

Convolutional Neural Networks for Digital Image Forensics

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There are a number of methods to distinguish computer graphics from photographic methods. Some achieve very high accuracy on their respective test sets. In this study an attempt was made to test the robustness of state of the art methods on a larger data set and to test the methods accuracy once the images have been altered in a way to make detection harder. Additionally a Convolutional Neural Network (CNN) was developed that borrows from other methods in an attempt to provide a more versatile system particularly in low information settings. The results show that prior methods do have some range in maintaining high detection accuracy, but that finding an image manipulation that can evade detection is fairly simple. The CNN developed in this study, while not able to reach the best results obtained by prior methods, is far more robust over a much larger range of images.