



PROJECT REPORT
ENHANCING STROKE DISEASE PREDICTION
PERFORMANCE THROUGH A FUSION OF ADABOOST
WITH C4.5 AND K-NEAREST NEIGHBOR ALGORITHMS

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ABSTRACT

Stroke is one of the most serious medical conditions and has a significant impact on public health. The importance of accurate prediction of stroke risk is to provide appropriate treatment and intervention to individuals at risk of developing the disease. In recent years, the use of machine learning methods has become popular in improving stroke disease prediction. This research implements the Adaboost method to the C4.5 and K-Nearest Neighbor (KNN) algorithms with the aim of improving stroke prediction performance. Using relevant datasets, the C4.5 and KNN algorithms were used separately to perform stroke disease prediction. Furthermore, the Adaboost method is used to combine the prediction results of the two algorithms. The results showed that the implementation of the Adaboost method on the C4.5 and KNN algorithms successfully improved the performance of stroke disease prediction, providing more accurate and reliable predictions to assist in the diagnosis and treatment of stroke disease. With a value of 91% for the combination of KNN with Adaboost and 95% for the combination of C4.5 with Adaboost. Both have a difference in value of 4%. Therefore, C4.5 is more effective in improving the performance of stroke disease prediction.

Keyword: stroke, c4.5, knn, adaboost

