

ABSTRACT

Now digital image become a very important matter and useful in our life necessity, so this digital imaging access has grown excessively. Often in digital image sending process, whether it through satellite or cable, will suffer an interference or external disturbance , which in this matter refers to noise insertion on sent digital image, as the result, it causes the received image quality become invalid and inappropriate if it's compared with the origin image.

In this final task, fuzzy image filtering method will be implemented and analyzed to do noise reducing process on a noise suffered digital image, so the quality of the image can be increased. A noise used is additive Gaussian noise, impulsive noise, and additive laplacian noise where the noise in this image will be generated through a noise generator.

The parameter that will be tested is on the digital image, which is the result of RMSE(Root Mean Square Error) filtering. RMSE itself is the error average on every pixels on an image after a filtering and SNR (Signal Noise Ratio) had been done. That perform will be compared with median filter perform, mean filter perform, Adaptive wiener filter perform.

The Image result by using Fuzzy Image Filtering good for additive gaussian noise with standard deviation σ between 35, image result filtering for impulsive noise is good for noise with probability p between 0,1, while at additive laplacian noise image result filtering is good for noise with value of laplace constant λ between 0,1.

Keywords : Fuzzy image filtering, Pixel, Noise, Filtering, RMSE, SNR, Mean Filtering, Adaptive Wiener Filtering, Median Filtering, Standard Deviation, Probability, Konst laplace