

ABSTRACT

At present, the development of technology is developing very rapidly. Process exchange of data and information will be easier. This can be utilized by people who are not responsible for committing crimes, such as duplicating data or infringing copyright. Watermarking techniques are solutions that can be used to prevent these actions. By inserting a digital data or information into digital media others, which cannot be known by the human senses. Image watermarking is the development of the watermarking technique itself, by inserting a digital data into an image file or image media that you want to protect authenticity.

In this Final Project the author analyzes image watermarking by using a host in the form of an image file, and the inserted data is an image / image. The method used is by combining the Lifting Wavelet method Transform (LWT) and Singular Value Decomposition (SVD), and do compressive sensing technique. To assess the quality of the inserted image file watermark in it, measured with several performance parameters such as MSE, PSNR, SSIM, NCC, MAE, and MOS.

The image watermarking performance in this Final Project is obtained by testing the host that has been inserted with the watermark. By carrying out testing both in the process of compression, insertion, extraction and reconstruction then the results of the parameters obtained in the implementation of image watermarking this with the PSNR value with an average of 99.472 dB and MSE with an average of 5.458. As well as being resistant to Gaussian noise blur attacks, Rescaling, Crop, and JPEG Compression. MOS testing get the highest score in scenario 1 which is very good 75,00 %, scenario 2 is very good 65,00 %, scenario 3 is very good 52,50 %, scenario 4 is fair 50,00 %, and scenario 5 is very good 75,00 %.

Keywords: *Image Watermarking, Compressive Sensing (CS), Lifting Wavelet Transform, Singular Value Decomposition*