

Speech enhancement techniques for digital hearing aids

Borisagar, Komal R., author

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Abstrak

This book provides various speech enhancement algorithms for digital hearing aids. It covers information on noise signals extracted from silences of speech signal. The description of the algorithm used for this purpose is also provided. Different types of adaptive filters such as Least Mean Squares (LMS), Normalized LMS (NLMS) and Recursive Least Squares (RLS) are described for noise reduction in the speech signals. Different types of noises are taken to generate noisy speech signals, and therefore information on various noises signals is provided. The comparative performance of various adaptive filters for noise reduction in speech signals is also described. In addition, the book provides a speech enhancement technique using adaptive filtering and necessary frequency strength enhancement using wavelet transform as per the requirement of audiogram for digital hearing aids.

- Presents speech enhancement techniques for improving performance of digital hearing aids;
- Covers various types of adaptive filters and their advantages and limitations;
- Provides a hybrid speech enhancement technique using wavelet transform and adaptive filters.