ANIME RECOMMENDATION SYSTEMS

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Abstract:

The animation industry consists of more than 430 companies. This brings us to what we've been working on recently: A recommendation system that can help anyone or any company to view/add the highestrated anime. In this we will conduct exploratory data analysis to familiarize the reader with the data presented. We will create a baseline model using Singular Value Decomposition (SVD). We will then do memory-based models that will look at user-based v item based.

Keywords:

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anime_id, name, genre, type, episodes, rating, members.
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Introduction:

Anime is a hand-drawn computer animation originating from Japan which has drawn a cult following around the world. The animation industry consists of more than 430 companies. Dragon Ball and Naruto are few of most popular anime shows that have come to Western television. Spirited Away, a film created by Hayao Miyazaki and animated by Studio Ghibli, is the highest-grossing film within the anime genre. The reason it became so popular in the west is that a good friend of Miyazaki's convinced him to sell distribution rights to Walt Disney. Like Spirited Away, there are thousands of really good anime films and shows produced by the same animation house. Many others can take this example and use it as a way to bring such works of art into Disney+ or any streaming site in the West. The Japan External Trade Organization has valued the industry's overseas sales to 18 $billion$ (5.2 billion for the US alone) in 2004. This has definitely grown and has the potential to grow even further, especially

during this time in the world. Like some countries, Japan is facing one of the first long term recessions.

Software Specification:

We will use KNNBase, KNNBaseline, and KNNWithMeans. Then we will take the topperforming model and evaluate its root mean squared error and its mean absolute error.

METHODOLOGY:

This research employed quantitative research method. Quiet some respondents participated through convenience sampling for this research. Respondents are university students from our university. As for the instrument, questionnaire was developed in conducting this research. The items in the questionnaire include demographic and impacts (negative and positive) of anime. Questionnaire was self-developed by the researchers thus; pilot test was conducted to check reliability of the instrument. Pilot test revealed a reliability score. Many of which suggested that the questionnaire is valid to be used. Analysis of data includes comparison between two independent variables; female and male university students. Independent T-test will be used to analyze the comparison.

Materials and Methods:

Material:

we have downloaded anime and user ratings from https://www.kaggle.com/CooperUnion/anime-recommendations-database .

This database includes anime_id, name, genre, type, episodes, rating, members.

Method:

we will conduct Analysis, then do memory-based models that will look at user-based v item based. We will use KNNBase, KNNBaseline, and KNNWithMeans.

Data collection and processing:

The data is collected from Kaggle by the authors in randomly selected samples. We have collected the data in which every user given their own ratting. And contains information from 73,516 users who may have given a rating to one of 12,294 anime items. The scores/ratings range from 1 - 10 with 10 being the best. If the rating is -1, it means that the user did not provide a rating for that item.

PROBLEM FORMULATION:

Deciding what to watch might be one of the most dilemmatic decisions one has to make. Especially, if more than one person is going to decide. People often end up fighting while deciding what to watch. With so much content from across various genres available to us in just one click, it is a real headache. Deciding on what to watch consumes so much time that sometimes we are left with no time to watch by the time we decide what to watch. Anime is one of the fastest growing sections of entertainment industry today. It caters to us with content on a variety of genres. It is being loved by people from all sections of society. 6 6 | P a g e So, to end the conundrum of what to watch, an anime recommendations generator is a great solution. On just one click, a recommendation will be generated and in case you have already watched the show then just click once again to generate another recommendation. Another motive of an anime recommendations generator is to promote anime in India and to remove this preconceived notion that 'anime is just for kids.

Conclusion:

Overall, the Hybrid Recommender performed best due to it having the lowest error score. This was expected because when you have a hybrid recommender, the algorithms make up for the shortcomings of each other. As mentioned earlier, Item based recommender had the trouble of recommending items for some new users. This is a problem for collaborative filtering recommenders due to a of lack of enough information where only a few of the total number of items available in a database rated by users. Therefore, there comes the inability

to locate successful neighbours and finally, the generation of weak recommendations.

To conclude, recommender systems open new opportunities of retrieving personalized information on the web. It also helps to alleviate the problem of information overload which is a very common circumstance with information retrieval systems and enables users to have access to products and services which are not readily available to users on the system. This project discussed the three recommendation techniques and highlighted their strengths and weaknesses. Various learning algorithms used in generating the recommendation models and evaluation metrics were used to measure the quality and performance of the algorithms discussed.

FUTURE SCOPE:

The future developers can use various types of algorithms and can also include user interface designs for a better experience

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