Effective Music Video Recommendation System based on User's Singer Interest

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Abstract— In today's era users are very much influenced and attracted by the social media and services. They spend lot of time to fetch their favourite video from a huge amount of videos available on the internet. Video providers don't know what kind of video does the users prefer and don't prefer. This paper presents a search based and the interest-based approach used for YouTube video recommendation for the users. The aim is to provide the users with music video suggestions that the user prefers. This approach collects the data as the user views the video, creates a sequence, compares with the other user searches and recommends the video to the user which they might be interested. But, only an intuitive and accurate visualization interface can be provided by this video recommendation system.

Key words: Text Mining, Recommendation System, Machine Learning

I. INTRODUCTION

With the progress of the Internet, 3G (the third Generation minimized correspondence headway), and 4G (the fourth Generation versatile correspondence improvement) organize, the data trade breaking point and speed of system wind up being speedier and snappier. These movements offer conditions to scattering of data media.

A Video is another kind of data media. A video is a compact navigate video, which proceeds for 30 seconds to 300 seconds. We download information from video regions, video gathering, video online visit goals, etc. Web crawlers [4][5], one of fundamental edifying documents gathering, can download assets from the Internet. The web crawlers at first utilized for web searcher. In this paper, the deferred results of crawler especially affect the precision of suggestion framework. Diminutive scale accounts are outstanding with adolescents, in light of the way that the young people take after to watch the downsized scale vide on their confetti time through telephones. For tinier scale video makers, the issue is they don't appreciate what number of individuals like their things, and don't know how as regularly as conceivable their video has been seen.

As requirements are, this paper proposes a video suggestion framework (MRS-Micro Video Recommendation System). One of the plans is a study of annals for the maker. Subsequently, the maker acknowledges what number of clients adore their video, and the amount of the time their annals are on-inquire. Another desire is for clients. The structure can dismantle the clients' best picks and watch history, regularly push honest to goodness video to the clients. It is ending up more notable with the web improvement movement, which surmises the instructive collections whose size is past the farthest point of current headway, methodology and hypothesis to get, direct, and process the information inside a generally engaging snuck past time. Recollecting the genuine target to upgrade the MRS precision, we have to collect wide volume informational records about who and when seen the more diminutive scale video, how every now and again the downsized scale video on demand, and what number of individuals regard the little scale video.

From now on, the MRS, proposing in this paper, utilize improvement to process the gathered informational collections. Instructive aggregations are the establishment of the proposed structure. The basic progress of video proposition is to gather information past what various would think about possible from the Internet.

II. LITERATURE SURVEY

1) Recommendation of YouTube Videos [2]

YouTube is a huge video-sharing service with hundreds of millions of users and hundreds of thousands of videos being uploaded every day. Thus, the recommendation of YouTube videos to a single user is a challenging problem which cannot be solved by simply reusing the prevailing recommendation methods. The paper presents a specific recommendation algorithm for YouTube which relies on the data retrieved through the YouTube Data API. A cloud-based application integrates the proposed algorithm and offers a web interface to end users. The paper presents a preliminary analysis of the recommendation quality and lists YouTube Data API limitations which influence the design of recommender systems for YouTube videos.

2) Cloud-Assisted Video Recommendation System [1]

With the quick development in multimedia services and the massive offers of video contents in online social networks, users have difficulty inobtaining their interests. Therefore, various personalized recommendation systems have been proposed. However, they ignore that the accelerated proliferation of social media data has led to the big data era, which has greatly impeded the process of video recommendation. In addition, none of them has considered both the privacy of users' contexts (e.g., social status, ages and hobbies) and video service vendors' repositories, which are extremely sensitive and of significant commercial value. To handle these problems, wepropose a cloud assisted differentially private video recommendation system based on distributed online learning. The server vendors are reflected as learners, recommending videos according to user's context and adapting the video-selection strategy based on user-click.

3) Focused Web Crawling Algorithms [5][15]

Nowadays, the web is rich of any kind of information. This information greatly influenced our lives, our lifestyle and way of thinking. A web search engine is a complex multi-level system that helps us to search the information that available on the Internet. A web crawler is one of the most important parts of the search engine. It's a robot that systematically browses and indexes the World Wide Web. A WebCrawler is mainly used to crawl web pages that are relevant to the user's

given topic or web page link. As it says, a WebCrawler is just a program which helps the user to obtain required information from the internet.

