

ABSTRACT

Mixed sound signals can be found in a room where several people speak simultaneously, such as in a forum or meeting. A person's ear will process a sound signal that is mixed automatically to get the intended sound signal, for example when someone only wants to listen to source 1 or just wants to listen to source 2 so that the person can capture information from a desired sound source. Mixed signals have random variables that are not predetermined. This signal separation method is called Blind Source Separation (BSS).

Independent Component Analysis (ICA) is a method (algorithm) for conducting BSS. The principle of ICA is to estimate sound that has no noise similar to the original signal from the mixed signal available. A simulation program is needed to execute ICA offline. The program that I will use to make a simulation in this final project is Matlab.

In this final project the author has designed a simulator to assist learning in the Multimedia System Basic Course. The input is two independent speech files with the .wav format and then the mixing process is carried out and will be separated again with the BSS Technique using the ICA method, so that the mixed signal is independent again, then the result of separation using ICA is measured with SNR (dB) and the average yield is 13,5993 dB for each signal.

Keywords: *Blind Source Separation, Independent Component Analysis, Speech Signal, SNR*