

Abstract Details

Title: Non Linear Image Enhancement using Digital Wavelet Transform

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Abstract: A human observer can clearly see individual objects both in the sunlight and shadowed areas, since the eye locally adapts while scanning the different regions of the scene. In human vision, first, the size of pupil adapts to accommodate different levels of radiance from different regions in a scene. When starting at a highly bright region in the scene, the pupil will shrink to compress the dynamic range. So, the eyes can deal with the dynamic range. Second, the major dynamic range compression process is taking place via the lateral processing at the retinal level. Finally, the early visual cortex is also found participating in some of the dynamic range processing. When attempting to display the image on a display, either the low intensity areas, which are underexposed, or the high intensity areas, which are overexposed, cannot be seen. To handle this problem, various image processing techniques have been developed. This research will propose an algorithm for image enhancement. In existing DWT with non linear interpolation and in proposed DWT and SWT with non linear interpolation is applied. By using the proposed algorithm, it will improve the value of PSNR (Peak Signal to Noise Ratio).

Keywords: Image Enhancement, Linear Base, Non-Linear Based, DWT, SWT.