Robust Features for Impulsive Noisy Speech Recognition Using Relative Spectral Analysis

Authors : Hajer Rahali, Zied Hajaiej, Noureddine Ellouze

Abstract : The goal of speech parameterization is to extract the relevant information about what is being spoken from the audio signal. In speech recognition systems Mel-Frequency Cepstral Coefficients (MFCC) and Relative Spectral Mel-Frequency Cepstral Coefficients (RASTA-MFCC) are the two main techniques used. It will be shown in this paper that it presents some modifications to the original MFCC method. In our work the effectiveness of proposed changes to MFCC called Modified Function Cepstral Coefficients (MODFCC) were tested and compared against the original MFCC and RASTA-MFCC features. The prosodic features such as jitter and shimmer are added to baseline spectral features. The above-mentioned techniques were tested with impulsive signals under various noisy conditions within AURORA databases.