



REMOVAL OF ERROR BY FINDING DEFECT IN RGB IMAGE

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Abstract: Due to the outburst in the digital image in today's era, demands for accurate and visually pleased image have increased. So, the image taken by the camera gets deteriorated due to the presence of noise, which in turn leads to the distortion in the quality of image. So, some is needed to reduce the noise without affecting the characteristics of image such as edge, corners, sharpening etc. As yet various method has already been imposed by the researchers to reduce noise with each method having its own advantage and drawback. So firstly, the expression of image was provided and de-noising was done and then it was represented by several techniques. Additional need is to discuss the properties of such technique and hence several directions are provided for future research of color image segmentation as emerging research area in color image analysis and pattern recognition. For this purpose, many algorithms have been developed. But it is often seen that the segmentation result of these algorithms seems to be suffered from over segmentation and miss classification. This suffering is caused due to distortion in the quality of the image at the time of acquisition, transmission and color space conversion. As a result, here arises the need of image enhancement which can remove noise from color image before the segmentation process. In this paper different enhancement technique has been analyzed so as recover noise free enhanced images.

IndexTerms- MATLAB, Image processing toolbox, RGB, filters.

I. INTRODUCTION

In today's era advancement in technology has led to a growing research interest in the field of image processing technique have grown rapidly and established an important area in field of engineering and computer science these techniques are basically based on improving the quality of image and removing some error from image to extract some important information from any image.

In early days many result have been obtain as a result of research in image processing and research centre has studied image enhancement and algorithm from 1995 and their research gave great contribution in image enhancement [1-4]. In 2004 they proposed research for automatic image enhancement named EVOLEHA which was based on real code genetic algorithm. To perform research, technique applied a code with some modification. Due to more study and select scheme, search was so balanced [5]. In 2005 they proposed a general method for enhancement this problem sorts out the problem of loss of gray level method. The edge in the processed image became determinable, and with the help of this method better information of law gray is undertaken [6]. In 2009 researcher presented an image in mathematical form with 2 variable coordinate and represented in amplitude of function. Then processed image is conversed into a matrix and further represented into digital form [7]. Consequently in 2013 then the proposed data undergoes image undergo phases like preprocessing, enhancement and extraction, smoothening of important information from image. By the way, image processing techniques have become more applicable in our life as its application in technical fields specialize difference type of electronic device like computer, camera, mobile [8]. 2014 The paper highlighted the methodological approach and implemented on MATLAB that shows, a software system to analyze image recognition. New technique was proposed an image editing and color edition using MATLAB that utilize function in MATLAB toolbox to implement various application of image processing [9]. Proposed image processing has been a mathematical tool on 2D picture.

II. DESIGN STEP ALGORITHM

STEP 1: IMREAD: Image to be read from the graphic file.

STEP 2: RGB2GRAY: RGB converted into gray scale

STEP 3: IMCLOSE: morphological closing performed on the grayscale or binary image.

STEP 4: SRREL: Create a flat disc shaped structure element with specific radius.

STEP 5: IMSUBTRACT: Two images are subtracted, or constant are subtracted from image.

STEP 6: IM2BW: By thresholding image is converted into binary image.
 STEP 7: GRAYTHRESH: Compute global image threshold using Otsu's method.
 STEP 8: BWAREAOPEN: Binary area open; remove small objects
 STEP 9: IMFILL: Fill image regions
 STEP 10: BWLABEL: binary image connected in label component.
 STEP 11: REGIONPROPS: In this properties of image regions is measured.
 STEP 12: HOLD: Hold current graph.

III. DESIGN FLOWCHART

Design flowchart of proposed image processing design is shown in figure 1.

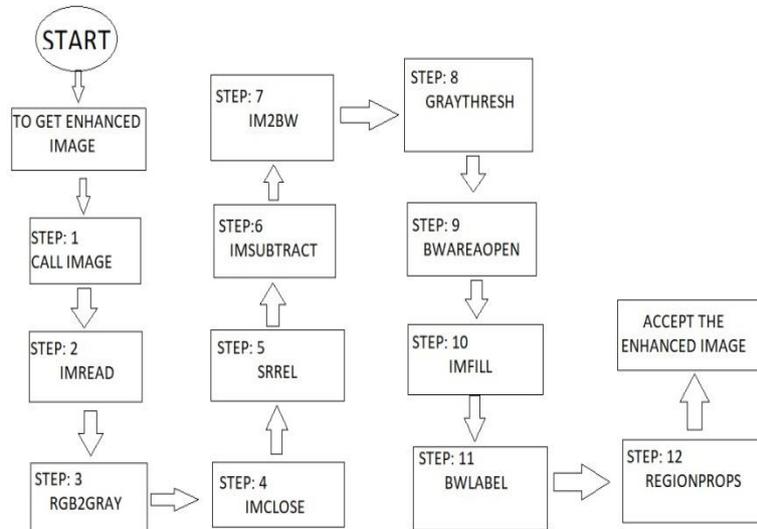


Fig 1 : Design Flowchart

IV. DESIGN OUTPUT

Input image was a colorful scene of nature which was called by MATLAB command program for processing and it is shown in Figure2.



