Abstract

Blind Souce Separation (BSS) is a problem to identify a sound from a mix of several sources of sound without any information about the source of each sounds or information about the sound itself. Removing a vocal sound from a stereo recorded song without any other information about the sounds composing the song may be categorized a BSS problem.

This final project will attempt to implement the Center Cut algorithm and then do a sound spectrum analysis on it's output to attempt to separate vocal from a song.

Vocal separation process are done in two steps. First step will use the Center Cut algorithm to separate the center channel form the left and right channel of the song. The second step will analyze the center channel by comparing it's spectrum with the left and right channel sound spectrum. This analysis will decide which part of the center channel is going to be eliminated, based upon it's simmilarity with the left and right channel spectrum. The elimination process is attempted in hope of getting a better vocal separation.

The elimination process did not achieve a better vocal separation. The experiments show that the vocal from elimination process are by average only 65.64% simmilar to the original vocal track. While the Center Cut-only process achieve a better average result : 70.2% simmilar.

Keywords : Vocal separation, Song, Center Cut, Sound spectrum analysis.