

Non-Local Wiener Filtering

by

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ABSTRACT

The search for efficient denoising methods has been a long standing problem. Traditional denoising algorithms include convolving the image with a low pass filter such as a Gaussian filter to smooth the image, nonlinear processing such as median filters etc. In recent times the trend has been to implement non-local means algorithm and its variations. The non-local means algorithm performs denoising while preserving the edges in the image i.e. preserves the structure of the image. The state-of-the art denoising method is a adaptation of this algorithm. We investigate a novel image denoising strategy based on non-local filtering of fragments of the image. It aims at reducing the influence of less-related areas in the denoising of a given pixel. Finally, we present some experiments to compare the results of the non-local means algorithm, state of the art filtering algorithm in collaborative filtering, and the non-local wiener filtering algorithm.