Movie Recommendation System
Project Proposal

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Paper Details:

Title : Movie Recommender System Using K-Means Clustering AND K-Nearest Neighbor

Authors : Rishabh Ahuja; Arun Solanki; Anand Nayyar

Year : 2019

Published in 2019 9th International Conference on Cloud Computing, Data Science & Engineering (Confluence)

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Problem statement:

A new era of information has begun as a result of the rapid increase of data collecting. The usage of data to create more efficient systems is where Recommendation Systems come in. Recommendation Systems are a sort of information filtering system that improves the quality of search results by displaying things that are more relevant to the search item or are linked to the user's previous searches. They're used to predict how a user would rate or favor an item.

In this project I am going to build a movie recommendation system based on demographic, content and collaborative filtering.

Datasets:

For this project I am going to use a data set named **TMDB 5000 Movie Dataset** from the website www.kaggle.com

Link to the dataset : https://www.kaggle.com/tmdb/tmdb-movie-metadata

Motivation:

As we know, firms like Netflix and Spotify, rely largely on the efficacy of their recommendation engines to fuel their growth and success.

I believe the recommendation systems would really impact the access and usage of any application, and it is important that the user doesn't lose interest in it. In order to keep the users interested in our application, we need to show them the trending content or the content that they might like. This is exactly why I wanted to build this system.

Survey on related work:

Paper 1

Title : Movie Recommendation System Using Collaborative Filtering, 2018

Authors : Ching-Seh Mike Wu; Deepti Garg; Unnathi Bhandary

Published in 2018 IEEE 9th International Conference on Software Engineering and Service Science (ICSESS)

Paper 2

Title : Application of improved k-means k-nearest neighbor algorithm in the movie recommendation system, 2020

Authors : Chang Cai; Li Wang

Published in 2020 13th International Symposium on Computational Intelligence and Design (ISCID)

Paper 1: Movie Recommendation System Using Collaborative Filtering

- This paper gives a basic and clear understanding on how this whole system works,
- Describes types of the recommendation systems like, Collaborative, Content based and Hybrid.
- It also shows the different steps involved in the implementation process like picking dataset, data cleaning, data analysis, model building and evaluation.

Paper 2: Application of improved k-means k-nearest neighbor algorithm in the movie recommendation system, 2020

- This paper combines improved K-means algorithm and K nearest neighbor algorithm to recommend movies of interest to users.
- It gives the basic understanding of K-means clustering algorithm, Determination of K value
- It also gives Improved K-means algorithm and Improved K-means' K nearest neighbor algorithm and their usage to get results of accuracy.

Summary of the Method :

Gathering movie ratings or preferences from many users, and then using them to recommend films to different users based on similar tastes and interests is what is done in the paper. Clustering is a supporting approach used in the construction of the recommendation system. Clustering is the process of grouping a set of things so that objects in the same cluster are more similar than those in other clusters. To produce the best-optimized outcome, K-Means Clustering and K-Nearest Neighbor are used to the dataset. Based on many characteristics, the suggested recommender system predicts the user's choice for a movie. The recommender system is based on the assumption that people have similar preferences or choices.

Plan:

Task	Deadline
Data preparation/preprocessing	Feb 5, 2022
Model implementation/Training	Feb 12, 2022
Evaluation	Feb 19, 2022
Presentation	Feb 23, 2022
Final report	Feb 28, 2022

Thanks!