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Enhancement the Contrast of Intensity and Color Detection of Image for Various Applications

Ravi[1], Renu Malik[2]
[1,2] *Department of Computer Science and Engineering, OM Institute of Technology and Management*

Abstract*: Segmentation is considered as one of the main steps in image processing. It divides a digital image into multiple regions in order to analyze them. It is also used to distinguish different objects in the image. In this paper different kinds of images are tested on the bases of the colour segmentation. Different types of images are tested i.e. medicine image, flowers image, and vegetables image. For the best result fuzzy logic is used. Fuzzy logic is used for the edge detection .This gives the better result because error chances are less due to edge detection. This improved segmentation technique used in various fields i.e. separation of medicine, flowers ,vegetables and many more. Basically this technique is useful for industrial purpose because of huge data available for shorting. Manually this will take more time so use this technique for faster response and less error because this work automatically.

Keywords*: Colour segmentation, FUZZY, PSNR, SNR*

I. INTRODUCTION

Segmentation is an important step in computer world and automatic pattern recognition processes based on image analysis of eye as subsequent extracted data are highly dependent on the accuracy of this operation. In general, the automated segmentation is one of the most difficult tasks in the image analysis because a false segmentation will cause degradation of the measurement process and therefore the interpretation may fail. colored image segmentation is still an unsolved problem because of its complex and under constrained attributes. Colour segmentation is very important part of the image processing.

II. COLOR DETECTION

A. Input image 1: Input image for colour detection is used as medicine.

Fig 1: input medicine image

The above fig shows the sample input images of colored medicines.

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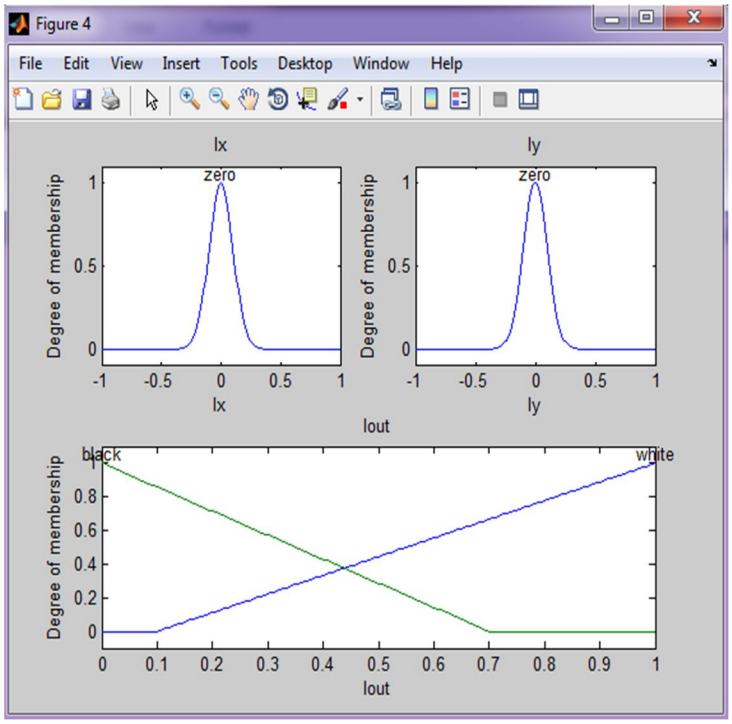

