Abstract

This paper compares the performance of various filters on the images degraded by the fog. Denoising is vital for the image enhancement. It is difficult to remove the noise from the images while preserving the information and the quality of the image. For analysis filters like Median, Alpha Trim, Lee, Wiener, Anisotropic Diffusion and Guided filter are used. Number of performance metrics exists already in the literature to analyze the performance of denoising filters like SNR (Signal Noise Ratio), MSE (Mean Square Error), NAE (Normalized Absolute Error) and SC (Structural Content). The result demonstrates that the results of filters are not satisfactory. So, recently proposed dark channel prior method is studied and implemented. The visual results of the dark channel method are better than the filters.

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Performance Comparison of Various Filters for Denoising Foggy Images


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Index Terms

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Computer Science & Image Processing
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\textbf{Keywords}

Denoising, Median Filter, Alpha trim filter, Lee filter, Wiener Filter, Anisotropic diffusion filter, Signal to Noise Ratio, Structural Content, Normalized Absolute Error, Mean Square Error, Dark Channel Prior Method.