Abstract

Sudden and short-period noises often affect the performance of speech recognition system in recognizing speech signals. Unfortunately, it is not easy to overcome sudden and short-period noise in speech signals because of the unavailable information of noise type that overlap the speech signal and the information of where the noise is overlapped. That is the reason why noise detection and classification process is important before the speech signals recognized by speech recognition system. In this final project AdaBoost is used to detect and classify sudden and short-period noise in speech signal. AdaBoost can distinguish between noisy *frame* and speech only *frame*. Moreover, AdaBoost also can recognize the type of sudden and short-period noise that overlapped speech signals. That is because AdaBoost train the speech signals by combining weak classifiers to get one strong final classifier. Sudden and short-period noise detection and classification get the maximum accuration result in this final project research when the SNR = -10 dB, *threshold* = 0.01 and number of weak learning generated is 200.

Key Words : AdaBoost, Sudden and Short-Period Noise, Noise Detection, Noise Classification.