Abstract

Modification of a digital image by adding or removing some of its elements using a wide variety of image processing tools results in image forgery. As a result, authentication of originality of a digital image is becoming a challenging task. Copy-paste forgery is one of the forgeries belonging to context-based forgery. Copy-Paste Forgery Detection (CPFD) aims at finding regions that have been copied and pasted within the same or different image. A small change in the image may change statistical parameters that can be analyzed for initial assessment of the forgery. In the present research study, a parametric forgery detection model using non-overlapping block-based technique is developed to ascertain the copy-paste forgery in a given digital image. Statistical parameters of the input image are computed, analyzed, and compared with those of the forged image. The results show that the proposed model identifies the forged area of the given image and works well with low to moderate copy-paste forgery. The results obtained can be used as the initial verification of the images for forgery and to enhance the forgery detection process by identifying most likely cases of possible image forgeries. The proposed model is tested with a large domain of images having different dimensions and for
detecting forgery within an image. However, the model has limitations with certain geometrical transformations.

References


Index Terms

Computer Science

Information Sciences
Keywords

Copy-paste forgery, Block-based forgery detection techniques, Non-overlapping block-based techniques.