PROJECT REPORT

Performance Comparison of Decision Tree and Random Forest Algorithms in Predicting Heart Disease

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2024

ABSTRACT

Heart disease is the number one killer disease in the world, because the heart is an organ that has an important role in the body. But with the density of human activity, it makes people forget the awareness of maintaining a healthy body, especially the heart organ. With current technological advances, several algorithms can be developed to predict heart disease. In previous studies, researchers have used several algorithms that are used in predicting heart disease. By looking at the different results from several journals, Random Forest has the best accuracy and Decision Tree also has the best accuracy. Researchers want to compare the performance of the Random Forest and Decision Tree algorithms for predicting heart disease. The researcher will split the data for training data and testing data. Then the performance of the model can be seen and the computation time and accuracy will be evaluated. The test results obtained accuracy for Decision Tree got 88%, 86%, and 84%. Meanwhile, Random Forest gets an accuracy of 94%, 92% and 90%. So that in this analysis and testing, Random Forest is the best algorithm in solving this problem by having the best accuracy level compared to the Decision Tree Algorithm. However, in terms of computing time, the decision tree algorithm is faster than random forest.

Keyword: Decision Tree, Random Forest, Data Mining, Heart Disease

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