SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE NAME : 19CS508 - BIG DATA ANALYTICS

III YEAR / V SEMESTER

Unit 3- ASSOCIATION AND RECOMMENDATION SYSTEM

Topic 3 : Recommender systems and Content-Based Filtering

Recommender systems objective

Recommender systems have become the key to success:

- They improve customer satisfaction by facilitating their search and making them discover new products.
- This customer satisfaction translates into increased time spent on the platform and increased sales.

Cont..

- A recommendation system is a subclass of Information filtering Systems that seeks to predict the rating or the preference a user might give to an item. In simple words, it is an algorithm that suggests relevant items to users.
- Eg: In the case of Netflix which movie to watch, In the case of e-commerce which product to buy, or In the case of kindle which book to read, etc.
- **TYPES OF RECOMMENDATION SYSTEM**
- Content-Based Filtering
- Collaborative Based Filtering
- Item-Based Collaborative Filtering
- Knowledge Based Recommendation
- Hybrid Recommendation Approaches.

Cont..

- Relevant items are shown using the content of the previously searched items by the users. Here content refers to the attribute/tag of the product that the user like.
- In this type of system, products are tagged using certain keywords, then the system tries to understand what the user wants and it looks in its database and finally tries to recommend different products that the user wants.

Advantage

•Model doesn’t need data of other users since recommendations are specific to a single user.

•It makes it easier to scale to a large number of users.

•The model can Capture the specific Interests of the user and can recommend items that very few other users are interested in.

CONT..

Disadvantage

•Feature representation of items is hand-engineered to some extent, this tech requires a lot of domain knowledge.

•The model can only make recommendations based on the existing interest of a user. In other words, the model has limited ability to expand on the user's existing interests.

Activity

- Advantages of Recommender systems
- It works well even if the data is small.
- This model helps the users to discover a new interest in a given item but the model might still recommend it because similar users are interested in that item.
- No need for Domain Knowledge

- Disadvantages of Recommender systems
- It cannot handle new items because the model doesn't get trained on the newly added items in the database. This problem is known as Cold Start Problem.
- Side Feature Doesn't have much importance. Here Side features can be actor name or releasing year in the context of movie recommendation.

Assessment 1

1. List out the advantages of Recommender systems
   a)_____
   b)_____
   c)_____
   d)_____

2. Identify the disadvantages of Recommen der systems
   a)_____
   b)_____
   c)_____
   d)_____

REFERENCES

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2. David Loshin, "Big Data Analytics: From Strategic Planning to Enterprise Integration with Tools, Techniques, NoSQL, and Graph", Morgan Kaufmann/Elsevier Publishers, 2013
3. Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data", Wiley publishers, 2015.

THANK YOU