Fig 2: Fuzzy membership function

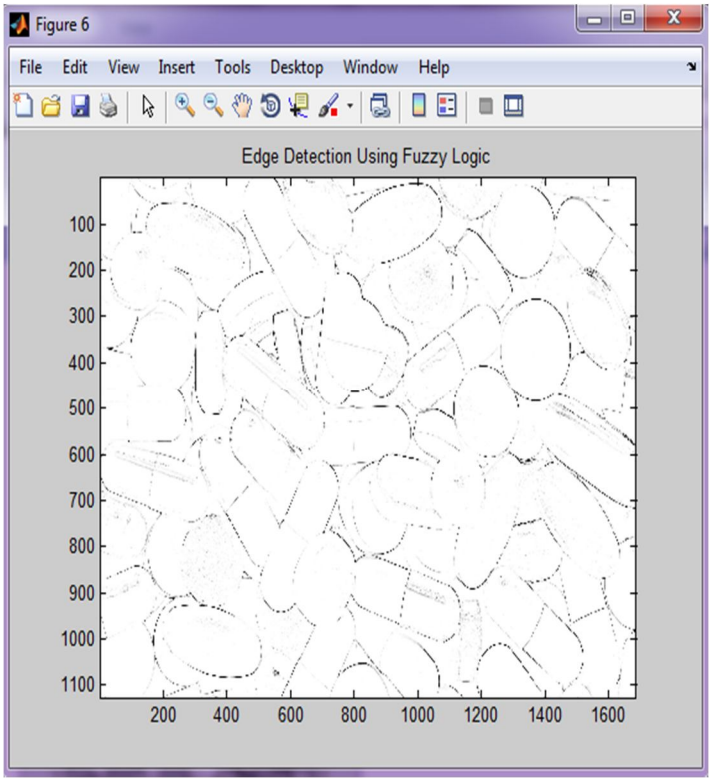

Fig 3: Edge detection using fuzzy logic

In the above fig shows the edges detected by fuzzy logic. Splitting the original image into red band color bands out of red, blue, green bands and masked the image with the detected color

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Fig 4: input image after enhance contrast of intensity

The above fig shows the enhanced contrast of intensity of image .for the color segmentation image is splitting the image into three bands i.e. red.green and blue. Then image bands are masked. Then the red color masked as the original image.

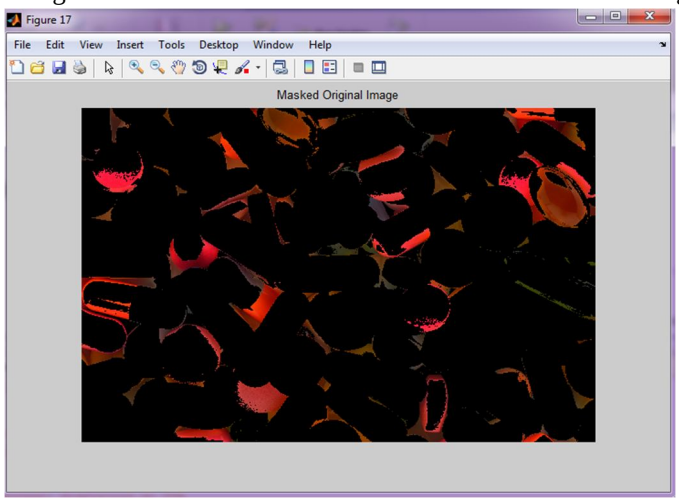

Fig 5: Masked original image after detecting red colour

B. Input image 2: Input image for colour detection is used as flowers.

Fig 6: input flower image

The above fig shows the sample input images of colored flowers.

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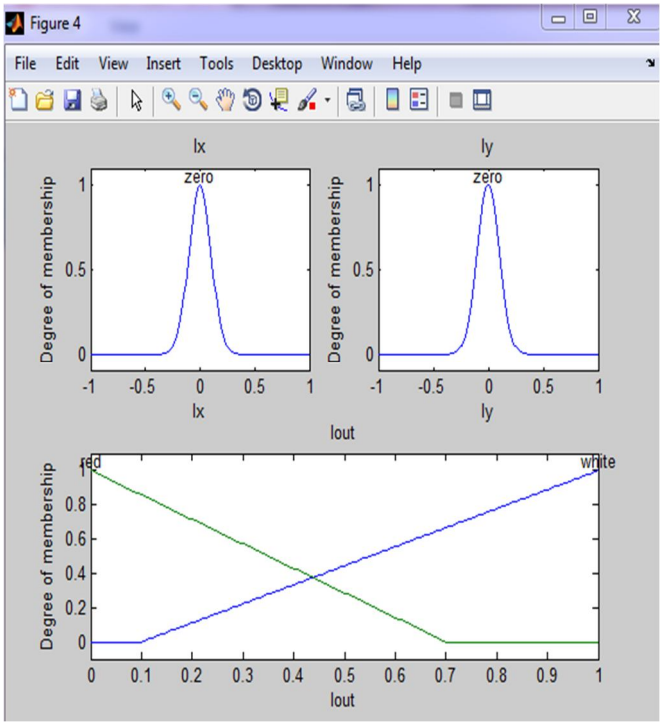

