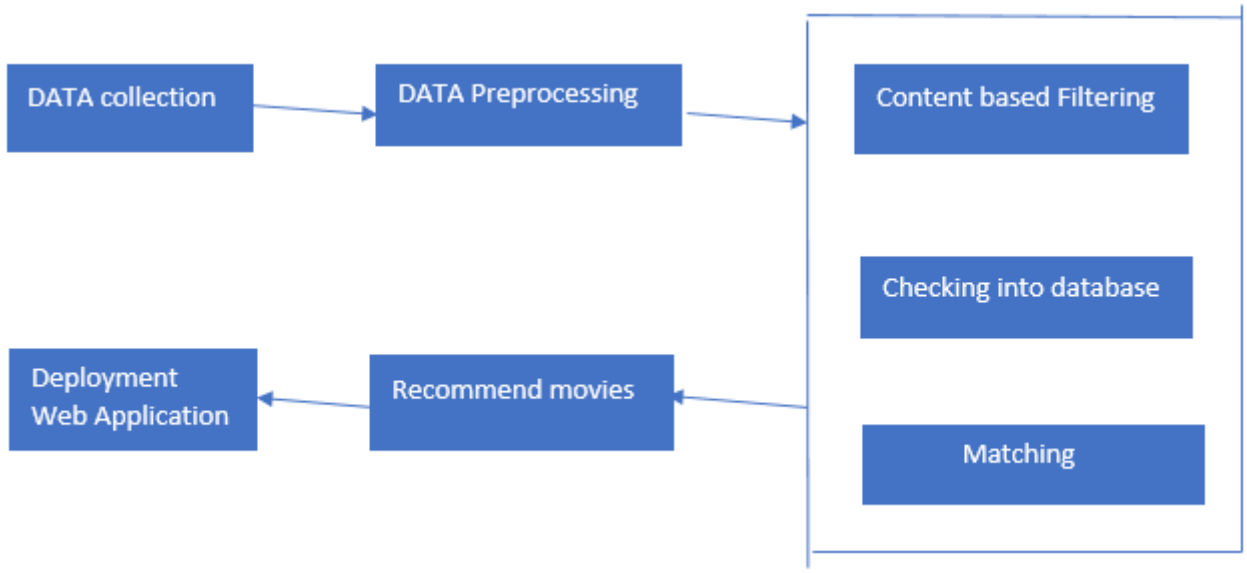
However, to appreciate the execution, the k victimized nearby neighbour's, the maximal internal circles, as well as the key internal strategies are used. The execution results show the advanced strategies improve extra purity of the movie recommendation system other than the strategies used in this search.

3. System Architecture

A system architecture is the conceptual model that describe the behaviour of a system, the structure of a system and more views of a system. An architecture definition is formal representation and description of a system. organized in a way that supports consideration about the structure, deportment and development of the system.

A system architecture consist the system components and the subsystem evolved, that work together for implementation of the entire system.

Figure 1. System Architecture



4. System Design

4.1 Ott Recommendation

Proposed movie recommendation system whose main aim is to suggest a recommended catalo through singular value decomposition associative filtering and cosine similarity. The existent work improves this approach by considering satisfied information of movies until item similarity count. The introduced approach recommends a top N recommendation list of movies to user interest likes that have not been previously rated.

4.2 Movie Recommendation

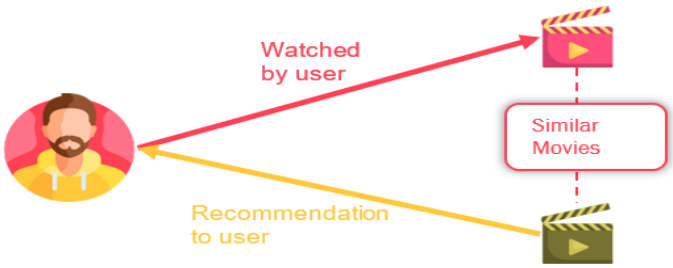
A movie recommendation system is recent way to describe a procedure that try to figure your preferred items based on the users similar to you. In common precondition we can say that a recommendation system is a tool build to filter the item as per the user's behaviour.

4.3 Content Based Filtering

Content based filtering are also known as cognitive filtering. This filtering suggests movies to the users based on their past experience, for ex is the users wants to watch only comedy movies then recommendation provide him only comedy movies similar to it which he has highly rated. suppose a user only likes content related to politics, a broader explanation could be that the system suggests website, blogs or news like that content. unlike associative filtering, content-based filtering does not face new users problem.

