

Digital Image Processing using Matlab

Abstract

Human eye is most attracted by an image more than an audio. In this project we are dealing with digital images with the help of matlab software. Matlab is a very simple software for coding. Here, in this project we deal with basic image processing like Image conversions, Image Arithmetic, Geometric transformations of images, Image smoothening, image sharpening, image blurring, histograms of different contrast images, histogram equalization, histogram matching, bit plane slicing, RGB components of image, Noise in images and its reduction, image fusion, edge detection, morphological image processing and image compression. These all are implemented using matlab software. Here, in this project we implement matlab code for particular operation on an image and process the images into the code, output images are plotted using figures in matlab software.

Image processing helps to improve images for human interpretation. The processing of images is faster and cost-effective. Digital Image Processing has different techniques in processing the digital images. It has been applying in many fields with technological advances such as Medical field, Remote sensing, color processing, pattern recognition, video processing, microscopic imaging.

Keywords:

Digital image processing, matlab, code, human interpretation, faster and cost-effective, Image conversions, smoothening, sharpening, blurring, bitplane slicing, image compression, histogram equalization and matching, geometric transformation in images, Medical field, Remote sensing, color processing, pattern recognition, video processing, microscopic imaging.

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