Hybrid Product Recommendation System
Project Proposal

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1 Introduction

Recommendation systems are widely used in e-commerce companies like Amazon, Netflix to help users discover items that they might not have found by themselves. Due to their wide applicability recommendation systems have become an area of active research. We intend to do a comparitive study on the different algorithms used to do recommendation popularly and build a hybrid model out of them.

2 Data set

We make use of the Netflix Dataset containing more than 100 million ratings for over 17,000 movies given by around 480,000 customers. The data has been collected from October 1998 to December 2005 and reflects the distribution of all ratings in the given perid of time.

3 Prior Work

A lot of work has been done in this field. Most popular algorithms in this field are
User-based collaborative filtering, which starts by finding customers who have rated similar items as compared to our target user.
Item-based collaborative filtering, which focusses on finding similar items instead of similar customer.
Spanning tree and *Bipartite projection* which try to represent the data in the form of a graph to find the relevance between cutomer-product and customer-customer respectively.

4 Overview

We evaluate all the algorithms for users having different levels of prior rating history and study which method works for which case. We develop a hybrid model which uses a particular method for each user depending on its prior rating dataset.

Apart from exploiting customer and item similarities to do the recommendation, a recommender system should also take into consideration the rate of supply of products and the temporal behaviour of customers. We also try to incorporate these parameters into our hybrid model.

References

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