Abstract

One of innovation in medical world is ECG (electrocardiogram), that is record from information of heart condition taken with installing a number of electrode (lead) at human body. This signal is recorded by using an electrocardiograph. Research which has done to ECG multi-signal, that is two signal lead measured (S1 And S2) has characteristic signal which vary as characteristic. The major problem which has faced is process to get segmentation signal from record of ECG signal which enough length should be really distinguishing of disparity class from signal EKG.

At this assignment, characteristic extraction from ECG signal is done by Wigner-Ville Distribution (WVD). Result from the transformation is taken by statistical values as characteristic, then classified into four class as normal Sine Rhythm (NSR), Arrhythmia (Ar), Atria Fibrillation (AF), and Congestive Heart Failure (CHF) by using K-Nearest Neighborhood (K-NN) method which use the calculation distance according to angle cosine (Cosine) and k=2

The input signal processing based on two scheme, first S1 and S2 signal extracted separately then result of the transformation joined as characteristic. Second scheme by joining signal S1 and S2 beforehand then transformed them. Attempt of scheme 1 giving efficacy accuration equal to 74,86% and sensitivity of 94,06%. While at scheme 2 giving efficacy accuration equal to 77,71% and sensitivity reach 96% of 350 examination data which consisted of each 175 signal S1 and S2.

Keywords: *Electrocardiogram, Wigner-Ville Distribution, K-Nearest Neighbourhood, extraction, classification*.