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Abstract

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Information Hiding Based on Histogram and Pixel Pattern

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Recently, the Internet is used for data communications between two or more parties. Cryptography or steganography can be used for protecting secret data or message. Cryptography is a technique for protecting the secret messages by changing the messages into a code, and such that unauthorized party can not understand it. Steganography is the art of protecting secret messages to be hidden the media. The media could be images, videos, audios, texts or other which is usually is called cover. The purpose of steganography is to reduce the suspicion of others. However, today many researchs combine these two techniques with the aim of increasing the security of the secret messages. Rejani's developed a steganography method using an image as a cover and combined it with cryptography to improve security. However Rejani's method changed the pixel image in certain conditions, so the image became *noisy*.

The proposed method is to create *noiseless* image steganography and to combine it with cryptography techniques without changing the pixels. The proposed method utilizes the intensity and pixel position to camouflage the message into the image, furthermore encryption techniques are used with user-specified keys for increasing security. The result shows that the proposed method does not change the pixels, thus reduces suspicion of unauthorized parties. The proposed method has better embedding capacity than the Rejani's method. Using wide range intensity and high number of pixels for each intensity, it can embed more than 37% longer message.

Keywords: Steganography, Noiseless