

ABSTRACT

Breast cancer was a disease that had a high growth rate among its sufferers every year. Machine learning (ML) was one of the applications of artificial intelligence (AI) that focused on developing a system capable of learning on its own without needing to be programmed further. ML could build a model that was used to diagnose breast cancer using Gradient Boosting Machines Fusion and Chi-Square feature selection. Scenario 1's model produced an accuracy value of 97.37% at k_{best} 26. Meanwhile, Scenario 2's model produced an accuracy value of 95.61%. Scenario 1 was a modeling scenario that used Chi-Square feature selection, whereas Scenario 2 was a modeling scenario that did not use Chi-Square feature selection. Both Scenario 1 and Scenario 2 models were then subjected to K-Fold Cross Validation to obtain more accurate results. The average accuracy value produced in Scenario 1 was 95.07% with a k_{best} value of 26. Meanwhile, Scenario 2 produced an average accuracy value of 94.54%. The model that was created had the highest average accuracy value in Scenario 1. The Scenario 1 model could be applied to predict breast cancer.

Keywords : Breast cancer, Chi- Square feature selection, Gradient Boosting Machines Fusion, K-Fold Cross Validation, Machine learning.