DEMOSAICING NOISY BAYER IMAGES WITH INTER-CHANNEL NON-LOCAL WEIGHTED MOVING LEAST SQUARES METHOD

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ABSTRACT

Today's digital cameras have smaller pixel sensors, so pixel sensors receive less light energy and are more sensitive to thermal noise. Reconstruction of the color image is important problem as two-thirds of the data in the color filter array (CFA) must be reconstructed from the missing and noisy data. In this paper, we propose an inter-channel non-local weighted moving least squares method for noise removal of CFA and apply a two-dimensional (2-D) polynomial approximation to a CFA denoising problem. We reconstruct the approximate 2D shape corresponding to the RGB color channel by directly measuring the similarity of the patch in the CFA. The experimental results show the performance of the proposed algorithm.

REFERENCES