

Abstract

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Adapted Non-Local Means Filter using Variable Window Size

In this paper, a novel improvement idea in image restoration by Non-Local means (NL-means) filter is proposed. Most of special image denoising techniques require a region size called neighborhood window for denoising, window-size is usually done by visual inspection based upon experience hit and trial. It is shown in this paper that varying the window-size for each pixel according to window variance obtains better results. Also, an investigation on choosing the optimum filtering parameter for each window size is presented. Tests on standard images are carried out and presented. The results show that the performance is very close and in some cases even surpasses state-of-art denoising techniques.