



PROJECT REPORT

APPLICATION OF RANDOM FOREST AND
ADABOOST MODELS FOR WEATHER FORECASTING
USING ORANGE DATA MINING

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ABSTRACT

Weather is important in everyday life. The decisions made are always different depending on the weather. By using machine learning, we can address the problem of predicting future weather. This study aims to determine which algorithm is better, Random Forest or AdaBoost, for accurately predicting the weather. The research was conducted using the Orange application. Orange application is a component-based visual programming software package for data visualization, machine learning, data mining, and data analysis. The results showed that the Random Forest algorithm had a classification accuracy of 0.863, an F1-score of 0.835, a precision of 0.831, and a recall of 0.863. Meanwhile, the AdaBoost model had an accuracy of 0.781, an F1-score of 0.780, a precision of 0.785, and a recall of 0.781. From these results, it can be concluded that the Random Forest algorithm is better for predicting the weather compared to the AdaBoost algorithm. This study also shows that Random Forest algorithm works the best for models trained with 80% training data and tested with 20% test data for weather forecasting. While AdaBoost algorithm works the best for models trained with 70% training data and tested with 30% test data for weather forecasting.

Keyword: Random Forest, AdaBoost, Orange, machine learning