Fig 7: Fuzzy membership function

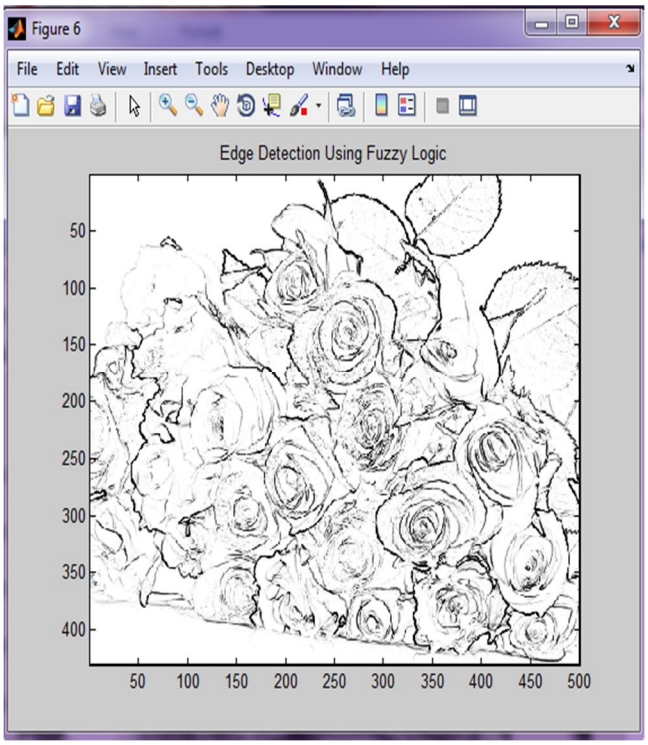

Fig 8: Edge detection using fuzzy logic

In the above fig shows the edges detected by fuzzy logic. Splitting the original image into red band color bands out of red, blue, green bands and masked the image with the detected color.

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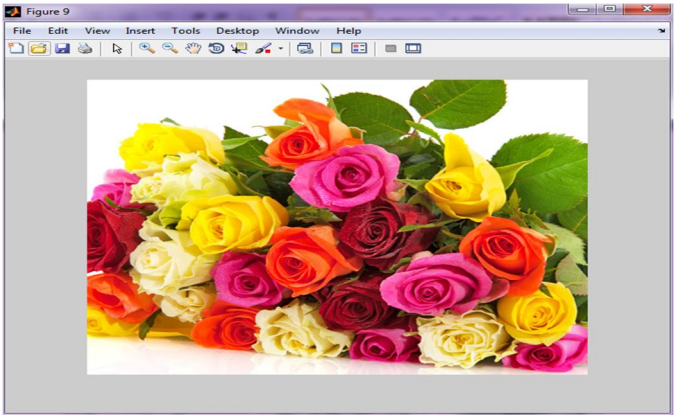

Fig 9: input image after enhance contrast of intensity

The above fig shows the enhanced contrast of intensity of image .for the color segmentation image is splitting the image into three bands i.e. red.green and blue. Then image bands are masked. Then the red color masked as the original image**.**

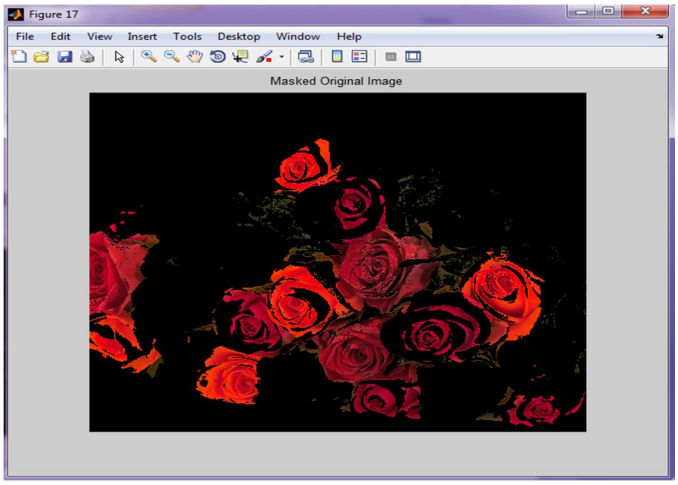

Fig 10: Masked original image after detecting red colour

C. Input image 1: Input image for colour detection is used as vegitables.

Fig 11: input vegetables image

The above fig shows the sample input images of colored vegetables.

