Abstract

Image enhancement is used to improve the quality of digital images, when the knowledge about the source of the distortion is unknown. Image enhancement techniques are important for visual inspection and for machine analysis of a system. Handwritten scripts are prone to noise induction during image transmission where noise can be introduced by the medium of transfer. In this paper we made an attempt to undertake the study of four types of noise induced in the handwritten Kannada documents and their removal using seven types of filters. The comparative study is conducted with the help of seven different image quality measures. The images are also tested with different Gaussian noise densities ranging from 20% to 100%. From the experimental results it is seen that median, average and wiener filters perform better compared to Laplacian, Canny, Robert and Prewitt. It is also observed that median filter is better in removing salt and pepper noise. The wiener and average filters are best to remove Gaussian and Poisson noise. Speckle noise can be better removed by Laplacian filter.

References
Performance analysis of various filters for De-noising of Handwritten Kannada documents

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Index Terms

Computer Science
Pattern Recognition
Keywords
Filters  Noise  Image Quality Measures  Handwritten Kannada Document