

A Review of Machine Learning to Create Recommendation System for Social Media

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Keywords: Social media, recommendation system, machine learning, query solving, media and culture, usability, Google, face book

Abstract:

Today the social media are full of information and most of the information is of no use to most of the users. It will become more difficult for users when they try to find out things form this large raw data it is like finding needle in a hay stack. And here come recommendation system which shows similar result to users need. All these recommendation system are built on the previous search of the user and try to predict the best future search results for users. It is kind of learning system that grows and develops itself on the history of user. Recommendation system results are not always correct. They do generate garbage value but the best part about them these systems learn from those values as well. These system are not limited to just recommending value they are becoming more and more personalized now with the use of artificial intelligence which does not only compare users own search but it does compare user search with other users search and then compare those and produce the final result which are most of time associate with what the user is looking for.

Introduction: In today's world of internet it is full of raw data which is of no use to most of the people. But internet has connected the world and it has solution for most of the general problems. Almost every person with a smart phone or desktop once visits internet for finding solution to their problem, or to connect with their friends etc. So searching on internet or on social media can be a difficult task for the daily users. And to save this trouble for users, Recommendations systems are developed. Recommendations system are not new, it was year 1970 when first recommendations system was developed but they were of no use until we have large chunks of data to deal with every day. Now with plenty of data we can develop these systems because these systems are nothing, they are like a learning system but they learn from the past value and predict the future results for us. So when a user search something, a code runs in the back and it stores data which we most commonly known as browser history. And when the user is not online it learns where all those search. And finally when that user or a similar user uses the same search it show most relevant result. But it does not stops here. It will track all the search that user has like and what is not liked by user and them improve itself and this process run it loops and finally a fully trained system star producing result that matter to user

Working:

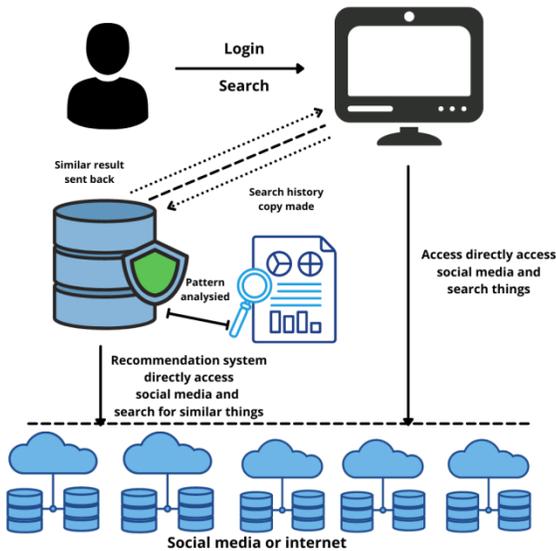


Figure 1: How does recommendation system works

Step 1: User come to the social media or to the internet and searches something. All those searches will be stored by the system for future references.

Step 2: The social media or the internet will show all the relevant result based upon the search.

Step 3: The user will visit a number of page and skip a few.

Step 4: All the visited and all the skip page all will be saved in the system along with the information like how long does the user spend on a page, did he liked something, did he add comment to any text and things like that.

Step 5: The user will logout form his account.

Step 6: The system will analyses all the data and it will look a pattern in the user search and learn from it.

Step 7: Once system leaning is completed it will produce some results and match them whether they fit in the categories the user was looking for and finally show the most relevant result to the user.

Step 8: The user will log in again and this time when he search for the things better result will be produce and a new record is maintained just like the previous one.

Step 9: Again all the new and pervious result will be compared and it there are any new patterns in user search. They will be added to the array.

Step 10: The process keeps repeats itself again and again.

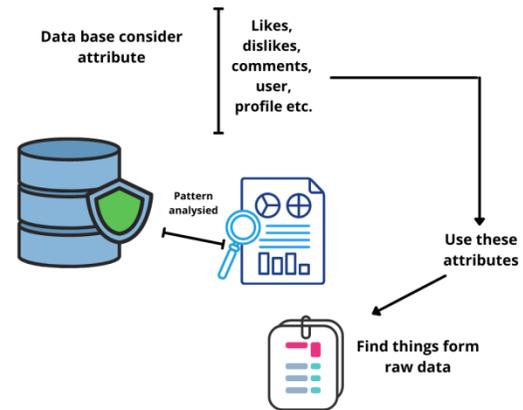


Figure 2 : How data base makes list of attributes

This is the general working of recommendation systems. But is does not stops here, it moves further on to produce more personalized result.

