Efficient image steganography using graphsignal processing.

ABSTRACT

- Steganography is used for secret or covert communication. A graph wavelet transform-based steganography using graph signal processing (GSP) is presented, which results in better visual quality stego image as well as extracted secret image. In the proposed scheme, graph wavelet transforms of both the cover image and transformed secret image (using Arnold cat map) are taken followed by alpha blending operation.
- The GSP-based inverse wavelet transform is performed on the resulting image, to get the stego image. Here, the use of GSP increases the inter-pixel correlation that results in better visual quality stego and extracted secret image as shown in simulation results. Simulation results show that the proposed scheme is more robust than other existing steganography techniques.

INTRODUCTION

- Today, internet is the most powerful communication media among the people around the globe. Use of internet overcomes the distance to exchange the information among people. In case of confidential data exchange, security and safety is a major concern. Steganography is one of the solutions for this, which provides higher level of security for hidden information exchange .
- In Greek, steganography means ‘covert writing’. Covertcommunication is the main factor that separates it from other related techniques such as watermarking and cryptography.

EXISTING SYSTEM

- Cryptography modifies the data so that it cannot be understood by an eaves dropper, whereas steganography keeps the existence of the hidden message secret; this ultimate feature makes it protective for an observer. Exchanging encrypted information is practically detectable because it may draw the attention of an observer, whereas invisible form of information will not. This is the main advantage of steganography over cryptography.

PROPOSED SYSTEM

- graph signal processing (GSP) is presented, which results in better visual quality stego image as well as extracted secret image. In the proposed scheme, graph wavelet transforms of both the cover image and transformed secret image (using Arnold cat map) are taken followed by alpha blending operation.
- The GSP-based inverse wavelet transform is performed on the resulting image, to get the stego image. Here, the use of GSP increases the inter-pixel correlation that results in better visual quality stego and extracted secret image as shown in simulation results.

SYSTEM SPECIFICATION

Hardware Requirements :

- Processor :Intel Pentium IV 1GHz
- RAM :256MB (Min)
- Hard Drive :5GB free space
- Monitor :1024 * 768, High Color inch
- Mouse :Scroll Mouse(Logitech)
- Keyboard :104 keys

CONTD..

Software Requirements :

- OS : Windows XP/7/8
- Front End : Visual Studio 2010/ netbeans 7.1
- Back End : SQL Server 2005/ heidisql 3.2
- Browser : Any Web Browser

CONCLUSION

- The GSP-based novel highly secure image steganography scheme for grey-scale image has been proposed for concealing a secret image inside a cover image. The security of secret image is more satisfactory than in the previous works such as . Experimental results show that the proposed method introduced good visible quality in stego image that led to the best secret image imperceptibility property inside the stego image. It is also shown in the results that the NCC value between secret image and extracted secret image is high, which denotes a better visible quality of extracted secret image.

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