

# THBA: Efficient Approach For Recommender System

Monika khandelwal, Mukesh Kumar, Sitesh Sinha

Department of CSE, Aisect University

Bhopal, India

Khandelwal.monika4@gmail.com

Mukesh.kumar@gmail.com

**Abstract**-There are a huge scope of data mining and its technique in order to provide any kind of recommendation system using dataset generated by different resources every day. There are algorithms which make use of dataset content feature and content based query approach and find the best data rank for the further usage. Such as in the case of product selection and choosing of appropriate need user can make use of this algorithm application. Recently author [1] proposed such hybrid technique. In this paper our main contribution is enhancing the hybrid approach on providing more computational input parameter using which the accuracy of the computation is increasing, thus the better and optimized result is produced. Here our work proposed THBA (topical hybrid based algorithm) for the recommender system.

**Keywords:** - Recommender System, dataset analysis, THBA, topical relation.

## INTRODUCTION

The recommender system and its wide approach are always useful in today's web market, where daily and new product and portal launch is occurred. The consumer is required to get aware product intimation, product usability based on some model or application approach in the competitive world. This system is started from lot many e-commerce, classified and other user friendly social web portal also today which produce auto recommendation based on the user's usage and data availability with the profile. The most famous online recommender system is Amazon, which suggests books and other articles to their customers, in there are more and more application which provides users suggestions about their search, now-days most of the web application provides user suggestion to make their search easier just like we going to search news video on YouTube than it suggest us more and more videos about news in this way we can easily search required video..

**RECOMMENDATION SYSTEM:** Different scenario availability Basically Recommender system follows the approaches:

- Collaborative Filtering System
- Content-based System
- Hybrid system

There are the technique availability such as collaborative filtering, content based, hybrid approach. Which take part analysis of available data such as movie based data, e-commerce product based data or any of the generic user activity data where a large data take part and user will require taking decision to choose.

There are the above three technique which make use of available data and generate the recommendation to the user for better profile maintenance approach.

## ILLITERATURE REVIEW

In this section they contain data is about the previous technique performed in order to make produce recommender system for the web user and other data users.

In this paper author [2] propose a system for real-time recommendation generation. primary of the system to generate relevant recommendation, it ease the user who has variety of option to choose and also a user friendly environment which can handle with ease, such systems have great significance in browsing which make easier to choose from huge amount of data like movies, news ,travel etc.

In this paper author [3] presents concept base mining and concept base filtering technique to retrieve data for web search query from web users and it will help web users to get desire data and also in a very short and concise time span. Concept based mining generate piece of web topics and display top ranking topic first. Concept based filtering filter the document for web query.

In this paper author [4] proposed a content based technique to provide recommendation for deliberate user, recommendation systems are applications which provide recommendation to the Deliberate user, mostly these system use filtering for recommendation there are so many techniques like collaborative-filtering, content based filtering, hybrid technique etc. which use for recommendation system. We take content based technique because it suitable in situation where items are more than the users in this algorithm TF-IDF (Term Frequency Inverse document Frequency) and cosine similarity were used to determine relevant search.

Now-days more and more web service increases so we need find best service for us so for these purpose we need an efficient recommendation system to fulfil our requirement and help us to choose better service among all for this author propose [6] collaborating filtering technique to filter service data as per user needs, collaborating technique based on users past experiences and rate those services on those experiences. It uses user-based and item based computation for recommendation but not take parameters like QoS in computation. So author produces a framework for collaborative filtering and QoS for better results.

### III. RELATED WORK

In the recent work there is technique such as content filter technique, content based technique and the hybrid approach is produced by the authors which make use of available data and follow the following steps using which recommendation for the movie dataset is produced.

Steps involved in related approach:

1. Dataset selection, a movie related dataset is chosen.
2. Performing location based recommendation using data.
3. Performing recommendation based on user content feature and content availability.
4. Using temporal factor.
5. Computing the parameter value of MAE and compare the result using different size of dataset statistically and graphically using available tool.

The system makes use of approach for recommender system and further produce accuracy of the system. Further the system is required to make use of other topical data available with the user such as location lingual data, timely activity

performed available data which can further provide a better accuracy using more attribute.

### IV. PROPOSED METHODOLOGY

As per analysis of the literature and related work the further requirement to generate new approach which make use of more attribute and propose new technique THBA which produce result with more accuracy.

THBA Algorithm:

Input: dataset, relational data.

Output: recommendation, ranking of data.

Steps:

Load dataset  $D_i-n$ .

Process data from  $i-n$

For each (data  $i-n$ )

{

Compute location based filtration factor LF.

Compute topical coefficient TC.

Compute timestamp based recommendation Tr.

Return  $RF+TC+TR$

}

Compute MAE parameter.

MAE is calculated on every dataset as:  $\sum \in EQN$ .

Return accuracy and prediction recommendation.

