

COMPARATIVE STUDY OF VARIOUS WAVELETS FOR SPEECH COMPRESSION

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Abstract

Data compression refers to the reduction of the number of bits needed to represent the data used for storage and transmission. The ideal goal of data compression is to contain the original information in few bits. Data compression can be classified as either lossy or lossless. Lossless compression refers to the technique that assures an exact representation of data after going through the compression-decompression process. On the other hand, Lossy compression, as the name implies, represents the compression of data with a certain degree of loss in information content. The use of Wavelet Transform for the analysis of the speech is attractive because it has an ability to analyze different parts of the signal at different scale. Signals can be efficiently compressed and de-noised using wavelet transform .Compression of speech of male and female using different wavelet is analyzed. Various parameters like PSNR, SNR, and NRMSE are calculated and compared for both male and female voice.

Keyword: Speech processing, Wavelet analysis, Peak signal to noise ratio, Signal to noise ratio, Normalized root mean square error, Energy of the speech signal.