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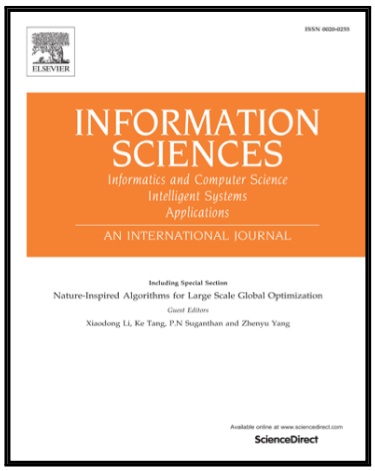

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PII: S0020-0255(16)31563-8
DOI: 10.1016/j.ins.2017.08.044
Reference: INS 13048

To appear in: *Information Sciences*

Received date: 7 November 2016
Revised date: 7 July 2017
Accepted date: 11 August 2017

Please cite this article as: Xiuli Bi , Chi-Man Pun , Fast Reflective Offset-Guided Searching Method for Copy-Move Forgery Detection, *Information Sciences* (2017), doi: 10.1016/j.ins.2017.08.044

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Fast Reflective Offset-Guided Searching Method for Copy-Move Forgery Detection

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***Abstract*-** In recent years, the detection of copy-move forgery has become an important research topic in multimedia forensics and security. However, the computational complexity of the existing methods is still very high. This paper proposes a novel and fast reflective offset-guided searching method for image copy-move forgery detection. During the initialization stage, the features are extracted and randomly assigned feature correspondences to obtain the initial mapping offsets. In the searching stage, the reflective offsets are computed to estimate whether the mapping offsets are copy-move forgery mapping offsets. Then, the proposed priority based feature matching to rapidly propagate the copy-move forgery mapping offsets and optimize the mapping and reflective offsets. Finally, only a few iterations can detect the forgery regions completely from the mapping offsets. Experimental results show that the proposed method for image copy-move forgery detection greatly reduces the computational complexity and achieves better detection results compared with existing state-of-the-art copy-move forgery detection algorithms, even under various challenging conditions.

***Keywords*-** Copy-move forgery detection, the mapping offset, the reflective offset-guided searching, the priority based feature matching.

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