

## *ABSTRACT*

One of doctor's way to diagnose the disease is by auscultation. But because of the limitations of human hearing, sometimes the doctor can't to diagnose the disease. This is impossible to record heart sounds chaos using human ear. That's why need a tool to help analyze a diasease based on heart sound has been recorded.

At this research heart sound recording processed by spectrogram to representate signal in time domain and frequency domain. Output of spectrogram extracted using gabor wavelet filter to get the important feature of heart sound spectrogram. The result of feature extraction using as input at SOM(Self Organizing Maps) neural network. Training of neural network made to knowing classification type of heart sound. If we have known the type of heart sound, then doctor will know kind of disease of patient and can do more to solve that disorder.

The result of this research is the best accuracy level with using gridtop topology is 96.67% namely the combination of 24 feature vector and Euclidian dist, 24 feature vector and boxdist, 40 feature vector and boxdist. The best accuracy level with using hextop topology is 100% namely the combination of 24 feature vector and mandist. The best accuracy level with using randtop topology is 100% namely the combination of 24 feature vector and linkdist, 24 feature vector and mandist. From this result can be known that the best accuracy level is the number of 24 feature vector. It is caused if the feature vector is more, will have amount of information that is not needed for classification. If the feature vector is fewer, important information that is needed for classification is occasionally not present.