

# [Recommender previous history or record. this technique](https://assignbuster.com/recommender-previous-history-or-record-this-technique/)

Recommendersystem is used widely in every field of life especially in e commerce, machinelearning, data mining etc In which it recommends user by using some history orold data of user, the best example of the recommender system is AMAZONrecommender system it recommend user things on the basis of its previous buyingthing or experience. In this paper it is discussed that how recommender systemhelp us to predict student performance on the basis of its previous history orrecord. Thistechnique is also used in technology enhanced learning for recommendingdifferent resources, for example recommendation of papers, books or any other material. Educational data mining is another important technique that has taken partrecently and in this paper it is discussed that how recommender system is usedin educational data mining to predict student performance using performance data. For applying Recommender system for predicting student performance the data isused from the Knowledge Discovery and Data Mining Challenge. Many research workhas been done in this field before for example association rule mining is useto discover student performance data using IF-THEN rules and then generaterecommendation on the result base on these rules. Other proposed an equationcollaborative ? ltering for predicting student performance. Other techniquesused for predicting student performance is e.

g  decision trees and Bayesian networks. Computer-aided tutoring systems isalso helpful for predicting performance. Thissystems allow predictors to collect a huge  amount of information about students that howthey  interacts with the tutoring systemand also use past successes and  failureof the student to predict its performance. The information of this system iscollected in a log which is named as “ click-stream log. This log contain everyaction of the student.

The information contain in this log is given as anequation below. Quick-Streamlog Information:” time, student, context, action”” step no., student, context, actions, duration, correct” : This equation is also used in quick-streamlog with additional information. The twomost common recommender system techniques that  are used in this paper for predicting the studentperformance are, ·        Collaborative filtering·        Matrix Factorization Collaborative? ltering is the recommender technique which work on the basis of assumption meansits assume user interest on the basis of its previous history or record. Matrixfactorization technique is superior to classic nearest neighbor techniques forrecommendations of different things, In this techniques high correspondencebetween students and hisher past performance leads to recommendation.

We alsouse root mean squared error (RMSE) this techniques is used for optimization ofresult. Two datasets are used in the paper from Knowledge Discovery and Data Mining (KDD)Challenge year 2010. Basicallydata represents the log actions of interactions (given in above equation)between students and computer-aided-tutoring systems. By this way doing sameprocess again and again they collect result of student performance duringcomputer-aided tutoring systems. After this they map all education data to bothRecommender system and regression problem. Both  linearregression and logistic regression shows same result.

We will not discuss indetail here that how data will map on both techniques using educational dataset. Educational datasets was map from the educational context to both recommender systems andregression contexts. After this next step was to collaborative ? ltering andregularized matrix factorization, for this implementation of algorithm wasimplemented in My Media open source Framework (4). Rootmean squared error (RMSE) is applied on different methods such as:·        Global Average·        User Average·        Logistic Regression·        Matrix Factorization·        User-Item Collaborative Filtering·        Matrix Factorization + Global Average·        Matrix Factorization + User Average·        Matrix Factorization + User-Item CollaborativeFiltering·        Matrix Factorization + User-Item CollaborativeFiltering The best result was achieved by “ MatrixFactorization + User-Item Collaborative Filtering” using KC-RULES(knowledgecomponents Rules)