DIGITAL IMAGE PROCESSING

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Abstract:

Digital Image Processing is a rapidly evolving field and one of the growing applications in Science and Engineering. Modern digital technology has made it possible to manipulate multi-dimensional signals. So, what is an image? An image is a representation of form of a person or an art. They say that a picture is worth more than a thousand words. In our daily lives we come across many images and shapes, a road that we travel on has many signs in the form of pictorial representations which helps us understand the exact meaning of the sign at a glance. Our brain senses a lot of images when we look at any of them through our eyes and it processes it in very less time. It has a wide broad spectrum of applications. That includes Remote sensing data via satellite, the medical image processing, radar, sonar and acoustic digital image processing and robotics. Digital image processing is done in the same way. The main aim of digital image processing is to extract and analyses information from an image. Using this type of information, any description, interpretation and a better way of clear understanding of scene is provided by the machine. In the present generation there are many ways to extract information from an image likewise is digital image processing. Since images are defined over two type dimensions. Digital image processing (D.I.P) maybe modeled in the form of a multidimensional system. The extreme flexibility of the digital method of image processing makes a wide variety of both linear and non-linear processes possible. The digital image has processing techniques developed at JPL have been applied to images from a wide range of disciplines. Results of this processing for picture generation, rare intensity and geometric manipulation, various spatial frequency operations, a digital image analysis is shown. The digital system considerations involved in adequately and efficiently doing image processing are discussed brief.