Abstract

In many speech communication applications, the recorded speech signal is subject to reflections on the room walls and other objects on its way from the source to the microphone. Then resulting signal is called reverberated, which decrease Automatic Speech Recognition (ASR) performance and loss of intelligibility to listeners. However, it is still a challenging problem because of the nature of common room impulse response (RIR). RIR is generated artificially based on parameters of the room and its intensity depends on the size, shape, dimensions and materials used in the construction of the room. Here proposed an LMS-like gradient adaptive maximizing algorithm that maximizes the kurtosis of the LP residuals of the speech signal to the clean speech. The method used in this is maximizes kurtosis of LP residual of speech to removing reverberation from degraded speech. The performances of these methods are analysed using Reverberation Index (RR) and Speech Distortion (SD) parameters.

References

Index Terms

Computer Science

Algorithms

Keywords

ASR, NLMS, RR, SD, RIR