

Abstract

Digital image is one of the easiest used image forms viewed from the sending of image as data and the image processing itself. Beside that, digital image become a very important matter and useful in our life necessity so this digital imaging access has grown excessively. Often in taking or sending digital image process, yielded image experience of *noise* caused by trouble in electronics component so that result degradation of image quality or disagree with its original image.

In this final task, *Adaptive Minimum Mean Square Error 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.

Performance parameters that would be tested in the digital image is PSNR (*Peak Signal-to-Noise Ratio*) at image result of filtering. The testing were did with several combination beside by using parameter and type of *noise* which different each other, are also used kernel size measure (3x3, 5x5, 7x7) and kernel pattern which different each other (cube, plus, crossed). Performance of *Adaptive Minimum Mean Square Error Filtering* will be compared to performance of Mean Median and filtering of Filtering. from the analysis result, asserts that *Adaptive Minimum Mean Square Error filtering* is very proper to be used for decreasing *additive gaussian noise*, *laplacian*, and *the last is impulsive noise*. To get better PSNR, we can use bigger size of kernel and used kernel pattern.

Keyword: Adaptive Minimum Mean Square Error filtering, pixel, noise, kernel, filtering, PSNR