

ABSTRACT

HIDING DOCX AND PDF FORMAT FILES USING VIDEO STEGANOGRAPHY TECHNIQUES WITH LEAST SIGNIFICANT BIT METHOD

By

Tufail Akhmad Satrio

17102071

Video Steganography is one type of Steganography that is often used in hiding secret messages. Video Steganography is a technique to hide messages into video media. The secret message will be inserted in one of the largest frames in .png format. The video used is a video with .mp4 format and the files used in inserting messages into the video are files with .docx and .pdf formats. The method used in this steganography video is Least Significant Bit (LSB). The LSB method works by replacing the last bit of each pixel with the data bit to be inserted. The advantage of this method is that the quality and size of the image after the message is inserted does not look much different. This video steganography technique is also combined with cryptography, namely using the Fernet Encryption method, making it difficult for someone or another party to extract data from videos that have been inserted secret messages. Video Steganography will be applied to this research in the form of an application made using the Python language. The output of the embedded video is embedded in the .mp4 format, while the extracted output is a file with the format according to the data file that is inserted in the embedded video. The results of testing the PSNR value on file insertion on the 2nd bit have a PSNR value of >40 dB so that it can be categorized as feasible to use, while the file insertion on the 4th and 6th bits has a PSNR value of <40 dB so it can be categorized as not feasible for used because there is noise that can be seen with the naked eye. The resulting embedded video has a very large size compared to the original video, and the resulting extraction file is the same as the original file. The speed of the file insertion and file extraction process is influenced by the number of Frames Per Second (FPS) of a video, the more frames it takes, the longer it takes.

Keywords : cryptography, Fernet, Least Significant Bit, LSB, video steganography