Movie Recommendation System Comparative Methods

Team Details

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- **What is the specific problem we are going to solve?**

What can we say about the success of a movie before it is released? Given that major films costing over $100 million to produce can still flop, this question is more important than ever to the industry. Can we predict which films will be highly rated, whether they are a commercial success? So, movies recommender system is a system that seeks to predict or filter preferences according to the user's choices. Movie recommendation systems provide a mechanism to assist users in classifying users with similar interests. This makes recommender systems essentially a central part of websites and e-commerce applications.

- **What are the questions we are going to attempt to answer?**

Recommender systems aim to predict users' interests and recommend product items that quite likely are interesting for them. We will be using different algorithms in recommender systems to come up with a model from which we can answer the question of recommending user's choices. Also, we will be answering how good will be the predictions made, what datasets must be used, what are the hidden costs, whether it is a real time approach or not?

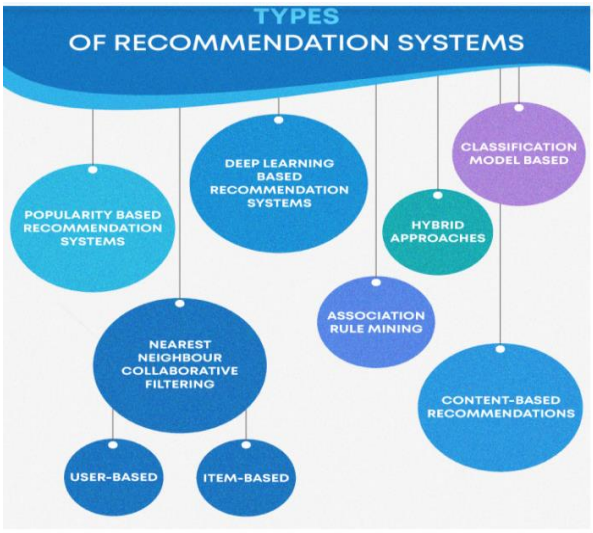
- **What are the challenges with this data set (based on the initial exploratory analysis + coarse solution approach (trying library functions, etc., to build a simple model)**

When the dataset was extracted, it initially had the missing values and there was some inconsistent data. Data pre-processing, Data access coupling, Dataset analytics, Storage specific datasets, Dataset metadata schema, Dataset accessibility.

- **What solution approaches would be reasonable to attempt?**

We can use collaborative filtering or content-based filtering or hybrid filtering(combination of both collaborative and content-based filtering). Collaborative filtering is another important

branch of the recommendation systems, which can be categorized as memory-based CF and model-based CF [20]. Different from the content-based recommendation, collaborative filtering depends on the customers' ranking of the items. The memory-based CF algorithm directly utilizes all the historical rating to predict the user-item rating matrix.



- **How is my solution approach different from what is already out there?**

Many solutions already exist to this problem. But our implementation is different from others as we are using Content-based filtering(uses a series of discrete characteristics of an item to recommend additional items with similar properties) and Collaborative filtering(approaches to build a model from user's past behaviour) and comparing in what way these models differ. And we will be using collaborative filtering in two different ways (Pearson's coefficient and Cosine similarity), and we do a comparison between these two models.

- **What is the use of solving this problem?**

From the models we will be building and based on the comparisons between the models that has been done, we can make better use of collaborative and content-based filtering of where this can be implemented and why. Instead of searching for a movie to watch, the user can be suggested with the movies of his interest which reduces time. Thus, we can recommend movies to a user of his/her interest in a better way possible. It can provide users with personalized online service recommendations to handle the increasing online information overload problem and improve customer relationship management.