Abstract

Collaborative filtering is one of general technique which is used for prediction based on similarity between user or between item. Here will be presented new algorithm that can be predicted with more efficient time (based on computational complexity).

Eigentaste is model-based algorithm which is use *PCA (Principal Component Analysis)* as a essential foundation for reduce matrix dimension which is later used on *RRC (Recursive Rectangular Clustering)* process. Firstly, *Eigentaste* process normalization before making of pearson correlation matrix. Later, *Eigentaste* will apply *PCA* and for last process will do clustering process. The computational complexity appears with $O(nk^2)$ that can assume if k << n, then the process is faster for capture prediction and *NMAE*.

Jester Dataset is source for computing and analyze *Eigentaste* algorithm. In this paper, it will do analyzing computational complexity after implemented on Eigentaste. The parameter which is used is NMAE. It is proven that based on NMAE result, Eigentaste algorithm can said as good algorithm for predicting user.

Keywords: *Collaborative Filtering, Eigentaste, PCA, RRC, NMAE*