

ABSTRACT

Ventricular fibrillation contributes to the majority of arrhythmia mortality and morbidity rate, as studies show the survival rate of patients who have been discharged from the hospital ranging from 3 to 33 percent while the mortality rate of patients who did not have fast access to defibrillator exceeds 90 to 95 percent. The research aims to develop another method of ventricular fibrillation detection. The research utilizes a convolutional neural network with ten-second ECG data gathered from CU Ventricular Tachyarrhythmia Database to determine ventricular fibrillation reading from normal reading. An accuracy of 90%, a sensitivity of 96%, and a specificity of 84% of test data were obtained. The result is compared to the accuracy, sensitivity, and specificity of the study conducted by Amann et al. (2005), Panda et al. (2020), and Sabut et al. (2021). The result did not surpass the methods proposed by other studies as other studies use more datasets and have tighter time intervals, although the model performance is quite enough for public use.