Abstract

In recent years, digital images are in use in a wide range of applications and for multiple purposes. They also play an important role in the storage and transfer of visual information, especially the secret ones. With this widespread usage of digital images, in addition to the increasing number of tools and software of digital images editing, it has become easy to manipulate and change the actual information of the image. Therefore, it has become necessary to check the authenticity and the integrity of the image by using modern and digital techniques, which contribute to analysis and understanding of the images’ content, and then make sure of their integrity.

Digital image fragile watermarking is an information hiding technique which adds the watermark into the host image for authentication. While achieving the high integrity one should not compromise with quality distortion of images. Numbers of watermarking schemes exist today for balancing between the tamper detection rate and quality of reconstructed images in propose...
scheme we aim at maintain high tamper detection rate as well as high Peak to Signal Noise Ratio (PSNR) of reconstructed images for their quality. For that we utilize Local Binary Pattern (LBP) for this purpose to obtain the optimum solution.

In the proposes scheme we used a fragile image watermarking scheme with recover ability based on local binary pattern (LBP). The local binary pattern operator used to extract localized spatial features. A local binary pattern is used to represent the localized relations of a pixel with its neighborhood pixels. Every pixel measured by the LBP operator and obtained its own local binary pattern as representation of local spatial relations. We utilizes the LBP operator to generate authentication data which are embedded into each image block with 3 × 3 pixels size for tamper detection and recovery. The recovery information is obtained by calculating the mean value of each image block, and then the mean value is converted into a binary string which is embedded into eight neighboring pixels’ LSBs of each image block for image recovering.

In the propose scheme we can take the input as 256 × 256 as well as 512×512 dimension image, one of the advantage compare to other existing system is that it can also processed the color image. The quality is calculated by the PSNR but in the proposed scheme PSNR at peak point is also calculated to get better result.

References

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Analysis And Machine Intelligence, Vol. 25, No. 11, November 2003.

Index Terms

Computer Science                 Image Processing

Keywords

Authentication, signal, noise, information hiding, integrity