

ABSTRACT

Steganography is an art of writing or hiding a secret message in a specific way on a media. Purposed to keep only the sender and the recipient could see the message secretly without any other person will recognized it. This research , the author has designed a steganography system using images as the media to hide a secret message.

This research use Compressive Sensing (CS) as the reconstruction technique for the image to get a less smaller size of the image. The steganography methods is using Stationary Wavelet Transform (SWT) as the wavelet transformation method, followed with Singular Value Decomposition (SVD) as the embedding method to decomposing the image matrix into a three different sub matrix. Using the Orthogonal Matching Pursuit (OMP) algorithm reconstruct the compressed image into the normal size. The performance of the system will be tested using a salt & pepper noise and gaussian noise.

The final result of the research is produce a few conclusion after the performance system test using noise attack. The outcome of the salt & pepper noise test is not at the maximum results, with the best average BER number at density noise 0.01 is only 0.05765 with PSNR value as 105.66 dB, compared with the other density noise with average BER value as 0.521, the system performance against this noise attack is not being at the best results after we see the big value changes between density noise 0.01 and 0.05. While the gaussian noise test has showing that the best average BER value is on 0.0509 on sigma 1 and PSNR value is on 104.61 dB, without any significant value changes on the different amount of sigma.

Key Word: *Steganography, Stationary Wavelet Transform, Singular Value Decomposition, Compressive Sensing*