Abstract

Application of filter on digital images can be made in two ways, which include spatial domain and transform domain known as frequency domain. The spatial domain deals directly with manipulation of data, pixel, present in an image, whereas the transform domain deals with manipulation of image-data in frequency domain. The aim of this paper is to deal with manipulation of data present in an image in frequency domain and identification of performance of frequency domain low-pass filters in terms of removing noise present in the digital image and frequency domain high-pass filter in terms of highlighting the edge of the digital image. And this paper also deals with image-quality measuring tools such as MSE and PSNR for the purpose of identifying a frequency domain low-pass filter which is best at removing salt and pepper noise present in the digital image.

References

Digital Image Filtering in Transform Domain using MATLAB


Index Terms

Computer Science  Image Processing

Keywords

Spatial domain, Frequency domain, Transform domain, Ideal low-pass filter, Ideal high-pass filter, Butterworth filter and Gaussian filter.