Abstract

Classification of a rainy day is a very vital element for all elements of society, especially in terms of planning activities. It can not be denied that the weather greatly affects the plans and activities of the society directly. Moreover, the classification of weather, especially rain, is observed because the weather determination can be done by taking into account the weather pattern that has been happening with the weather conditions is going on. The comparison of this pattern insists that it needed a classification of natural phenomena that occur on the occasions of the weather, which in this study is specified to be a day of rain and not rain. This classification is expected to help the rain pattern recognition.

Classification Based on Predictive Association Rules (CPAR) is one of a reliable method that can be used for classification techniques. In this final project, CPAR method will be implemented to classify rainy day. In addition, this final project will also investigate the effect of data imbalance as well as the influence of Class Weighting Adjustment method in dealing with the imbalance data set problem.

The results of the study of the application of CPAR and Class Weighting Adjustment to classify rainy day using 10-fold cross-validation test results 78.03% accuracy, 76.02% precision, 82.46% recall, and 79.05% f-measure. In additional, it also concluded that the ratio of imbalance that results an extreme comparison of rule number and a balance rule number ratio can not be handled by Class Weighting Adjustment.

Keywords: CPAR, Class Weighting Adjustment, imbalance data sets, classification.