Abstract

Spoken words recognition provides applications like spoken commands recognitions in robotics command, speech based number dialing for phones and mobiles, etc. It also provides applications in railway and banking areas. This work aims at designing of optimal Multilayer Perceptron Neural Network (MLP NN) based classifiers for speaker dependent spoken digits recognition. The classifier attempted as optimal leading to less number of computations and few components requirement for its future implementation in hardware leading to a low cost speech recognition system. Isolated spoken digits were used as an input data to the neural networks based classifiers. Each spoken word was analyzed for the feature like Mel Frequency Cepstral Coefficients (MFCC). The MLP NN based classifier was designed meticulously with
the condition of minimum components and attempting maximum classification accuracy.

References

- T. Lewicke, E. S. Sazonov, M. J. Corwin, S. A. C. Schuckers, "Reliable Determination of Sleep Versus Wake from Heart Rate Variability Using Neural Networks"; Proceedings of International Joint Conference on Neural Networks, Montreal, Canada, pp. 2394-2399, August 2005.
- Judith Justin and Ila Vennila, "A hybrid speech recognition system with Hidden Markov Model and Radial Basis Function Neural Network"; American Journal of Applied
Design of Optimal MLP NN for Speaker Dependent Spoken Words Recognition Application


Index Terms

Computer Science

Signal Processing
Keywords
Neural Network  Multilayer Perceptron Neural Network  Speech Recognition  Mel Frequency Cepstral Coefficients