**ALGORITHM’s USED:**

Create a recommender that uses item-item similarities based and Popularity Recommender on users in common.

**Parameters:**

**observation\_data**: SFrame

The dataset to use for training the model. It must contain a column of user ids and a column of item ids. Each row represents an observed interaction between the user and the item. The (user, item) pairs are stored with the model so that they can later be excluded from recommendations if desired. It can optionally contain a target ratings column. All other columns are interpreted by the underlying model as side features for the observations.

The user id and item id columns must be of type ‘int’ or ‘str’. The target column must be of type ‘int’ or ‘float’.

**user\_id**: string, optional

The name of the column in observation\_data that corresponds to the user id.

**item\_id**: string, optional

The name of the column in observation\_data that corresponds to the item id.

**target**: string, optional

The observation\_data can optionally contain a column of scores representing ratings given by the users. If present, the name of this column may be specified variables target.

**ITEM SIMILARITY MODEL:**

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| item\_similarity­\_recommender.create | Create a recommender that uses item-item similarities based on users in common. |
| item\_similarity­\_recommender.get\_default\_options | Get the default options for the toolkit **ItemContentRecommender** |
| item\_similarity­\_recommender.ItemContentRecommender | A model that ranks an item according to its similarity to other items observed for the user in question. |

This model first computes the similarity between items using the observations of users who have interacted with both items. Given a similarity between item ii and jj, S(i,j)S(i,j), it scores an item jj for user uu using a weighted average of the user’s previous observations IuIu.

There are three choices of similarity metrics to use: ‘jaccard’, ‘cosine’ and ‘pearson’.

**popularity-based recommenders:**

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| popularity\_recommender.create | Create a model that makes recommendations using item popularity. |
| popularity\_recommender.get\_default\_options | Get the default options for the toolkit  **PopularityRecommender** |
| popularity\_recommender.PopularityRecommender | The Popularity Model ranks an item according to its overall popularity. |

The Popularity Model ranks an item according to its overall popularity.

When making recommendations, the items are scored by the number of times it is seen in the training set. The item scores are the same for all users. Hence the recommendations are not tailored for individuals.

The Popularity Recommender is simple and fast and provides a reasonable baseline. It can work well when observation data is sparse. It can be used as a “background” model for new users.