Abstract

One of the accreditation assessment factors is the percentage of graduation on time. Many undergraduate students of Telkom University Informatics Engineering cannot graduate on time. Based on data from the 2020 Faculty of Informatics Telkom University graduation data, the number of student graduations on time is 65.37%. Predicting student graduation can be a solution to this problem. The prediction results can show that students are at risk of not graduating on time. Temporal prediction allows students and study programs to do the necessary treatment early. With this research, it is hoped that it can increase the percentage of graduation of the next student. Prediction of graduation can use the learning analytics method, using a combination of the naïve Bayes algorithm and the k-nearest neighbor. The Naïve Bayes algorithm looks for the courses that most influence graduation. The k-nearest neighbor algorithm as a classification method with the attribute limit used is 40% of the total attributes. The dataset used is data from Telkom University S1 Informatics Engineering student class 2008-2011 which are divided into level 1, level 2, level 3, and level 4. The results obtained from this study are the 5 most influential attributes at each level. As well as the presentation of the results of the combination of the naïve bayes algorithm and k-nearest neighbor algorithm. With the largest percentage yield at level 1 75.40%, level 2 82.08%, level 3 81.91%, and level 4 92.53%.

Keywords: classification, graduation, student, k-nearest neighbor, naïve bayes, learning analytics.