Abstract

There are different algorithms for vocal fold pathology diagnosis. These algorithms usually have three stages which are Feature Extraction, Feature Reduction and Classification. While the third stage implies a choice of a variety of machine learning methods, the first and second stages play a critical role in performance and accuracy of the classification system. In this paper we present initial study of feature extraction and feature reduction in the task of vocal fold pathology diagnosis. A new type of feature vector, based on wavelet packet decomposition and Mel-Frequency-Cepstral-Coefficients (MFCCs), is proposed. Also Principal Component Analysis (PCA) is used for feature reduction. An Artificial Neural Network is used as a classifier for evaluating the performance of our proposed method.


Index Terms

Computer Science
Neural Networks

Keywords

Wavelet Packet Decomposition
Mel-Frequency-Cepstral-Coefficient (MFCC)
Principal Component Analysis (PCA)

Artificial Neural Network (ANN)