

ABSTRACT

Cough is sound which arising from the opening of the vocal cords suddenly accompanied by the release of quickly air, aims to put out something that stimulates middle or bottom airway; short or long ; dry or bloody phlegm ; lasted a few days , weeks , months , or years. This has become one of the concerns to facilitate the introduction of the type of cough in diagnosing and determining the type of treatment .

This proposal intends to support and facilitate the medical part in diagnosing the cough disease quickly and computerized simulation of the media as well as being able to facilitate the prospective medical experts to recognize the type of cough illness. To get information from the speech signal feature extraction cough needs to be done so that it can be analyzed every sound signal variations that exist . Of the characteristics that have been obtained , performed experiments to recognize and identify the voice of the patient coughs. The process required the introduction of a method of modeling and optimization system that can support the recognition process in order to avoid misdiagnosis . The final of this proposal will make a coughing sound classification system with feature extraction using Fast Fourier Transform (FFT) and Power Spectral Density (PSD) and the method of Artificial Neural Network - Backpropagation.

The result of the simulation shows that tansig activation layer in hidden layer and purelin activation layer in output layer are the best combination. System could classify the cough with the highest accuracy 86.6667% by using hidden neuron, epoch and learning rate parameters.

Keywords : Cough . Fast Fourier Transform (FFT) . Power Spectral Density (PSD) Artificial Neural Network – Backpropagation.