OPTIMIZATION OF CHRONIC KIDNEY DISEASE PREDICTIONS USING PARTICLE SWARM OPTIMIZATION (PSO) BASED BAGGING AND RANDOM FOREST METHOD

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ABSTRACT

With the rapid advancement of technology, the need for information increases. Accurate information is very important for predicting diseases in the medical field. To turn the collected data into knowledge, special methods must be used. This process is called data mining, or data mining broadly. Data mining is usually used to predict certain diseases using patient medical record data, especially chronic kidney disease. Data regarding chronic kidney disease is usually taken from the Kaggle dataset. The aim of this research is to study the use of the bagging method in the PSO-based Random Forest algorithm, evaluate the results of the Random Forest algorithm, and compare the level of accuracy between the use of the bagging method and the PSO-based Random Forest algorithm. The results of dataset classification using the Random Forest algorithm show an accuracy of 98.75%, but by using the PSO-based bagging method, this accuracy can increase to 99.25%.

Keywords: *Chronic Kidney Disease, Random Forest, Bagging, PSO, Accuracy.*