

ABSTRACT

Electrocardiogram (ECG) is a signal from the body surface that represented an activity record of humans heart. To recognize the heart rate, a computer system is needed to assist the diagnosis of patient. It is important modeling the ECG signal to understand the cardiovascular system.

At this assignment, characteristic extraction from ECG signal is done by Short Time Fourier Transform (STFT) and Wigner Distribution (WD). As classifier used K-Means Clustering, where used method of Euclidean distance as numerator apart to user data. ECG signals modeled for example : Normal Sinus Rhythm (NSR), Congestive Heart Failure (CHF), and Atrial Fibrillation (AF).

Result of system examination used 3 comparison parameter of the algorithm, that is system accuracy, sensitivity of system and speed of system time in examination. For the algorithm of STFT give the efficacy accuracy 94,67%, sensitivity system 100%, and speed of system time in examination 1,5152 second. While algorithm WD give the efficacy accuracy 56%, sensitivity system 45,83%, and speed of system time in examination 11,096 second. This matter indicate that the algorithm STFT is method which can be developed good enough to recognize the tested ECG signal.

Keyword : Electrocardiogram (ECG), Short Time Fourier Transform, Wigner Distribution, classifier, Euclidean distance, K-Means Clustering