Fig 2 : Input image

On successfully implementing the design on MATLAB SOFTWARE following o/p we received – The obtained Gary scale image is shown in figure 3.



Fig 3: Gray image

Figure 4 shows the black and white image of the original colored image means the negative image creation of original image so as the histogram classification can easily understood.

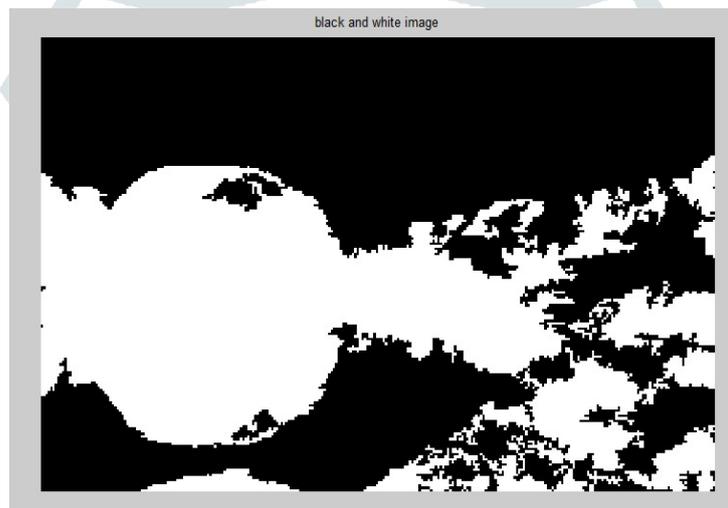


Fig 4: Black and white image

Figure 5 shows the labelled output of input image-

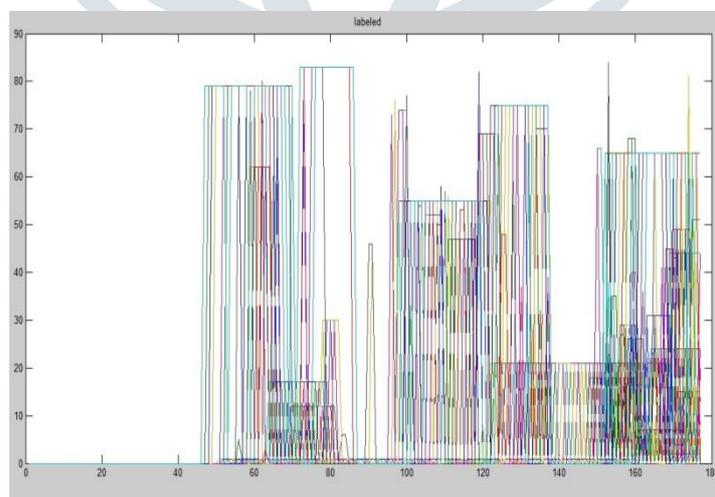


Fig 5 : Labelled output image

Eccentricity of output image is shown in figure 6-

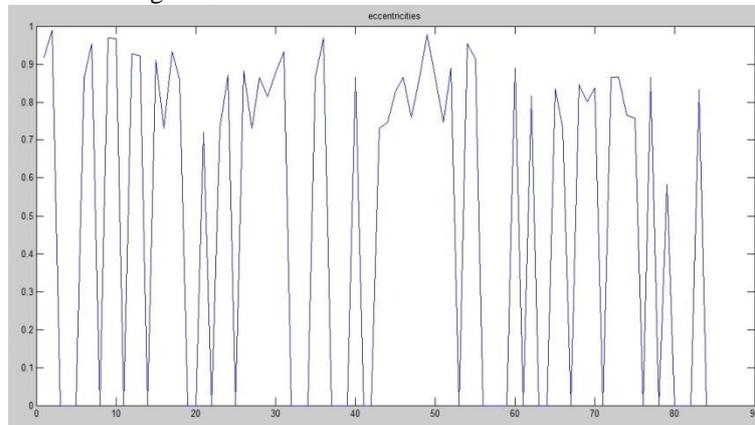


Fig 6 : Eccentricity

Finally processed enhance output image after denoising is shown in figure 6-



Fig 6 : Processed output enhanced image

V. CONCLUSION

Image processing technique using MATLAB Toolbox is of high significance. Image can be processed and defects can be finding out in image and further it can be easily removed using filters. The same process is being used to find out defects in captured image from a live video.

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