For advance personalized results, the system follows these steps:

Step 1: Once the user log out the account the user search are compared with other users search. In

that comparison process, it is measure that what those user like when similar results were show to them. Like, I some is looking for a car, then when a car recommended to them, did they like it. If they liked it what was the attributes there like what was the color of the car, how does it look, what brand it was things like that.

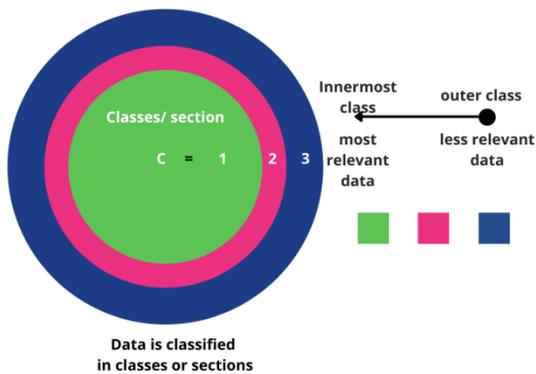


Figure 3: Classification of data in classes

Step 2: Now the system look for common patter between two user like what so they like most, do they always look for car and accessories like that. And how do they respond on same thing are recommended to them.

Step 3: All this data are compared with each other and now a common array is developed for the user of that choice.

Step 4: Now these common values are linked to users account and again the basic process runs which have like what does user like and what he does not.

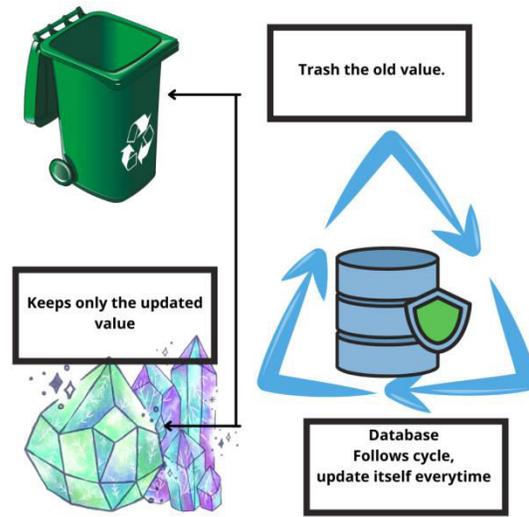
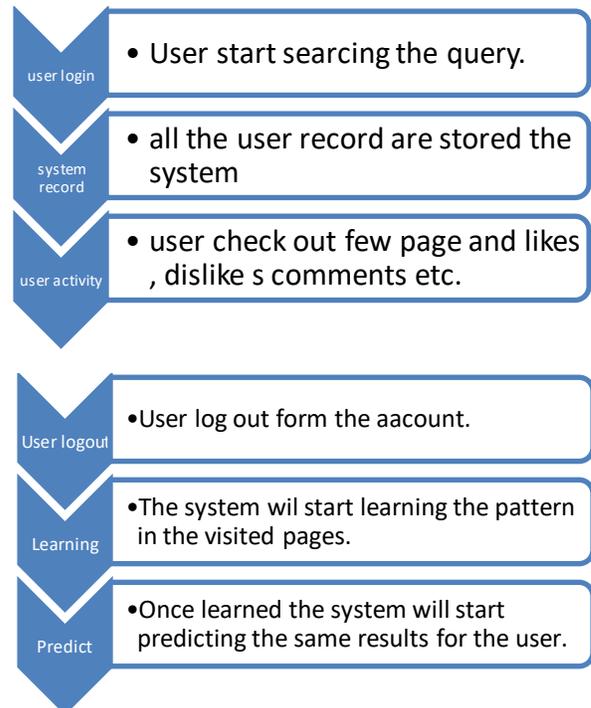
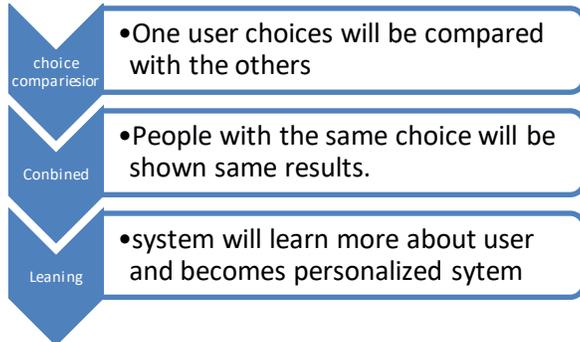


