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Altered Region Identification in Image Files using Copy-Move Forgery Detection Technique

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Abstract: *Nowadays, digital images and videos have high importance because they have become the primary carriers of information. However, the easy availability of powerful image editing software has made it possible to manipulate and edit digital images and videos, leading to a loss of trust in their authenticity. It is possible to add or remove important features from an image without leaving any obvious traces of tampering. To detect this such type of forgeries, the proposed method involves dividing the image into overlapping blocks of the same size, extracting a feature for each block, and representing it as a vector. The vectors are then sorted using radix sort, and the difference in the positions of adjacent feature vectors in the sorted list is computed to obtain a shift vector. This method can even identify tampered parts of an image that have been enhanced or retouched to merge with the background or saved in a lossy format like JPEG. Several forged images were tested to demonstrate the effectiveness of this proposed method. Its application has significant implications in fields like forensics, journalism, and medical imaging to ensure the authenticity of digital images and videos.*

Keywords: Altered Region Identification, Copy-Move Forgery Detection Techniques, Shift Vector, Radix, Double JPEG Compression ,Grey scale.

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