Recommender Systems Project Outline

Mate Balogh

E28H7B

Dataset

Retailrocket E-commerce dataset from Kaggle

Elements:

- Tree of categories
- Click stream data of users
- Item properties

Event types in stream:

- *View*
- *Add to cart*
- *Transaction*

Technologies to utilize

- User-based Collaborative Filtering
- Item-based Collaborative Filtering
- Matrix Factorization (or related approaches)

Objectives

- Recommend items based on similar user pattern
- Recommend items after updating shopping cart based on related and recent user patterns
- Recommend similar items after viewing an item
- Incorporate and explain how matrix factorization simplifies or enhances computations

Example scenarios

Given a user, find K similar users based on their entire purchase (transaction) history. Recommend up to N items from those users' purchase patterns excluding those items that the user already purchased previously.

After a user updates their shopping cart, find K similar users who recently bought the most similar combination of items that is in the user's cart. Recommend up to N items. Excluding previously bought items may apply.

After a user views an item, recommend N additional items that are similar to the selected one.