Abstract

Using local or non-local features has proven to be a competent approach for denoising images. As noise and edges have similar effect of changes in gradient in many cases, noise allocation for denoising is still significant challenge. This work addresses the classic problem but introducing the combination concept of local and non-local factors with deviation refinement procedure. A new algorithm of the concept is proposed to ameliorate noise reduction. Sensitivity of noise detection is examined by iterative non-local mean and bilateral filter with refinement of range deviation. The final methodology is tested with Gaussian noise and compared with both non-local mean, bilateral filter. Experiment demonstrates improvement of denoising level in the new algorithm.

References

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Index Terms

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Image denoising  non-local mean  bilateral filter  noise deduction  iterative filter.