Detection of Copy-Move Forgery Exploiting LBP Features with Discrete Wavelet Transform

International Journal of Computer Applications, Foundation of Computer Science (FCS), NY, USA

Volume 153
Number 3

Year of Publication: 2016

Authors:
Anuja Dixit, Rahul Dixit, R. K. Gupta

Abstract

Copy-move forgery is being used at various fields to hide significant information or to append additional information in image. Image forgery results in false interpretations. In this forgery, one section of image is copied and then it is pasted over the same image at different location. Although, various techniques are suggested by researchers but finding forged section of varying size and located at different locations on image is complicated. To resolve such problems we introduce a new hybrid approach for finding copy-move forgery based on Discrete Wavelet Transform with Local Binary Pattern. At First, image is moldered into three color components. Discrete Wavelet Transform is applied over the image which results in four sub bands. Approximation sub image contains low frequency components having maximum information. LL subimage is divided in overlapping blocks. Local Binary Pattern is calculated for blocks to generate descriptors to match similar blocks. Shift vectors are computed to find group of block pairs with similar shifting. It is observed by our experimental results that proposed method can efficiently detect manipulated images having different forgery size with high detection accuracy and low false positive rate as comparison to other state-of-the-art.
References


17. G. Li, Q. Wu, D. Tu and S. Sun, “A Sorted Neighborhood Approach for Detecting Duplicated Regions in Image Forgeries based on DWT and SVD,” IEEE International
Detection of Copy-Move Forgery Exploiting LBP Features with Discrete Wavelet Transform


Index Terms

Computer Science Image Processing

Keywords
Copy-move forgery, Discrete Wavelet Transform, Image forgery detection, Local Binary Pattern, Region duplication