

Abstract

Atrial Fibrillation (AF) is one type of arrhythmia that can cause a stroke and in the worst case a patient has the potential for heart failure. Several existing AF studies have not yet optimized accuracy, such as research conducted by Rofi'i in 2016 and Ipin in 2008. This research answers the above problems by developing a prototype that has better accuracy, sensitivity and specificity. The system developed will use K-Nearest Neighbor (KNN) as an AF detection classifier. To achieve the objective, this study conducted a literature study related to AF, conducted experiments on several KNN-based classifier algorithms, and applied the best KNN results obtained from the previous stage of the prototype. The results obtained show that the Euclidean Distance method with $k = 7$ is the best distance measurement method in KNN with an average accuracy of 93.45536% sensitivity of 95.38491% and specificity of 89.998265% during training. The implementation of the prototype proved that the algorithm was able to detect AF accurately.

Keywords: atrial fibrillation, k-nearest neighbor