

## ABSTRACT

The process of sending and protecting information is a problem that is often faced by the development of information technology today. One way to solve this problem is to use compression and watermarking techniques on confidential data.

Based on the problem, in this final project design watermarking image system in which there is compression and decompression technique. For compression techniques use Huffman encoding and decompression methods using Huffman decoding. In addition, compressive sensing is used as compression on the watermark image side and combines Discrete Waveket Transform (DWT) transformation with Singular Value Decomposition (SVD).

The end result of this research is, compression ratio above 50%, parameter SSIM = 1. At the time of testing the influence of compressive sensing then the test using CS yields the value of MSE 0.172 and PSNR = 55.75 while testing without using CS yields the value of MSE = 0.117 and PSNR = 57,2.

Keywords: Compressive Sensing, Discrete Waveket Transform (DWT), Singular Value Decomposition (SVD), Huffman Coding