

Reversible Information Hitting in Encrypted JPEG Bitstream by LSB Based on Inherent Algorithm

Authors : Vaibhav Barve

Abstract : Reversible information hiding has drawn a lot of interest as of late. Being reversible, we can restore unique computerized data totally. It is a plan where mystery data is put away in digital media like image, video, audio to maintain a strategic distance from unapproved access and security reason. By and large JPEG bit stream is utilized to store this key data, first JPEG bit stream is encrypted into all around sorted out structure and then this secret information or key data is implanted into this encrypted region by marginally changing the JPEG bit stream. Valuable pixels suitable for information implanting are computed and as indicated by this key subtle elements are implanted. In our proposed framework we are utilizing RC4 algorithm for encrypting JPEG bit stream. Encryption key is acknowledged by framework user which, likewise, will be used at the time of decryption. We are executing enhanced least significant bit supplanting steganography by utilizing genetic algorithm. At first, the quantity of bits that must be installed in a guaranteed coefficient is versatile. By utilizing proper parameters, we can get high capacity while ensuring high security. We are utilizing logistic map for shuffling of bits and utilization GA (Genetic Algorithm) to find right parameters for the logistic map. Information embedding key is utilized at the time of information embedding. By utilizing precise picture encryption and information embedding key, the beneficiary can, without much of a stretch, concentrate the incorporated secure data and totally recoup the first picture and also the original secret information. At the point when the embedding key is truant, the first picture can be recouped pretty nearly with sufficient quality without getting the embedding key of interest.

Keywords : data embedding, decryption, encryption, reversible data hiding, steganography

Conference Title : ICSIP 2015 : International Conference on Signal and Image Processing

Conference Location : London, United Kingdom

Conference Dates : June 28-29, 2015