Abstract

This paper discusses the recognition of Hindi digits based on emotion rich small vocabulary. A feed forward multilayer neural network is trained by Back propagation method for speaker independent isolated word recognition. Mel Frequency Cepstral Coefficients (MFCC) are extracted as speech features. These features are used to train the Multi Layer Feed Forward network (MLFFN) Network. The same routine is applied to signals during recognition stage and unknown test patterns are classified to the nearest pattern. Analysis based on varying number of hidden neurons in the network and variation in number of speech features is presented here. The network is trained with input waves captured in neutral emotion and is tested against data in sad and surprise emotion. It has been observed that the MLFFN works as good classifier for test data and number of speech features extracted plays a very important role in recognition of isolated Hindi digits through machine.
References

- Lecture Notes of Summer School on ASR-10 (2010), 5th-9th Sep 2010, Osmania University, Organized by IIIT Hyderabad.

Index Terms

Computer Science, Emerging Trends in Technology

Keywords

"gpu", Nvidia Cuda, Ann, Classifier training, Pattern Recognition.