Abstract

Contrast enhancement algorithms for varying intensity distribution images creates intensity distortion in some regions, over enhancement & unnatural effects in other regions of images. The main reason of this effect is due to not consideration of image edges & sharp details during enhancement process. On the other hand, the human visual system is more sensitive to edges and sharp details of image. In this paper we are proposing a method titled efficient contrast Enhancement using Kernel Padding and DWT with Image Fusion that Enhances the contrast of images that has varying intensity distribution specially satellite images, preserve the brightness of images, sharpens the edges and remove the blurriness of images. Basically this is a pixel based edge guided image fusion technique. In this method LL sub band of Image DWT is processed by contrast enhancement section where based on image brightness level image is decomposed in different layers and then each layers intensity is stressed or compressed by generated intensity transformation function. The decomposed intensity layers are also processed by canny edge detection method as all the satellite images contains the noise due to atmospheric turbulence and this is Gaussian by nature. Canny edge detector is the best method for detecting edges of image in the presence of Gaussian noise. Finally the contrast enhanced images are fused according to the weight map determined by edge map of image.
Efficient Contrast Enhancement using Kernel Padding and DWT with Image Fusion

References

Efficient Contrast Enhancement using Kernel Padding and DWT with Image Fusion


Index Terms

Computer Science

Image Processing

Keywords

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Weighting Map Determination

DWT

Contrast Enhancement