Abstract

A new approach has been proposed to design of an automatic infant cry recognition system based on the fuzzy transform (F-transform) that classifies two different kinds of cries, which come from physiological status and medical disease. Feature extraction and development of classification algorithms play an important role in the area of automatic analysis of infant cry signals. F-transform is the powerful tool for the approximation of continuous functions on a finite domain and has been used as feature extraction of infant cry signals. Neural networks is developed to classify the infant cry signals into physiological status and medical disease and trained with smoothing parameter to obtain better classification accuracy. Neural networks (recognition system) are trained from the random selection of crying babies. The experimental results show that the proposed give very promising classification accuracy of 96%. The proposed method can be used to assist medical investigation of the infant from the cry signals.

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**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**
Fuzzy-Transform (F-Transform); Infant cry; Artificial neural network; Automatic recognition; Feature extraction.