

## **Abstract**

*Along with the technology improvement in collecting and saving data, it leads to a necessity for gaining important information from the available data. Classification is one of technique to extract the important information from available data. Rotation Forest is a classification technique of ensemble method using feature extraction based on Principal Component Analysis (PCA) and decision tree to build its base classifier. Decision tree is chosen because they are sensitive to rotation of the feature data by building the fewer tree. The analyze results shows that the overall performance is influenced by value of the number of base classifier ( $L$ ) and subset ( $K$ ). The smallest value of  $K$  gave the better result because the huge number of field with the smallest divider  $K$  would optimize performance of PCA for data with high dimension. While, the smallest value of  $L$  could increase performance because the number of decision tree which is built as base classifier could give good accuracy with fewer tree is obtained. From the analyze result can be shown that Rotation Forest gave good performance to predict students collage who have the potential to be Drop Out (DO) in comparison with the other ensemble method like LogitBoost and Random Forest.*

*Keywords:   Rotation Forest, base classifier, decision tree, ensemble method, feature extraction, Principal Component Analysis (PCA)*