DAYANANDA SAGAR UNIVERSITY

MACHINE LEARNING

ON

"MOVIE RECOMMENDATION SYSTEM"

BACHELOR OF TECHNOLOGY

IN

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SYNOPSIS ON

“MOVIE RECOMMENDATION SYSTEM”

In today’s digital world where there is an endless variety of content to be consumed like books, videos, articles, movies, etc., finding the content of one’s liking has become an irksome task. On the other hand digital content providers want to engage as many users on their service as possible for the maximum time. This is where recommender system comes into picture where the content providers recommend users the content according to the users’ liking.

Recommendation system produce a ranked list of items on which a user might be interested , in the context of his current choice of item. Recommendation system has mainly two elements item and user. There are different types of recommendation system , here we are working on movie recommendation system with content-based.

In content-based filtering, items are recommended based on comparisons between item profile and user profile. A user profile is content that is found to be relevant to the user in form of keywords (or features). A user profile might be seen as a set of assigned keywords (terms, features) collected by algorithm from items found relevant (or interesting) by the user. A set of keywords (or features) of an item is the Item profile. For example, consider a scenario in which a person goes to buy his favorite cake ‘X’ to a pastry. Unfortunately, cake ‘X’ has been sold out and as a result of this the shopkeeper recommends the person to buy cake ‘Y’ which is made up of ingredients similar to cake ‘X’. This is an instance of content- based filtering.

This one basically recommends other movies which are similar to that selected movie. Here we will be including a movie lens dataset by group lens where this contains collection of movies. It uses only the item data maintaining a profile for each item. Each user is assumed to operate independently. No need for data on other users.

Considering the attributes or features of the item, it finds the similarity between items, and recommends the most similar items for an item.

If we consider the content of movie as director, writer, cast etc.. then each of these attribute can be considered as a feature. They are capable of recommending unrated items. We can easily explain the working of recommender system by listing the Content features of an item. Content-based recommender systems use need only the rating of the concerned user,and not any other user of the system.

Here we use of two main algorithms cosine similarity algorithm and Euclidean algorithm. Cosine similarity is used to determine how similar the documents are irrespective of their size. Mathematically , it measures the cosine of the angle between two vectors projected in a multi-dimensional space. In the context, the two vectors I am talking about are arrays containing the word counts of two documents.

When plotted on a multi-dimensional space, where each dimension corresponds to a word in the document, the cosine similarity captures the orientation (the angle) of the documents and not the magnitude. To compare the magnitude we come across Euclidean algorithm.

We finally conclude that, Recommender systems benefit users by enabling them to find items they like.