Abstract

An algorithm is designed for the histogram representation of an image, subsequent detection of Salt and Pepper (SP) noise in the image and finally the restoration of the image from this noise. The image is first represented as histogram, then fuzzy rule are applied on this. The images taken up for experimental analyses are subjected to the fuzzy based filter for SP noise removal. The proposed algorithm exhibits superiority over traditional algorithms and recently proposed ones in terms of visual quality, Peak Signal to Noise Ratio (PSNR) and Mean Square Error (MSE). This superior performance of the fuzzy based Histogram Adaptive Filter is solely due to the histogram representation of the test images.

References


- Detailed information about the Peak signal to noise ratio, http://en.wikipedia.org/wiki/Peak_signal-to-noise_ratio

Index Terms

Computer Science  Image Processing

Keywords

HAF  PSNR  MSE  Median filter  Mamdani's algorithm