

ABSTRACT

Student success rate is one way to measure how good the quality of a university is, and one of the problems that often causes students to fail is dropping out of college. From the data obtained, 8,483,213 students were enrolled in 2020, 602,208 students quit college with the majority coming from private universities. Telkom University as one of the private universities will conduct research to predict students who quit college, especially in the Information Systems undergraduate study program. Because at Telkom University, quitting college is categorized as resigning, this research is conducted to predict whether there are indications of students resigning or not. Resigning in the SI Information Systems study program is one of the key performance indicators whose value must be suppressed, therefore using machine learning with the Support Vector Machine (SVM) method can solve the problems in this study. This research shows that the SVM model gets a high accuracy of 98.30% before the oversampling method with SMOTE, but decreases to 92.34% after the application of the oversampling method with SMOTE to overcome data imbalance. Although in terms of accuracy decreases, the recall, precision, and F1-Score values increase which indicates that SVM after oversampling can be better at classifying students who are indicated to have resigned. With high accuracy, the SVM method is proven effective in predicting students who are indicated to resign or not. In addition, a simple input program was developed to utilize the SVM model that has been made in predicting students who are indicated to resign or not based on the input given.

Keywords: SVM, Machine Learning, Students Resign, Prediction, CRISP-DM