Abstract

Speech is a natural way of communication and it provides an intuitive user interface to machines. Although the performance of automatic speech recognition (ASR) system is far from perfect. The overall performance of any speech recognition system is highly depends on the acoustic modeling. Hence generation of an accurate and robust acoustic model holds the key to satisfactory recognition performance. In this paper, we compare the performance of
continuous Hindi speech recognition system with different vocabulary sizes and feature extraction techniques. Mel frequency cepstral coefficient (MFCC) and perceptual linear prediction (PLP) both are used as a feature extraction techniques in our proposed system. Monophone based acoustic modeling is done by Hidden Markov Model (HMM) at the back-end of an ASR system. HTK 3.4.1 toolkit is used for the implementation of this system. The system is trained for 70 different Hindi words. The experimental result shows that our system is able to achieve 95.08% accuracy, when we use MFCC as a feature extraction technique.

References

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**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Hindi Speech Recognition; Automatic Speech Recognition; Hmm; Mfcc