Figure 4: system updates every itself every time.

So, finally it ends up being a personalized system.





Benefits: This system has a lot of benefits as listed below:

- They save time and money. The user get do not have to jump from website to website or form page to page.
- They result are instant.
- The system runs on its own and produces desired and good results.
- It becomes easier to maintain record of relevant data.
- All the results are used to improve the subsequent result.
- One user search does not only helps one user but they are helpful in general.
- The results are not fixed. If user changes it choice, they mould themselves accordingly.
- It becomes easy for user to connect with their friends and families.

Need of this system:

In today world, tech giant Google has more than two billion users resisted for emails, face book has two billion active users. And tones of data are produced every day which include post, mails, videos, blogs, images etc. All these data is stored in data bases and these data is available for us to access via internet. But the problem is searching, reading; writing can be a humongous channel for common people. Think it like finding a needle in a

hay stack. Like if you are a mechanical engineer and you want to search for car model design and first result appears there is how to design a jacket than it will be annoying and time consuming for the user to find result and it may probably be the end of internet. But here if there is a filter attached to all of our searches, which will filter out all the irrelevant result for us and show us only the thing which are relevant to the user than it will makes user search easy and fast.

The other thing that can be possibly considered is how good result can be produced. Like if a user inputs a Math query and first result that comes up has the solution for it that it will be great.

In addition to that, similar result will be shown in comparison to the search. May add a good point for user and make research more easy and efficient. Like if user is searching for books and more relevant books with higher rating are also show for user to choose for.

The point of connecting people who has same interest is amazing. It is proven that people with same interest connect more easily.

Another point that can be consider in connecting two countries and making aid available for all person, all over the world.

That is why such recommendation systems are needed.

Limitation:

- User gets stuck with a common type of recommendation unless it searches for new part.

- Many times if users even search new things the recommendation circle back to the previous one and keeps following the rule.
- It acts like a tracking machine and tracks the entire search, which is an invasion of privacy.
- Sometimes, the searches are controlled by the tech giants and it kind of leads the users in one direction.
- After a while these system becomes sort of personalized system, which has most of the user personal data.
- Tech giant companies sell this data in the market, which is another invasion of privacy.

Future scope: The recommendations system will be more personalized and can be linked directly to user's choice and their predictions will be more relevant for user and the results will be one liner.

Conclusion: Recommendation systems are great and becoming more personalized and appealing for common users. They are making all our search work faster and better, with best possible output. Their advancement will connect the world in a better way. These systems are changing the world, reducing work steps and making internet faster to solve and help people.

Reference:

1. A. Smith. (2014). The numbers: 85 interesting Instagram statistics. Digital Marketing Rambling. [Online]. Available: http://expandedramblings.com/index.php/important-instagramstats/#.U_jjTtgcSt8
2. R. E. Guadagno, N. L. Muscanell, B. M. Okdie, N. M. Burk, and T. B. Ward, Even in virtual

environments women shop and men build: A social, 2011.

3. K. B. Sheehan and C. Doherty, "Re-weaving the web: Integrating print and online communication," Journal of Interactive Marketing, vol. 15, no. 2, pp. 47-59, 2001.

4. Social Media and Health Care Professionals: Benefits, Risks, and Best Practices

5. The Benefits of Social Networking Services Lit Review

6. Forghani-Media2Together-GROUP2014

7. Making love in the network closet The benefits

8. A knowledge-based social networking app for collaborative problem-solving

9. Social Networking in Online Support Groups for Health: How Online Social Networking Benefits Patients

10. Risk and benefit perceptions of human enhancement technologies: The effects of Facebook comments