Analysis of Feature Extraction Techniques for Myanmar Automatic Speech Recognition

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Abstract

Automatic Speech Recognition (ASR) system is to accurately and efficiently convert speech signal into a text message independent of device, speaker or the environment. Feature extraction is the second component of automatic speech recognition systems which extract the information from the speech frame. The feature extraction is needed because the raw speech signal contains information besides the Linguistic message and has a high dimensionality. The primary objective of feature extraction is to find robust and discriminative features in the acoustic data. The recognition module uses the speech features and the acoustic models to decode the speech input and produces text results with high accuracy. There are several techniques for feature extraction , this paper is the comparative analysis of four feature extraction techniques of Filter Bank (FBank), Mel Frequency Cepstral Coefficient (MFCC), Perceptual Linear Predictive (PLP) and Gammatone Frequency Cepstral Coeffcieint (GFCC) for Myanmar continuous ASR. The experimental result shows that with the classification method Gaussian Mixture Model (GMM). The better performance of feature extraction method is to support for Myanmar ASR.