

1. Introduction

In order to increase student performance in university, some effort can be made to improve the quality of education. One of the efforts that University of Nigerian made for student entrance selection is that they used evaluation results from previous education attached to the registration process to predict students' academic performance using the Artificial Neural Network (ANN) to avoid candidates manipulating the system against the certification value of General Certificate Examination (GCE) [11]. Katsina State Institute of Technology and Management (KSITM) also conducted research on first-semester students by predicting the grades that a student will get in the following semester based on performance and activities carried out during the first semester using Artificial Neural Network (ANN) [14].

Based on those researches, we know that those university data can be used as a measurement to improve the performance of the university by evaluating their student data. One of advantage evaluating student performance is the information about student capability during learning can tell the university if they need to make the change for their program so it can support students in the work field. In this research, the author will use a tracer study dataset to develop a student performance prediction using Artificial Neural Network. The purpose of developing this model is to ensure whether tracer study dataset from the university can be used to evaluate student performance like other datasets from researches that have been mentioned before. Indicators that will be used to measure student performance during lectures are waiting time to get the first job after graduating from the university. Based on collected data from the university, there are 1002 Alumni from 2015 - 2019 that graduated from university. Tracer study dataset contains of the evaluation about student activity experience, university contribution and also the condition before the student get their first job. From the content of tracer dataset, there is interrelated for evaluating student performance. This research use K-Fold Cross Validation to find the best data splitting ratio and use SMOTE for treating imbalanced dataset in Tracer Study Dataset. Using Artificial Neural Network as the learning machine is based on Research [1]. Research [1] uses several machine learning techniques such as Artificial Neural Network (ANN), Decision Tree (DT), Logistic Regression, and Naïve Bayes to predict student performance. After those models being evaluated with classification and ROC index, ANN has the highest accuracy that is 77.04.