IMAGE RESOLUTION AND CONTRAST ENHANCEMENT USING WAVELET TRANSFORMS

ABSTRACT:

The technique decomposes the image into 4 sub-bands (LL,LH,HL,HH) using DWT , for contrast enhancement the LL sub-band image was equalized using the SVD and for resolution enhancement the high frequency bands were modified by high frequency sub-bands obtained from SWT. All these enhanced sub-bands were then combined and an enhanced image was generated using the IDWT.

I would try to implement the image equalization using PCA and improve the algorithm by using suitable deep learning techniques.

REFERENCES:

[1] Satellite Image Contrast Enhancement Using Discrete Wavelet Transform and Singular Value Decomposition, Hasan Demirel, Cagri Ozcinar, and Gholamreza Anbarjafari. IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, VOL. 7, NO. 2, APRIL 2010.

[2] IMAGE Resolution Enhancement by Using Discrete and Stationary Wavelet Decomposition, Hasan Demirel and Gholamreza Anbarjafari. IEEE TRANSACTIONS ON IMAGE PROCESSING, VOL. 20, NO. 5, MAY 2011.