It has no other user interaction .it is only relevant to the particular users interest .it is only relevant to the particular users choice. first of all, content-based filtering checks the users' preferences and then provide a movie or any other product to him .it is focuses on users ideas,
thoughts and gives prediction based on his preferences. so is we think about movies, the content-based filtering checks the reviews gives by the users.

Figure 2 .Content-Based Filtering



Let's say ankit want to watch a movie A, then in this case the model will try to find the similar movies based on actor , co-actor , directors and genres ,etc. for ex, if the user want to watch the movies of their favourite actor or actress then system will search for the movies where the actor or actress are same.

5. Module List

5.1 Dataset Collection : First datasets contain the following features:

Movie title - A unique name for each movie.
Overview - Summary of the movie.
Rating - Movie popularity rating
Genres - Movie genres in the list.
Release date - Date of release of the movies.
Status - Movie status.
Cast - The names of lead actors and supporting actors.
Crew -The name of director, editor, composer, writer, etc.

5.2 Pre -Processing

The dataset contains two CSV files, credits and movies. The credits file contains all the metadata information about the movies and the movie file contains the information like name and id of the movies, language, genres in the movies that has been released, etc.

5.3 Content Filtering

Content based filtering uses similarities in services, production or content features as well as information collected about the user to make recommendations. It is type of recommender system that try to guess what user like on the basis of his activity. Content based filtering design recommendation by using keywords and attributes prescribed to item in a database ex items in in an online outlet and comparison them to a user profile. The user profile is form on basis of data received from the users actions, such as like & dislikes, downloads, the item searched on a website & located in a chart, etc.

For example, suppose you're recommending equipment to a user that only a laptop purchased from your website and has already bought laptop equipment. Separately from keywords such as the laptop producer, and model, the user profile referred previous purchases include laptops for credit cards. On the basis of this information recommender system suggest the similar laptops.

6. Implementation

For this recommender system,developer use the technique mentioned above: content-based filtering and to find the equality between the movies developer use the cosine similarity matrix and also create API for movie information.

Cosine similarity matrix: Cosine similarity is a matrix that used to measure the similar paper are irrespective of their size. Mathematically is measure the cosine of the angle between two vertices projected in multi-dimensional space. It is based on counting the maximum number of common words between the papers. In this context the two vertices means talking about are arrays containing the word counts of two paper.

The cosine similarity take orientation of paper and not the magnitude, if you want the magnitude then use the Euclidean distance instead.

Cosine matrix is profitable because if two similar paper are away from the Euclidean distance because of size they could still have shot angle between them. Short the angle, higher the similarity.

Steps to create API Key:

1. Crate an account in https:// www.themoviedb.org/.
2. Once you successfully created an account, click on the API key link from the left sidebar in account setting and fill all the details to apply for an API key .
3. After that you will see the API key in your API sidebar after your request has been approved

7. Conclusion

There are so many datasets accessible to make a movie recommender system . But in our project we are going to use a dataset that implant the metadata sach as cast , rating ,crew , etc of the movie. This project an algorithm for content-based filtering recommendation system and that used in movie recommendation system.

This externalize recommendation system applied the user-based cosine similarity algorithm. This recommend the top N movies to the users. In this project we have included the Hollywood, Bollywood, Tollywood movies, also the latest movies, etc.

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9. Author's Biography

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References

1. Https://ieeexplore.ieee.org/document/6382910
2. Https://labelyourdata.com/articles/movie-recommendation-with-machine- learning
3. Https://hcis-journal.springeropen.com/articles/10.1186/s13673-018-0161-6#:~:text=the%20proposed%20movie%20recommendation%20system,found%20to%20be%20very%20efficient.
4. Https://en.wikipedia.org/wiki/systems_architecture#:~:text=a%20system%20architecture%20is%20the,and%20behaviors%20of%20the%20system.
5. Https://www.naukri.com/learning/articles/movie-recommendation-system-using-machine-learning/
6. Https://www.kaggle.com/code/ibtesama/getting-started-with-a-movie-recommendation-system
7. Https://techvidvan.com/tutorials/movie-recommendation-system-python-machine-learning/
8. Https://towardsdatascience.com/how-to-build-a-movie-recommendation-system-67e321339109
9. Https://www.naukri.com/learning/articles/movie-recommendation-system-using-machine-learning/
10. Https://www.upwork.com/resources/what-is-content-based-filtering