Design Recommendation System Architecture

*Algorithm Outline:*

To create a feed personalisation algorithm strategy which enables users to discover the right content. Underlying algorithm must strike an elegant balance between Machine Learning and giving the user control over what content they want to see.

Un-Supervised learning might be helpful in such a case. Clustering can be used in here. In K- means clustering, it’s a known fact that predictions are made for a new data point by searching through the entire training set for k similar instances and then summarizing the output variable for those k instances.

Similarly, on the basis of user data of the content they search, tags, neighbours needed for ranking, context of those videos can be used as parameters for cluster search and the output variable for those instance can be the item to be recommended. For the item in total items, we check whether the item ratings pertain to user rated items. If the condition is satisfied, then the rank that the nearest neighbour algorithm gave must be the new item rank. Finally we’ve got to sort the items in the descending order according to rank.

*Algorithm:*

Inputs: Recommended list of items

List of all the items

User recommendations

Neighbours used for ranking

Output: Items to be recommended

for user\_to\_recomend\_item in all\_items do

if user\_to\_recomend\_item == user\_rated\_items then

item\_rank= nearest\_neighbour\_rank (item, user recommended item, no.of neighbours used for ranking)

sort\_in\_descending\_order\_of\_rank( list of all items)