

Abstract

Steganography is the art and science to hide data in a cover that it can be text, audio, image, video, etc. The application of this technique was to secure information delivery, where security is more geared to the information transmitted on the media is inserted and its existence does not invite suspicion from the perception of the human sensory observation. Application of steganography technique in digital imagery is said to have a good performance in the carrier's image suffered no loss of quality. Several steganography techniques such as LSB, HC-RIOT coder, DCT, and DWT

Most researches apply Discrete Wavelet Transform (DWT) due to its wide application in the new image compression standard, JPEG2000. Therefore, at this final project will be applied to Discrete Wavelet Transform and Particle Swarm Optimization on steganography to optimize storage capacity stego-image. Particle Swarm Optimization algorithm with Optimal Pixel Adjustment Process is also applied to get the optimal mapping of functions to reduce the difference between the Cover image and Stego-image. Optimal Pixel Adjustment Process is done after inserting the message into the Cover image.

In this final project result reveal that Optimization of Stego-Image Storage Capacity Using Particle Swarm Optimization Algorithm in term of peak signal to noise and capacity 59.1199 dB and 50 respectively

Index Term: Steganography, Discrete Wavelet Transform, Particle Swarm Optimization, Optimal Pixel Adjustment Process.