Abstract

Modern information hiding technology is an important branch of information security. Hiding capacity is very much important for efficient covert communication. The redundancies of digital media as well as the characteristic of human visual system make hiding technology a significant one. Steganography is the Art and Science of writing hidden messages in such a way that no one, apart from the sender and intended recipient suspects the existence of the message. Images are the mostly cover objects used for information hiding schemes. Image steganography is the most popular method for message concealment. Many different carrier file formats can be used, but digital images are the common, because of their frequency in the Internet. In LSBMR, two secret bits can be embedded into each embedding unit and the threshold value for region selection can be determined. The main drawback of this scheme is the absolute difference is taken as the threshold value. In this paper LSB Matching Revisited (LSBMR) image steganography using Genetic Algorithm (GA) is proposed, in which Genetic algorithm is used to select the embedding regions according to the size of the secret message and to optimize the threshold value of the selected image regions. Experimental analysis shows that the proposed algorithm outperforms the existing methods in terms of capacity and security.
References


- C. C. Chang and H. W. Tseng, "A steganographic method for digital images using
Data Hiding Scheme for Digital Images based on Genetic Algorithms with LSBMR

Index Terms

Computer Science

Security

Keywords

Steganography  Message concealment  Information hiding  Region selection  Genetic algorithms