III. SYSTEM ARCHITECTURE

A. Reading Dataset

In the reading dataset first we need to read the dataset of YouTube video links using Java POI API after successful reading of dataset we need to load all the data into Java memory.

B. Selecting Multiple Users

After successful reading of dataset we need to select the multiple users. After successful selection of the multiple users the corresponding video links will be fetched from the java memory and then clustering.

C. Clustering

After fetching the video links of the corresponding user the following steps we need to follow to form the cluster [3]

D. Neural Association Clustering

NAC is a framework in this research which is an interdependent among three blocks of flow [12][13][14].
Blocks:

- Neural
- Association
- Clustering

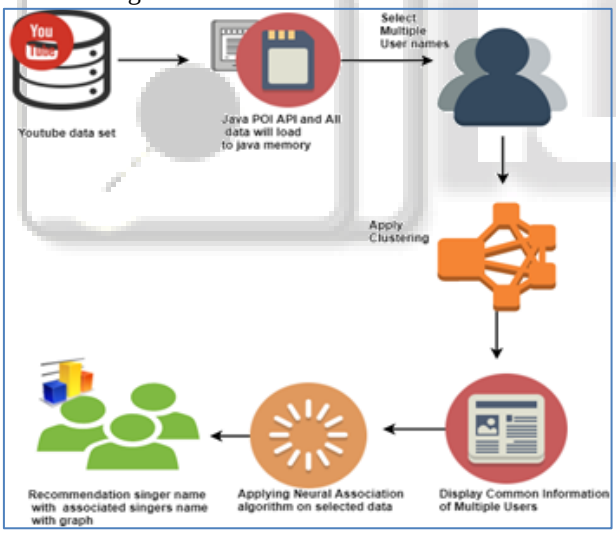

Fig. 1: System Architecture

Each and individual block's output would be the input for preceding block. Once the selective users collected they grouped into side by side duplicated users with frequency 2 for pre Collaboration [8][9][10].

Here is the following neural combination for six users: The user-1 indicated with 1 and user-2 indicated with 2 and so on up to six users. The combinations would be 6 to 6 side by side combinations. By omitting self-combinational associations all combinations will be framed with neural framing with partners among users. So following is the fig-2 which shows user1 and user-2 combinations with all other users. Likewise, all other users will be associated with respect to neural model withall other users with the association. This is pre-step of neural and input to Association [4].

1	2
1	3
1	4
1	5
1	6
2	3
2	4
2	5
2	6
3	4
3	5
3	6
4	5
4	6
5	6

User1 is with the viewed one "Javed Ali" and "K S Chitra" and User2 viewed with "K S Chitra" and "A R Rahman", so the association of user-1 and user-2 will be extracted with "K S Chitra" which is the common pattern among user-1 and user-2. User-2 viewed one "K S Chitra" and second one "A R Rahman", user-3 viewed "A R Rahman" and "Javed Ali" so the common pattern is "A R Rahman". So by getting two common patterns from two users with single item (could be more items as result and depends on the datasets). So two clusters will be framed C1 and C2.