End;

### V. EXPERIMENTAL SETUP AND RESULT ANALYSIS

In order to compute experiment and result part the movie dataset is extracted and usage for the experimental purpose. The csv file contains the user profile, usage data, action performed timing which further used for the result computation. Here developing an application which is provided two factor authentications.

For developing this application, we are using JDK 1.8 that is JAVA developing kit, take i3 processor, 4 GB Ram and net beans environment for the result experiment evaluation. JAVA development kit a software development kit (SDK) for producing JAVA programs. The JDK is development by Oracle INC java soft division. Parameter computed: in order to prove the effectiveness of our approach the parameter MAE is computed over the produced result and further the comparison is performed with existing approach. The following result observed:

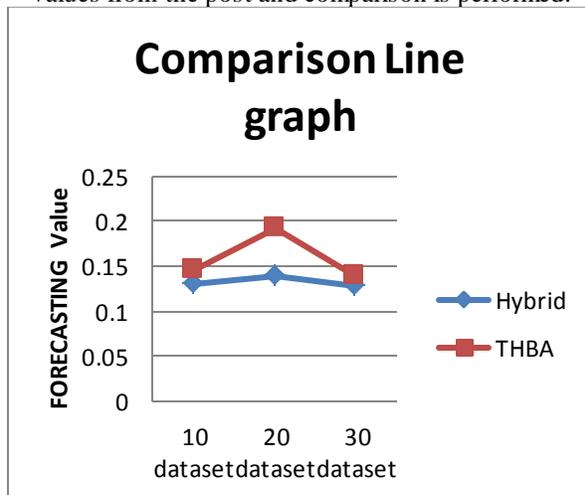
In the table present below is a statistical comparison of the forecasted values which forecasts violent extremist online recruitment in social media or website's posts which are posted by radical or terrorist organizations. There are post

which taken for 5 days and extracted data is processed and further the following result is computed.

Technique Approach / Number of data	Hybrid approach for recommender system	THBA algorithm for recommender system
10	0.131	0.145
20	0.139	0.193
30	0.127	0.138

**Table 1: comparison analysis of both approaches**

The above table represents the number of dataset values from the post and comparison is performed.



**Figure: Comparison Line graph for technique analysis**

In the above graph drawn x axis as data from which post were extracted for the query processing for specified dataset and line graph is printed using the chart library provided by the Microsoft and further analysis can easily performed thus the THBA approach outperform the best. The graph representation shows the efficiency of our proposed algorithm work and it outperforms the accurate forecasting value.

### VI CONCLUSION

In the different approach and algorithm various dataset and algorithm is proposed for the

recommender system where accuracy is claimed. In this paper discussed is to analyze two approach one is hybrid algorithm which make use of CF and CB approach for the recommendation generation and other is make use of topical relation to produce more accuracy with the available dataset. Proposed algorithm proves that the approach can produce more effective result with multiple dataset and real-time scenario. The further work can be done with the same approach on applying with large data and implementing it into the real time platform, also more parameter can be computed to show better result comparison.

### REFERENCES

- [1]. R.ShivaRanjane, R. Vidhya"Travel Package Recommendation System"JSRES, vol. 2, issue 3, March 2015.
- [2]. SauravMaiti, AishwaryaChandrashekhar, SaifPathan, Madhvi A. Pradhan, Shiva Karthik, and Swati A. Mehta "Designing A parallel Hybrid and commercial movie Recommendation System"IJCET Vol.5, no. 3, June 2015.
- [3]. V.jaishree, Mr.A.Balasubramaniam" web search recommendation system using concept based mining techniques" IJARCSSE Vol. 4 issue 7, July 2014
- [4]. Simon Phlip, P.B. Shola, AbariOvye John "application of content based approach in research paper recommendation system for a digital library" IJACSA Vol. 5 NO. 10 2014
- [5]. Kun Ma, Tingting Lu, and AjithAbraham"Hybrid parallel approach for personalized literature recommendation system" IEEE 2014.
- [6]. N. Kannammal, S.vijayan, and R. SathishKumar"A Survey on Collaborating Technique and QoS Based Recommendation System" APRN journal of Engineering and applied sciences vol. 10 No.6 April 2015.
- [7]. K.V. Bhosle, Rohit A Kautkar"Exploring Approaches of Recommendation system In support of Verdict and Comparison: A Personalized Prospect "IJTEEE Vol. 3 issue 03, 2015.
- [8]. Punam Bedi, Sumit Kr Agarwal" Aspect-Oriented Mobility-Aware Recommender System", 2011 World Congress on Information and Communication Technologies 978-1-4673-0125-1@ 2011 IEEE (pp 191-196).
- [9]. Daniel Herzog, Wolfgang Wörndl," A Travel Recommender System for Combining Multiple Travel Regions to a Composite Trip", CBRecSys 2014.
- [10].J. Ben Schafer, Joseph Konstan, John Riedl, "E-Commerce Recommendation Applications", Applications of Data Mining to Electronic Commerce ,2001, pp 115-153, springer US.