Image Morphing Detection by Locating Tampered Pixels with Demosaicing Algorithms

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Abstract

In this digital world we come across many image processing software that produce doctored images with high sophistication, which are manipulated in such a way that the tampering is not easily visible to naked eye. The authenticity of a digital image has become a challenging task due to the various tools present in the photo editing software packages. There are number of ways of tampering an image, such as splicing two different images together, removal of objects from the image, addition of objects in the image, change of appearance of objects in the image or resizing the image. This Image Morphing detection technique detects traces of digital tampering in the complete absence of any form of digital watermark or signature and is therefore referred as passive. So there is a need for developing techniques to distinguish the original images from the manipulated ones, the genuine ones from the doctored ones. In this paper we describe a novel approach for detecting Image morphing. The new scheme is designed to detect any changes to a signal. We recognize that images from digital cameras contain traces of re-sampling as a result of using a color filter array with demosaicing algorithms. Our results show that the proposed scheme has a good accuracy in locating tampered pixels.
References

- Andrew C. Gallagher and Tsuhan Chen. "Image Authentication by Detecting Traces of Demosaicing." 2012
- Wikipedia. Image Morphing Example.

Index Terms

Computer Science

Image Processing

Keywords

Image tampering detection  Image Morphing  Digital forensic  image processing  Image forgery detection