Abstract

The hearing impaired is afraid of walking along a street and living a life alone. Since, it is difficult for hearing impaired to hear and judge sound information and they often encounter risky situations while they are in outdoors. The sound produced by moving vehicle in outdoor situation cannot be moderated wisely by profoundly hearing impaired community. They also cannot distinguish the type and the distance of any moving vehicle approaching from their behind. In this paper, a simple system that identifies the type and distance of a moving vehicle using artificial neural network has been proposed. The noise emanated from a moving vehicle along the roadside was recorded together with its type and position. Using time-domain approach, simple feature extraction algorithm for extracting the feature from the noise emanated by the moving vehicle has been developed. Simple time-domain features such as energy and zero-crossing rates are applied for getting the important signatures from the sound. The extracted features were associated with the type and zone of the moving vehicle and a multi-classifier system (MCS) based on neural network model has been developed. The developed MCS is tested for its validity.
References


**Index Terms**

Computer Science  
Pattern Recognition

**Keywords**

Multi-Classifier  
Time-Domain  
Voting System