

# Abstract

The main objective of image enhancement is to improve some characteristic of an image to make it visually better one. This paper proposes a method for enhancing the color images based on nonlinear transfer function and pixel neighborhood by preserving details. In the proposed method, the image enhancement is applied only on the V (luminance value) component of the HSV color image and H and S component are kept unchanged to prevent the degradation of color balance between HSV components. The V channel is enhanced in two steps. First the V component image is divided into smaller overlapping blocks and for each pixel inside the block the luminance enhancement is carried out using nonlinear transfer function. In the second step, each pixel is further enhanced for the adjustment of the image contrast depending upon the center pixel value and its neighborhood pixel values. Finally, original H and S component image and enhanced V component image are converted back to RGB image. The subjective and objective performance evaluation shows that the proposed enhancement method yields better results without changing image original color in comparison with the conventional methods.