A Hybrid Approach for Image Encryption using Different Number Iterations in ECC and AES Techniques

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Abstract

Image encryption has been emerged as the important aspect in order to protect the authenticity of the data being transferred among the different sources. Protecting the multimedia data so as to keep the integrity of the data intact has become the major concern these days. There have been several algorithms made so far. But each of them has some sort of disabilities and suffers from limitations. To overcome drawback of such algorithms we had formulated the same in the paper whose main focus is on keeping the original information secure. This paper includes the hybrid approach for implementing encryption techniques over a binary image. This work basically focus on image encryption using the derived concept of AES and ECC, once applying ECC individually on a single image and then altogether with AES with different threshold value set by user to check the accuracy on pixel intensity. The work not focuses only normal encryption but also considering horizontal and vertical components along with region of interest (ROI). The work will apply the proposed algorithm over specific area within an image.

References
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Index Terms

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Keywords

Image encryption, AES, ECC, ROI, Transposition