ABSTRACT

Cardiovascular disease is a disorder of the heart and blood vessels that causes high mortality rates worldwide. One of the most common types of cardiovascular disease or heart disease is Supraventricular Arrhythmia (SVA). Early diagnosis of Supraventricular Arrhythmia (SVA) helps to get the right treatment and prevent complications and sudden death. Examination of cardiovascular disease or heart disease is done by analyzing the morphology or dynamics of the electrocardiogram (ECG). Automation of ECG analysis is carried out using a deep learning Convolutional neural network (CNN) approach including SVA classification automation.

The classification system in this study uses CNN with the MIT-BIH supraventricular arrhythmia database and the MIT-BIH normal sinus rhythm database. This study classifies ECG signals into SVA and normal sinus rhythm (NSR). This method is projected to produce higher accuracy performance in classifying SVA and NSR.

In this final project, the system performance classification is based on the Convolutional Neural Network method based on the Electrocardiogram signal to produce higher accuracy performance in classifying SVA and NSR. The performance of this final project system reaches 99% accuracy value so that this system can be implemented effectively.

Keywords : Supraventrikular Aritmia (SVA), Electrocardiogram (ECG), Convolutional Neural Network (CNN), Normal Sinus Rhythm (NSR).