CHATBOT MOVIE RECOMMENDER SYSTEM

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Abstract – Collaborative filtering is one of the most powerful customization methods guiding the adaptive web matrix factorization and deep learning. Collaborative filtering with the restricted boltzmann machine (RBMS), big data matrix factorization with spark cluster on AWS/EC2, and machine learning effective learning strategies. It claims that user satisfaction can only be increased if the movie recommender system understands the user’s tastes and openness to new experiences, and so provides personalized recommendations. Currently, our research shows that persons with a low level of openness to experience prefer correct suggestions over fortuitous (for them) ones. Instead, persons who are open to new experiences have no potent feelings about correct or constructive (user) orders. In expansion, to look at if our chatbot movie recommender system improves user satisfaction, this study shows how much the Users’ happiness with our recommender system is determined by the manner of engagement (conventional, conversational, or chatbot). According to the findings, the “Chatbot Movie Recommender System” has a beneficial influence on user happiness.

KEYWORDS: recommender system, content-based, collaborative filtering, similarity, movie, user.

1. INTRODUCTION

People rely on learning to drive decisions that are in their best concerns, which is what a recommendation system is. A subtype of information filtering that predicts preferences for goods used by or for users is known as a system. Even though distinct steps have been identified in the prior, the search continues to exist owing to its broad use by users in many apps, which personalizes suggestions and helps them deal with information overload. Because these criteria pose certain difficulties, several techniques, such as memory-based or model-based, are employed. To become a better system, the system still has to be improved. The recommendation system is a clever system that gives people suggestions for products that they might be interested in. A few examples are Amazon.com, Movies in Millions, and Last. FM. Different methods with their methodologies are discussed in this study to compare the limits of each strategy to propose solutions for upcoming suggestions. Chatbot Recommender Systems (CBRS) are software agents that assist users in interactively searching for information or viewing their favorite shows. The system attempts to elicit the user’s requirements and preferences before making suggestions, sometimes providing explanations, and processing the users’ response to the recommendations. As a result, such systems are far more interactive than the one-shot recommendations we now obtain on e-commerce or video streaming sites.

2. RECOMMENDATION SYSTM TECHNIQUE

Approaches of Recommendation System Recommendation system is usually classified on rating estimation

1. Collaborative filtering system
2. Content-based system
3. Hybrid system

Comparable things to the ones the user enjoyed in the past will be offered to the user in a content-based approach, whilst items that similar group others with similar likes and preferences will be recommended in a collaborative filtering method. Hybrid systems that incorporate both techniques in some ways have been developed to address the limitations of both methodologies.

2.1 Collaborative filtering system:-

Collaborative filtering systems collect user feedback in the form of ratings for objects in a certain field and use similarities in rating actions among several users to determine how to recommend a particular item. Collaborative filtering systems suggest an item to a user based on what other users have said about it. In a movie recommendation app, for example, the collaborative filtering algorithm seeks other users who share similar interests and then suggests the films that they enjoy the most. Although there are many collaborative filtering techniques, they can be divided into two major categories:
1. Memory Based approaches

2. Model-Based approaches

Makes rating essential, which improves sparsity. Using neighbourhood-based collaborative strategies, the issue of over-specialization is tackled.

2.3 Merits and Demerits of Recommendation System

Merits –
1) Easy recommendations lead to fewer searches and, on occasion, unsatisfactory results.

2) User reviews provide factual information; this is also an advantage if you buy something online because you can read other reviews, which are usually honest.

3) Based on the prior statistics, accelerate the decision-making and purchasing process.

Demerits –
1) If the algorithm makes biased product recommendations, customers will wind up with bad deals.

2) There's a chance that certain websites will provide incorrect product recommendations based on a scan of limited data.

2.4 Clustering

The previous idea is simple and appropriate for small systems. We used to think of recommendation as a supervised machine learning problem. It's an excellent chance to use unsupervised approaches to solve the problem. Assume we're developing a large-scale recommendation system. The first concept that sprang to me was clustering

2.5 Recommendation method based on deep learning

The development of brain systems has accelerated dramatically in recent years. They are being used in a broad range of applications and are gradually replacing traditional ML strategies. Making suggestions for sites like YouTube is, without a doubt, a difficult endeavour because of their large magnitude and other external considerations.

2.2 Literature review of recommendation systems.

The authors proposed a flexible multicomponent rate recommendation system to predict the optimum rate of fertilizer for winter wheat – Scharf & Alley, year(2017)
The authors proposed an approach to the recommendation that can exploit both ratings and content information – Basu, year(2018)
The authors proposed various techniques for computing item-item similarities – Sarwar, year(2016)
The author proposed an approach for a personal recommendation of news – Bomhardt, year(2019)
The authors presented the design of a dynamic web selection framework – Manikrao & Prabhakar, year(2016)
The authors proposed a rating concept that allows users to generate rating criteria – Von Reischach, year(2019)

As a result of its frequent appearance in numerous and extensive applications within the disciplines of many aspects of science and technology, recommendation systems have achieved significant notoriety and popularity among researchers.

Previous recommendation systems had flaws, such as the fact that most users do not offer ratings, resulting in a sparse rating matrix.

The most typical issue with content-based recommendation is over-specialization.

The issue of a cold start is always present in content-based recommendation systems.

As a result, we are motivated to develop a new societal model:

![Diagram of Recommendation System](image-url)
3. CONCLUSIONS

It can improve this system by building a Memory-Based Collaborative Filtering based system. Here, we’d divide the data into a training set and a test set. We’d then use techniques such as cosine similarity to compute the similarity between the movies. An alternative is to build a Model-based Collaborative Filtering system. This is based on matrix factorization. Matrix factorization is good at dealing with scalability and sparsity than the former. You can then evaluate your model using techniques such as Root Mean Squared Error (RMSE).

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