Abstract

  Recommender system is a system which can give recommendation of certain items to the user. One of the methods used is *collaborative filtering* which exploits information of user preference in the form of *ratings* of *items*, and produce recommendation based on the similarity of *rating*s pattern. But, in making an accurate *collaborative filtering*, the data which usually is *sparse* makes predictions that depend on *similarity* of *rating*s pattern to be inaccurate. One of the solutions in handling sparse *rating* matrix is by using imputation, which fills empty scores with values based on certain function. In this Final Project, imputation process is implemented by exploiting genre of item, which is film, and uses *neighborhood-based collaborative filtering* which can select certain users to be used in *rating*s prediction calculations. The research involves *neighborhood-based collaborative filtering,* with and without imputation process to analyze both prediction performances. Using Movielens dataset, experiments are done to analyze the effect of imputation process parameter and parameter of*neighborhood-based collaborative filtering,* and also to analyze the difference of performances of both with and without imputation process. The result of experiments shows that imputation process lowers MAE of *rating* prediction for 3% upto 42%, on datasets with 85% to 95% *sparsity.*

Keyword : *recommender system, neighborhood-based collaborative filtering, data imputation*