INTERNAL AND EXTERNAL FORGERY DETECTION OF IMAGE USING RECTANGULAR PROJECTION MODEL

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ABSTRACT

In this work a decision fusion strategy for image forensics is presented, based Rectangular Projection Model on Theory of Evidence. The goal is to automatically review the information provided by several image forensics tools, allowing both a binary and a soft interpretation of the global output produced. The proposed strategy is easily extendable to an arbitrary number of tools, it does not require that the output of the various tools be probabilistic and it takes into account available information about tools reliability. The proposed framework exploits knowledge about tool performances and about compatibility between various tool responses, and can be easily extended when new tools become available. It allows both a "soft" and a "binary" (tampered/non tampered) interpretation of the fusion result, and can help in analyzing images for which taking a decision is critical due to convicting data. Our proposed system works in finding the copy past forgery of newly added object to the actual image wherein a region from an image is replaced with another region from the different image. The previous methodologies in finding identical regions suffer from their inability to detect the cloned region when it has been subjected to a geometric transformation. The proposed system works on distortion based features. These are obtained by using the features from the image.

Keywords: Binary, Soft Interpretation, Rectangular, Distortion, Image Forgery, MPEG-7.