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Speech Scrambling using Wavelet transform and Permutation

Abstract

The development of modern communications leads to discover a cipher system to prevent the unauthorized listeners to steals the data (including speech), and became an important requirement. One of these systems is Speech Scrambler, which it applied to get a secured speech signal using for transmission. In this study, the original speech will be scrambling using a hybrid structure of WaveletHaar transform and Permutation. The Haar transforms were applied on the speech file after dividing it into frames with 256-samples size. Firstly, the sound frame was passed through a low pass filter and high pass filter at the first level of the analysis, after that i1n the second level, the low pass filter coefficients input again in a series of low and high pass. Secondly, the permutation process is applied at the end of the Wavelet -Haar transform, to offer higher possible security. Finally, the security and quality were measured by (SSNR).