Abstract

The analysis of infant cry has become more prevalent due to advances in areas such as digital signal processing, pattern recognition and soft computing. The analysis of infant cry has changed the diagnostic ability of physicians to correctly diagnose new-born. This work presents an approach to decode baby talk by classifying infant cry signal. We use normal infant cry signal of ages 1 day to six months old. In particular there are fixed cry attributes for a healthy infant cry, which can be classified into five groups such as: Neh, Eh, Owh, Eairh and Heh. The infant cry signal is segmented by using Pitch frequency and features are extracted using MFC (mel-frequency cepstrum) coefficients over MATLAB. Statistical properties are calculated for the extracted features of MFCC and KNN classifier is used to classify the cry signal. KNN is the
Decoding Baby Talk: Basic Approach for Normal Classification of Infant Cry Signal

most successful classifiers used for audio data when their temporal structure is not important. This study is based on five different databases such as, Neh, Eh, Owh, Eairh, and Heh databases. Each has 50 samples of data 40 samples used for training and 10 samples used for testing. Percentages of results are Neh 80%, Eh 90%, Owh 80%, Eairh 90%, and Heh 90% respectively. Decoding baby talk supports the mother’s built-in intuition about knowing and responding to their baby’s needs, and physician to treat infant early.

References

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Index Terms

Computer Science
Signal Processing

Keywords
Infant Cry    Pitch Frequency    Knn    Mfcc