

عنوان مقاله:

Improving the Detection Rate of Forgery JPEG Images Based on Combining Histogram Features and Discrete Wavelet Transform (DWT) with the Use of Support-Vector Machine

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خلاصه مقاله:

Manipulating digital images is not often a difficult task due to the rapid development of software and image manipulation techniques. Hence, there is no need for professional skills or training. When used as an artistic tool, it is completely harmless, but when these images can be presented in judicial system as the evidence or for the creation of political associations, as well as using them in legal documents, electronic money circulation or press, in these cases, the distinction between an original image and a forgery image is very important. In order to solve the problem in this research, by using a discrete wavelet transform (DWT), which is performed by decomposing a signal into smaller and smaller details, as well as the use of periodic patterns in the histogram generated by double compression with different coefficients, significant improvements were made in terms of reducing computations and increasing the detection rate of forging areas. Most of the proposed methods for detecting image forgery use a feature extraction model from a valid and manipulated dataset and then classify them using machine learning with the aim of optimizing accuracy. The method used in paper, using the SVM classification identifies image forgery and then identifies the forging area after it detects the falsification or originality of the image. The results of this study indicate 97.98% accuracy in the Columbia database and 98.1% in the IFS-TC database.

کلمات کلیدی:

Image Manipulation, Discrete Wavelet, Histogram, JPEG Image, Support vector machine

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