Abstract

Images exist in different formats in real time applications. There is no prescribed format in which an image should be presented as input to any image processing algorithm. This article experiments a neural network approach to classify the noises present in an image given in BMP (Bitmap), JPG/JPEG(Joint Photographic Experts Group), TIF/TIFF(Tagged Image File Format),
GIF (Graphics Interchange Format) and PNG (Portable Network Graphics) format. The noises in the image are classified by extracting the statistical features like skewness and kurtosis, which is then applied to the Back Propagation Network (BPN) and Multi Layer Perceptron (MLP). This is done for images of all the formats. MLP is superior in classifying salt and pepper noise in images stored in PNG format. BPN is performing well in classifying Gaussian white noise in images stored in BMP format. The study throws light on the type of neural network to be employed for classifying the different noises present in images of different formats, which will prove to be useful in enhancing the image for further processing.

Reference

- Image Denoising available at http://www.codeding.com/?article=10
Applicability of BPN and MLP neural networks for classification of noises present in different image formats


Index Terms
Computer Science
Signal Processing

Key words
Skewness
Kurtosis
Neural Networks
Multi Layer Perceptron
Back Propagation Network
Image formats