

## ABSTRACT

*The development of multimedia networks is currently growing very rapidly, even more sophisticated electronic devices. The large amount of data stored in a device results in no maximum tool in performing its functions specifically in the transmission system. We need to know how dangerous it is if an important piece of information becomes damaged or does not reach its destination when transmission is in progress. This case forces us as students to think more deeply about it. Slow years of various researches that have been developed have now emerged steganography and watermarking.*

*This science explains the procedure for reducing the size of the data and then inserting it into certain files with the aim of securing information from abuse or copyright infringement. In addition to copyright protection, images generally have a large data size. The use of large amounts of data can make storage become full quickly and at any time can affect the transmission system on the device. Data compression is an essential thing because the size of the data is getting bigger and bigger. In general, the information contained in an image lies in its structure. In order to more easily understand an image and reduce the size of the image itself, it can be done by simplifying the image structure itself.*

*In this final project, image compression is done using CS and insertion techniques using the DCT and SVD methods. The image used is 3 samples with different sizes in the form of soft files. This sample will be compressed and the results of the compression will then be analyzed. The results obtained from this final assignment found that images that have been inserted with a watermark and compressed using the Arithmetic Coding algorithm have good quality after testing of 2 attacks with varying levels. The test results show that the smallest BER is 0, the smallest MSE value is 46, and the best PSNR value is 72dB. A watermarking system produces good resistance with a small BER value.*

*Keywords : Arithmetic Coding, CS, OMP, DCT, SVD*