Abstract

Recommender system collaborative filtering is information filtering technology which is used to give rating prediction or recommendation of certain item based on other users' preferences with similar behavior.

In recommender system, not all calculated prediction is an accurate prediction, or in other word prediction error exist. In this final project, Prediction Error-Based Enhancement – Item Similarity (PEBE-IS) method implemented and analized. PEBE-IS is an improvement of User-Based Pearson Similarity (UBPS), conventional user-based collaborative filtering. PEBE-IS can estimate prediction error which is occured in UBPS. Estimation of prediction error derived from prediction error of active user's rated item.

In this final project, the effect of parameter n, γ, and data sparsity on PEBE-IS' prediction accuracy are analized, based on mean absolute error (MAE). Beside it, accuracy of PEBE-IS also compared with UBPS.

Based on experiment, accuracy of UBPS and PEBE-IS prediction are influenced by parameter n and data sparsity. Prediction accuracy of PEBE-IS also influenced by parameter γ used in this method. From experiment too, accuracy of PEBE-IS is better than UBPS on certain γ value. PEBE-IS still better than UBPS even when the the method tested with different data sparsity.

Keyword *: recommender system, collaborative filtering, metode UBPS, metode PEBE-IS, prediction error*