

ABSTRACT

In the world of health, there is a patient examination technique called auscultation. Auscultation is a technique of listening to the sound produced from biological processes that occur in the body. This technique uses a stethoscope as a tool. Auscultation is a basic technique in medical examinations of patients, with stethoscope, the doctor listened to the sound of breath / lung sound or heart sounds to determine the patients health

*In this thesis, we will use the heart sound recordings where recordings of heart sound can be used by physicians to diagnose a person's health. In the recording of heart sounds often found the noise that can make a mistake then requires the doctor's diagnosis of a method to reduce the existing noise like the sound of swallowing, breathing or because the stethoscope the affected hair and scratches in this final noise reduction is that we will swallow sound. Heart sounds recorded in the form *.wav for 10 seconds with sampling frequency of 8000 Hz.*

Feature extraction used in this thesis is adaptive segmentation with the dimensions of the variant in which voice data will be shared ketiap segment and the variance is a function to mensegmentasinya. After segmantasi then the next step using K-NN which is used to classify which is the heart sound signals and sound signals to swallow. With the MSE value is 0.096573, which is a fairly small value which means that the mixed signal is produced accurate heart sound signals.

Keywords : Swallowing sound, Adaptive segmentation, Variance dimension and K-NN