

ABSTRACT

Steganography is originated from Greek, which means closed or hidden writing. Steganography is the art or field to hide secret data to another unsuspecting media so the data itself won't be recognized. The media can be used consists of digital image, text, audio, or video.

There's a lot of steganography method, one of them is Discrete Cosine Transform (DCT). In this method, hidden process happens in frequency domain, so that the result has better endurance than being hidden in spatial domain.

In this final project, image was used as steganography research's object. Two images were needed: cover image as covering media and secret image as the hidden object. For a better security, the steganography was combined with cryptography, specifically Advanced Encryption System (AES). First, hidden image's encrypted, then inserted to the cover image using DCT. The final result's performance was analyzed using Mean Square Error (MSE), Peak Signal to Noise Ratio (PSNR), Normalized Correlation (NC), and Mean Opinion Score (MOS). The performance parameter were affected by *threshold* used. Steganography image's PSNR result showed below 33 dB for all *threshold* value. Attacking using scaling, JPEG compression, crop, and Gaussian noise were also used.

Keywords: steganography, image, DCT, AES