ABSTRACT

Digital signal processing can applied in speech. So, there should be a "sense" to recognice voice and it will be an instruction to control electronic home appliances. Based on this theory, it means that voice can be used as a key to control everything and will change a function of remote control, which unsafety thing that everybody can use it.

Now, we have design and implant a prototype of speech recognition where used in smart home control. And for security reasons, it will be use for the owners only.

For backpropagation as neural network, many voices are having training before and it will be possible to knowing others instruction or voices. Backpropagation can classified and identified voices. After that, the reason from backpropagation are transmitted to microcontroller from serial interface.

Voices that want to process must have any step like filtering, sampling and decimation, extraction, normalization and coding. Grade of success is depend on process before neural networks.

Microcontroller controlled an electronic home appliances cause it have received a response from things that controlled.

This successfully system is depend on speech recognition. This thesis used a Gabor Wavelet method. Finally, after testing and realizing, it can conclude that this system is worse cause it may could detect a likely instruction and can not detect a bad instruction from noises.

Key word : Gabor Wavelet, Back propagation, Microcontroller