Abstract

In digital format image damage that often occurs is defined as noise. Noise itself consists of a variety of models and one of them is Impulse Noise. Impulse Noise appears in the image sensor errors because they interpret the actual images to digital format. Factors that affect image interpretation as a dusty environment factors.

Systems built a system to perform the filtering of noise. On systems using K-Nearest Neighbor to perform noise filtering and ACWMF to perform noise detection. Once noise is detected, the *K-nearest neighbor* perform filtering by using a nearest neighbor approach. The approach is to look at neighboring pixels around the pixel contained to be performed filtering. By increasing the number of neighbors to be k then the area for the filtering process will be expanded so that there will be more information to make the process of filtering. K values used were 3, 5, 7, 9, and 11. Because they are then waged an RGB image filtering process carried out in 3 layers. And after that performance analysis is done using the PSNR.

Based on analytical results of testing required value of k appropriate to the characteristics of the image. But in general the best results obtained with a value of k = 3 with the conditions specified in the probability of noise testing.

Key Word: *lazy learning, K-NN, ACWMF, random valued impulse noise, filtering, PSNR*