ABSTRACT

Watermarking is a way to hide or embed data or information into a digital data, without being known to exist by the human senses (vision or hearing) to protect the copyright and authenticity of the data. The audio watermarking technique has two stages: embedding and extracting. The extracted audio signal must be resistant to attacks such as filtering, modification, noise, compression, and speed change.

In this research, schemes have been used with the main method that combines the transformation method combining the Discrete Cosine Transform (DCT) and Discrete Wavelet Transform (DWT) Transformation methods on Compressive sampling, then Discrete Cosine Transform (DCT) and Singular Value Decomposition (SVD) on audio watermarking to obtain a good robustness based on valuation parameters such as SNR and BER. The purpose of compressive sampling (CS) is a new sampling method in which the acquisition and compression signals are performed at the same time and in the process are sampled with minimal and random quantities based on the transformation used. Compression techniques and transformation methods to measure data more efficiently to speed up data transmission and the quality of audio hosts can withstand various attacks.

The result outcome of this final task is an audio watermarking system that has a level of robustness and imperceptibility with an average value after the attack on the BER parameter 0.20 as well as the average SNR 25.03 dB.

Keywords: Audio Watermarking, Discrete Cosine Transform, Singular Value Decomposition, Discrete Wavelet Transform, Compressive Sampling.