A comparative Study of Collaborative Filtering Algorithms

Most of the recommender systems make use of collaborative filtering techniques. It’s useful in making predictions about a user’s liking or preferences using data to learn. This paper compares collaborative filtering techniques both the older and the newer ones. Through various experimental contexts the paper identifies the algorithms that are best suited to a given situation.

The paper covers the following topics in details

* Recommendation system
* Collaborative filtering
* Types of collaborative filtering methods which are memory based and model based
* The evaluation measures

The experiments are influenced by data size and density, user count, item count and multivariate dependencies between them all along with the loss in prediction. The algorithms are evaluated based on the accuracy, asymmetry and rank. The resources for the computation are also considered in decision the best algorithm.

The paper concludes with pointing out the three major points. The matrix factorization method is the best for the accuracy prediction. The prediction accuracy depends on the number of users, items etc. Finally there exists a complex relationship between the accuracy prediction, variance computational time and memory consumption which must be considered while deciding on the recommendation system algorithms.