

{tag}  
Trends in Computing

{/tag} IJCA Proceedings on National Conference on Recent  
© 2012 by IJCA Journal  
NCRTC - Number  
Year of

6  
Publication: 2012

Authors:

Anil Dada Warbhe

R. V. Dharaskar

{bibtex}mpginmc1046.bib{/bibtex}

## Abstract

In recent years, digital forensics emerged as a powerful and promising discipline to identify, detect and authenticate the digital images. This could be the authentic ground to present a proof of tempering as evidence in the court of law. The trust we have had till now in believing what we see started eroding. This is all happening due to the availability of the low cost, sophisticated yet easy to use tools and techniques. Due to the availability of these tools tempering the digital photographs getting easier and easier but at the same time it's very difficult to detect traces, if viewed by necked eye. Image forensic tools are mainly classified based on the approach used; active or passive. We here present a survey on pixel-based and format-based techniques, which comes under the realm of passive approach for digital image forgery detection.

## References

- A. D. Warbhe, R. V. Dharaskar "Blind Method for Image Forgery Detection: A

- tool for Digital Image Forensics", IJCA, Number 11 (ISBN: 978-93-80866-82-5), 2012.
- Hartung F, Kutter M. Multimedia watermarking techniques. Proc. IEEE, July 1999, 87(7): 1079–1107
  - LUO Weiqi, QU Zhenhua, PAN Feng, HUANG Jiwu "A survey of passive technology for digital image forensics" Front. Comput. Sci. China (2007) , 2(1): 1?11
  - H. Farid "Image Forgery Detection - A Survey, IEEE signal processing magazine March 2009, pp. 16-25
  - J. Fridrich, D. Soukal, and J. Lukás, "Detection of copy move forgery in digital images," in Proc. Digital Forensic Research Workshop, Aug. 2003.
  - A. C. Popescu and H. Farid, "Exposing digital forgeries by detecting duplicated image regions," Dept. Comput. Sci. , Dartmouth College, Tech. Rep. TR2004-515, 2004.
  - G. Li et. al. , "A sorted neighborhood approach for detecting duplicated regions in image forgeries based on DWT and SVD," in IEEE Int. Conf. Multimedia and Expo, Beijing, China, 2007, pp. 1750–1753.
  - W. Luo, et. al. , "Robust detection of region-duplication forgery in digital images," in Proc. Int. Conf. on Pattern Recognition, Washington, D. C. , 2006, pp. 746–749.
  - B. Mahdian, S. Saic, "Detection of copy move forgery using a method based on blur movement invariants," Forensic Sci. Int. , vol. 171, pp. 180–189, 2007.
  - A. C. Popescu and H. Farid, "Exposing digital forgeries by detecting traces of re-sampling," IEEE Trans. Signal Processing, vol. 53, no. 2, pp. 758–767, 2005.
  - A. C. Gallagher, "Detection of linear and cubic interpolation in jpeg compressed images," in Proc. 2nd Canadian Conf. Computer and Robot Vision. , Victoria, British Columbia, Canada, vol. 171, 2005, pp. 65–72.
  - M. Kirchner, "Fast and reliable resampling detection by spectral analysis of fixed linear predictor residue," ACM Multimedia and Security Workshop, 2008, pp. 11–20.
  - B. Mahdian, S. Saic, "Blind authentication using periodic properties of interpolation," IEEE Trans. Inform. Forensics Security, vol. 3, no. 3, pp. 529–538, 2008.
  - S. Prasad and K. R. Ramakrishnan, "On resampling detection and its application to image tampering," in Proc. IEEE Int. Conf. Multimedia and Exposition, Toronto, Canada, 2006, pp. 1325–1328.
  - H. Farid, "Detecting digital forgeries using bispectral analysis," AI Lab, Massachusetts Institute of Technology, Tech. Rep. AIM-1657, 1999.
  - T. -T. Ng and S. -F. Chang, "A model for image splicing," in Proc. IEEE Int. Conf. Image Processing, Singapore, 2004, vol. 2, pp. 1169–1172.
  - H. Farid and S. Lyu, "Higher-order wavelet statistics and their application to digital forensics," in Proc. IEEE Workshop on Statistical Analysis in Computer Vision (in conjunction with CVPR), Madison, WI, 2003.
  - S. Bayram, I. Avcibas, B. Sankur, and N. Memon, "Image manipulation detection with binary similarity measures," in Proc. European Signal Processing Conf. , Turkey, 2005.
  - S. Bayram, I. Avcibas, B. Sankur, and N. Memon, "Image manipulation detection," J. Electron. Imaging, vol. 15, no. 4, p. 41102, 2006.
  - S. Lyu and H. Farid, "How realistic is photorealistic?" IEEE Trans. Signal

Processing, vol. 53, no. 2, pp. 845–850, 2005.

- S. Lyu and H. Farid, "Steganalysis using higher-order image statistics," IEEE Trans. Inform. Forensics Security, vol. 1, no. 1, pp. 111–119, 2006.
- H. Farid, "Digital image ballistics from JPEG quantization," Dept. Comput. Sci., Dartmouth College, Tech. Rep. TR2006-583, 2006.
- H. Farid, "Digital ballistics from jpeg quantization: A followup study," Dept. Comp. Sci., Dartmouth College, Tech. Rep. TR2008-638, 2008.
- Z. Fan and R. L. de Queiroz, "Identification of bitmap compression history: JPEG detection and quantizer estimation," IEEE Trans. Image Process., vol. 12, no. 2, pp. 230–235, 2003.
- W. Luo, Z. Qu, J. Huang, and G. Qiu, "A novel method for detecting cropped and recompressed image block," in Proc. IEEE Conf. Acoustics, Speech and Signal Processing, Honolulu, HI, 2007, pp. 217–220.
- J. Lukas and J. Fridrich, "Estimation of primary quantization matrix in double compressed JPEG images," in Proc. Digital Forensic Research Workshop, Cleveland, OH, Aug. 2003.
- A. C. Popescu and H. Farid, "Statistical tools for digital forensics," in Proc. 6th Int. Workshop on Information Hiding, Toronto, Canada, 2004, pp. 128–147.
- J. He, Z. Lin, L. Wang, and X. Tang, "Detecting doctored JPEG images via DCT coefficient analysis," in Proc. European Conf. Computer Vision, Graz, Austria, 2006, pp. 423–435.

### Index Terms

Computer Science

Emerging Trends in Technology

### Keywords

Digital Image Forensics Image Processing Image Tempering