

Abstract

Arrhythmia is a condition of the heart that beats abnormally, it may beat too fast, slow, or beat with an irregular pattern. Because the heart beating abnormally, then the blood circulation becomes abnormally too. Therefore it influences to the health condition of the body. To diagnose an arrhythmia, one of the methods used is by reading the cardiac signal pattern called electrocardiogram (ECG). Deep Learning is a branch of machine learning method that allows computing model in multi level abstraction. Stacked Denoising Autoencoders (SDAE) is one of deep learning structure models. SDAE used to reconstruct the data by damaging it so then it had informations that approaching the actual data. In this final project, the author designed a system that can find arrhythmias using SDAE as feature extraction and Softmax Regression as fine tuning. Highest acuracy yield by the system is 98.91%.

Keywords: Arrhythmia, Electrocardiogram, Deep Learning, Stacked Denoising Autoencoders, Softmax Regression, Fine Tuning.