Abstract

Speech Recognition for Urdu language is an interesting and less developed task. This is primarily due to the fact that linguistic resources such as rich corpus are not available for Urdu. Yet, few attempts have been made for developing Urdu speech recognition frameworks using the traditional approaches such as Hidden Markov Models and Neural Networks. In this work, we investigate the use of three classification methods for Urdu speech recognition task. We extract the Mel Frequency Cepstral Coefficients, the delta and delta-delta features from the speech data and train the classifiers to perform Urdu speech recognition. We present the performance achieved by training a Support Vector Machine (SVM) classifier, a random forest (RF) classifier and a linear discriminant analysis classifier (LDA) for comparison with SVM. Consequently, the experimental results show that SVM gives better performance than RF and LDA classifiers on this particular task.
Automatic Speech Recognition of Urdu Digits with Optimal Classification Approach

- T. K. Ho, "Random decision forests," in Proceedings of the Third...

**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Linear Discriminant Analysis  
Mel-Frequency Cepstral Coefficients  
Random Forest  
Support Vector Machines  
Urdu