Abstract

Prediction in data mining is a sophisticated task that is conducted in various disciplines. Given that the overall success of educational institutions can be measured by their students’ success, many studies are dedicated to predicting it. This paper provides a model of student’s success prediction based on Bayes algorithms and suggests the best algorithm based on performance details. Two built Bayes Algorithms (naïve Bayes and Bayes network) were used in this model with students’ questionnaire answers. The questionnaire consists of 62 questions that cover the fields affecting students’ performance the most. The questions refer to health, social activity, relationships and academic performance. The questionnaire is constructed based on a Google form and open-source applications (LimeSurvey); the total number of student answers is 161. To build this model, the tool Weka 3.8 is used. The overall model design process can be divided into two stages. The first stage is finding the most correlated questions to the final class, and the second is applying algorithms and finding the optimal algorithm. A comparison is made between these two Bayes algorithms based on performance details. Finally, the naïve Bayes
algorithm is selected as an optimal choice for students’ success prediction.

References


Index Terms

Computer Science
Algorithms

Keywords

Prediction, students’ success, naïve Bayes, Bayes network, Weka