

Secret Communication using Multi-Image Steganography for Military Purposes

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Abstract: Information security plays an important role when considering data transmission. Transmission of sensitive data or communication through the internet turns out to be challenging due to security concerns. Generally, we use cryptography for information hiding and sending secret messages in the form of text. Nowadays, there are several techniques used for hiding information in any medium. One such technique is steganography. Building a secret communication system including Multi-image steganography will result in secure communication between the sender and the receiver without any interference from the hackers. Image steganography is the main aspect of information hiding where the ciphertext is embedded into an image called a cover image which is next to impossible for the intruders to see with their naked eyes. The hiding information can be any form of text, images, audio, and even videos inside a cover image. The conceptual definition of Multi-image Steganography is that the secret code is divided into multiple parts and is etched into multiple cover images. So we proposed two image steganography ideas to make it very challenging for the hackers to conceal the data. This paper proposes the Least significant bit (LSB) technique of Steganography and the Advanced Encryption Standard (AES) technique of Cryptography to build a safe and secure system. Here the sender and the receiver use the same key to encrypt and decrypt the data which is popularly termed a symmetric key.

Keywords: Multi-Image Steganography, Cryptography, Least Significant Bit LSB Steganography, Advanced Encryption Standard AES Cryptography, Information Hiding

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