

## ***ABSTRACT***

*Heart disease was the leading cause of death from 2000 to 2015. Premature Ventricular Contractions (PVCs) are a disease of heartbeat that is triggered by a discharge of electricity to the ventricles of the heart that occurs before normal discharge. Premature ventricular contractions, also known as ventricular extrasystoles, are detected through three stages, namely pre-processing, feature extraction and classification. Detection of PVCs that can only be done in certain places such as clinics, hospitals and cardiac doctors' offices make the occurrence of PVCs difficult to detect and time consuming. Home monitoring is the right solution for patients with heart disease PVCs in detecting heart rate abnormalities. Researchers used the K-Means and SOM algorithms as classifiers in the final stages of detecting PVCs. After performing the pre-processing stage, feature extraction data is processed using K-Means and SOM which use K-Means as classifier. The results of this study indicate that the K-Means method is better at performing anomalies of PVCs and non-PVCs than SOM which also uses K-Means as a clusterer. The K-Means method produces a specificity of 89.18% and a sensitivity of 74.40%, while the SOM only produces a specificity of 48,36% and a sensitivity of 90,55%.*

***Keywords: PVCs, electrocardiogram, clusterer, k-means, SOM***