

عنوان مقاله:

Image Denoising Using a Wavelet-Based Variational Bayesian Algorithm

محل انتشار:

اولین کنفرانس ملی محاسبات توزیعی و پردازش داده های بزرگ (سال: 1394)

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نویسندگان:

Fateme Naraghi - Islamic Azad University, South Tehran Branch Tehran, Iran

Hamidreza Amindavar - Amirkabir University of Technology, Department of Electrical Engineering Tehran, Iran

Davood Gharavian - Shahid Beheshti University, Department Electrical Engineering Tehran, Iran

خلاصه مقاله:

Many good techniques have been discussed for image denoising that include improved adaptive wavelet denoising method based on neighboring coefficients (IAWDMBNC), improved wavelet shrinkage technique for image denoising (IWST), local adaptive wiener filter (LAWF) wavelet packet thresholding using median and wiener filters (WPTMWF), adaptive image denoising method based on thresholding (AIDMT), adaptive thresholding. These techniques are based on local statistical description of the neighboring coefficients in a window. These methods however do not give good quality of the images since they cannot modify and remove too many small wavelet coefficients simultaneously due to the threshold. In this paper, the wavelet-based variational Bayesian estimation theory for image estimation theory for image signals such as images can signals such as images can their wavelet coefficients. In this method, we suppose the mixture of normal matrices distribution over the noisy wavelet coefficients and the variational Bayesian Expectation Maximization VBEM algorithm is implemented on the wavelet coefficients distribution. Our method overcomes these drawbacks and it has better performance than the NeighShrink IAWDMBNC IAWDMBNC thresholding methods.

کلمات کلیدی:

image denoising, wavelet transform, mixture of normal matrices distribution, variational bayesian inference

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