

ABSTRACT

Generally, in the delivery process of digital image information, by instrumental factor or because natural interference, there are noise which is an unwanted interference signal and its presence undermines the original information. Therefore, it is necessary to do denoising which is the process of signal processing to eliminate or reduce noise so that the state of the noised information is back to its original state.

This final project will simulate and analyze the comparison of denoising result on grayscale image signal using Dual-Tree Complex Wavelet Transform (DTCWT) method and Bivariate Shrinkage with Local Variance Estimation (BSLVE). Noise used this time is Gaussian, Poisson also Salt & Pepper. The filters used in the DTCWT method are Antonini, Legall and Near Symmetric B. Windowsizes used in the BSLVE method are 3, 27 and 51.

In this research, DTCWT method is more reliable in image denoising for Salt & Pepper noise while BSLVE method is more reliable in image denoising for Gaussian and Poisson noise. On DTCWT, filter Near Symmetric B producing best image result more than other filters while on BSLVE window size 3 producing best image result more than other windowsizes.

Keywords: Denoising, image, Dual-Tree Complex Wavelet Transform, Bivariate Shrinkage, Local Variance Estimation.