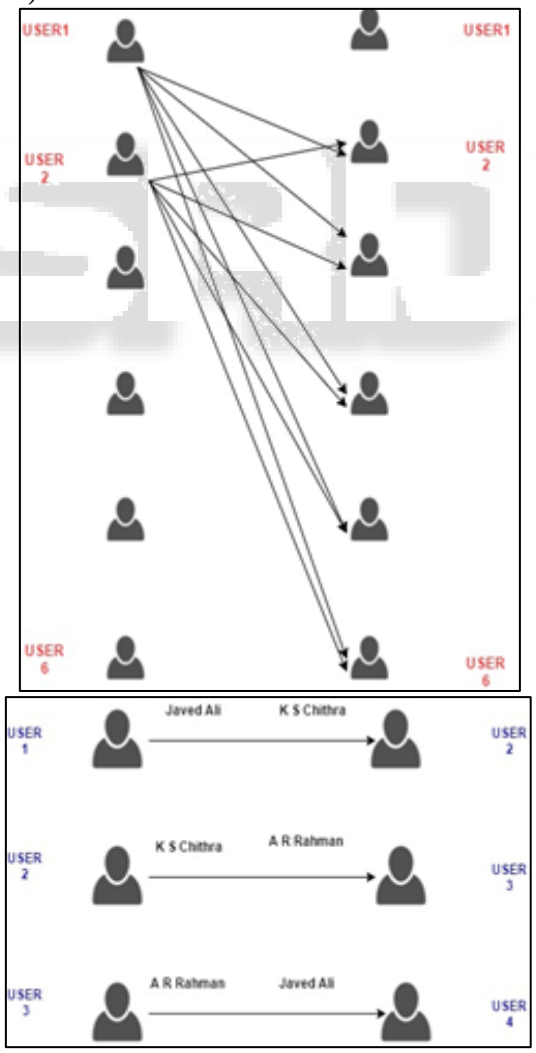

Fig. 2: Example System
C1 ---(User1 and User2) and C2 ---(User2 and User3)

C1 contains "K S Chitra" and C2 contains "A R Rahman". Here are the following as clusters

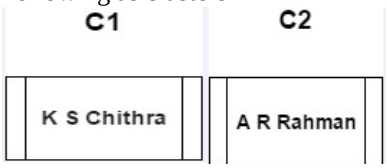

Fig. 3: Clusters formed

Clusters are made of with common viewed pattern among users. Once the clusters framed based on the new user's choice with respect to maximum frequency of the most viewed among the users and recommendations will be prompted. Here the probability of recommendations is more to "A R Rahman" and less probability to "K S Chitra". And combinational recommendation probability is less for "K S Chitra".

IV. ALGORITHM

A. *Neural Algorithm*

The learning rule is a rule or an algorithm which modifies the parameters of the neural network, in order for a given input to the network to produce a favoured output. Such systems "learn" (i.e. progressively improve performance on) tasks by considering examples, generally without task-specific programming.

```
Neural:
Input: ∑Users <= 0
 Output:  ∴ NA //Neural Association
Declaration
n = 0  //  Size of the selected users
NA <= { 0 }
Algorithm:
User <= GET User ( )   // Function to retrieve the selected users
n = Size( Users)   // Get the number of selected users
   For  i   in  1:n
                Start
    For  J   in  2:n
                 Start
    P1 = User ( i)
    P2 = User ( J)
  If(~P1 ≡ P2)
NA <=   [ P1 P2 ]
  End for
  End for
```

Fig. 4: Neural Algorithm

```
Association clustering:
Input: ∑NA    //Neural Association
Output: ∫C    //Clusters
Declaration:
N <= 0   // Size of Neural node 1
∫SC Items <= 0  //Association non counter items
Algorithm:
N<= Size( NA )
   For i   in  1:n
               Start
   Items = FETCH ( NA (i)) // Fetching the items
P1 = Item( i)
P2 = Item ( J)
∑L1    = RETRTRIVE [ P1 ]   // Retrieved the allocated pattern as viewed
∑L2   = RETRTRIVE [ P1 ]   // Retrieved the allocated pattern as viewed
SC Items[ ]    =  Association [ L1, L2 ]     // Fetching common Items
SC <= SC Items
End for
FRAME(SC)
```

Fig. 5: Association clustering algorithm

B. *Web Crawler*

A Web crawler is an Internet bot that comprehensively browses the Web, mainly for the purpose of Web indexing. Crawlers consume resources on visited systems and often visit sites without the site admin's approval. Mechanisms exist for public sites not wishing to be crawled to make this known to the crawling agent. Selenium is an automatic web testing tool, used for automating web applications for testing purpose and used to open URL automatically. We use this tool for web crawlers to download the contents of dynamic websites [6][7][11].

V. CONCLUSION

With the change, the video are powerfully and customary, particularly vivacious adolescents are doubtlessly going to watch accounts on cell phones. The inconveniences what we require at show is the strategies by which to locate the most venerated video. Something special, for video makers, what they control to is the thing that number of watchers like what sort of annals. In context of this see, this paper proposes a video suggestion structure. As per the watchers' looking at or watching history, this structure can support the most revered annals to the watchers. Obviously, this structure can collect the responses and give a few suggestion for video makers with what number of watchers like the video. The centre furthest reaches of the framework is the recommendation figuring's. The all things considered Neural Association Cluster estimations are suite for custom datasets, for example, content-based suggestion, encouraged effort recommendation, etc. Notwithstanding, with the movement of Big Data, the suggestion estimations ought to have the ability to manage the Big Data. Plus, our framework will give suggestion for related vocalists names and records.

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