A Feathering Effect Detector based on Local Average and Effective Values

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Authors:
André L. Martins, Evandro L. L. Rodrigues, Maria Stela V. Paiva

Abstract

Feathering effect is a typical phenomenon present on video frames generated by interlacing process. This effect is easily identified by the human eye when objects in motion are present in the scene, since it causes visual discomfort. This paper presents an algorithm to detect feathering effect on interlaced video frames, identifying areas on the image to be corrected by another algorithm at a later stage. Before performing de-interlacing processes itself, like motion compensation or ELA, to identify the defected regions can improve the general performance. The proposed algorithm is a preliminary stage on whole de-interlacing process; through the precise indication of the defective regions, the de-interlacing algorithm is able to work more efficiently, eliminating the scanning of whole image pixels. Test results confirmed that the basic principle of the algorithm is correct, reaching almost 100% of detection accuracy for the analysed images domain, and is invariant to image resolution, object size, motion direction and contrast to background.

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References


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Feathering effect, de-interlacing.