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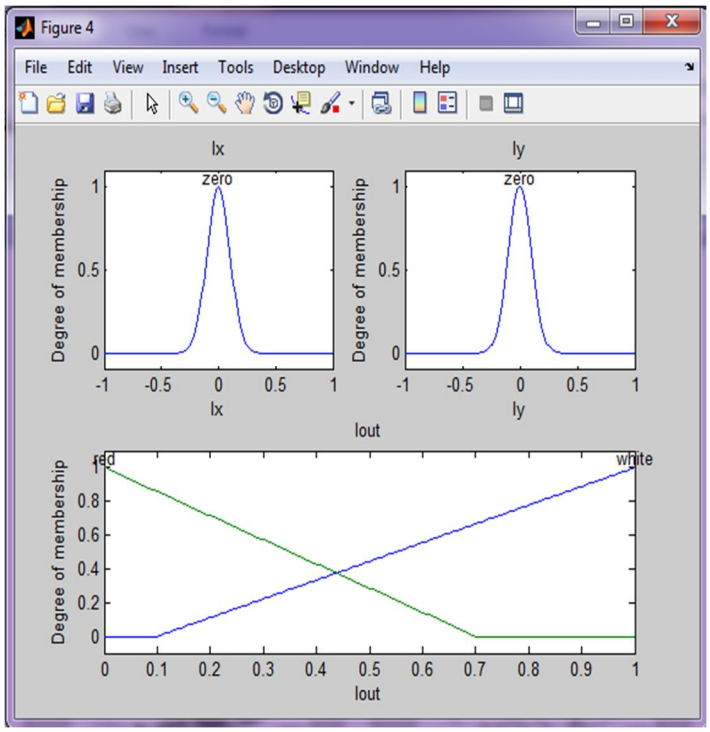

Fig 12: Fuzzy membership function

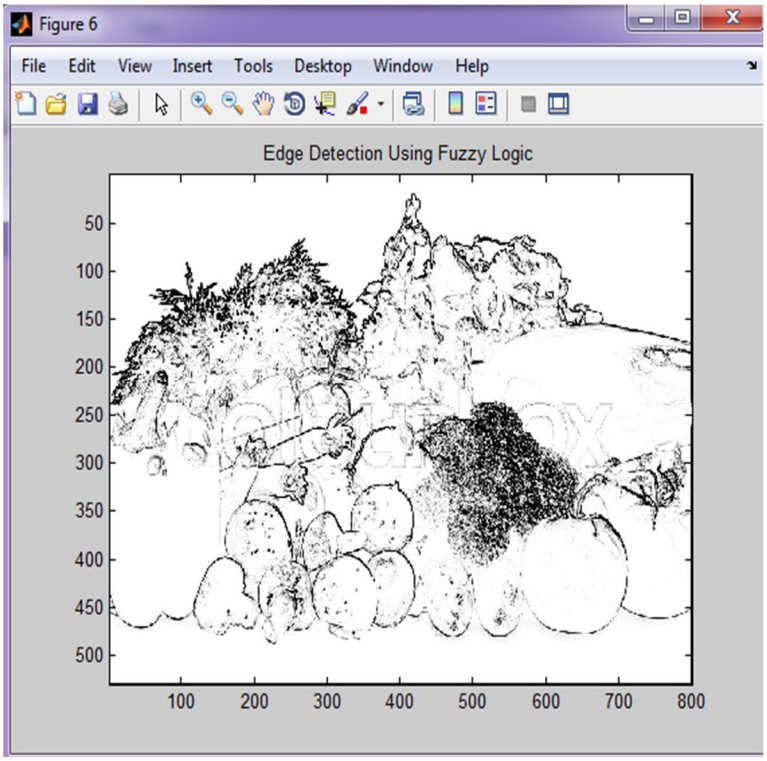

Fig 13: Edge detection using fuzzy logic

In the above fig shows the edges detected by fuzzy logic. Splitting the original image into red band color bands out of red, blue, green bands and masked the image with the detected color.

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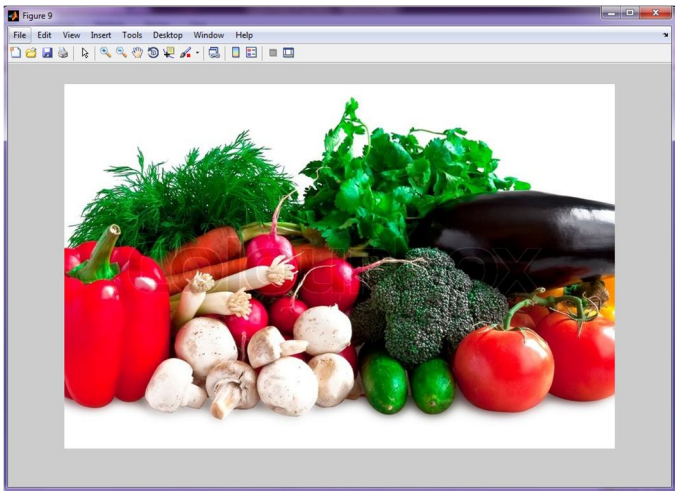

Fig 14: input image after enhance contrast of intensity

The above fig shows the enhanced contrast of intensity of image .for the color segmentation image is splitting the image into three bands i.e. red.green and blue. Then image bands are masked. Then the red color masked as the original image.

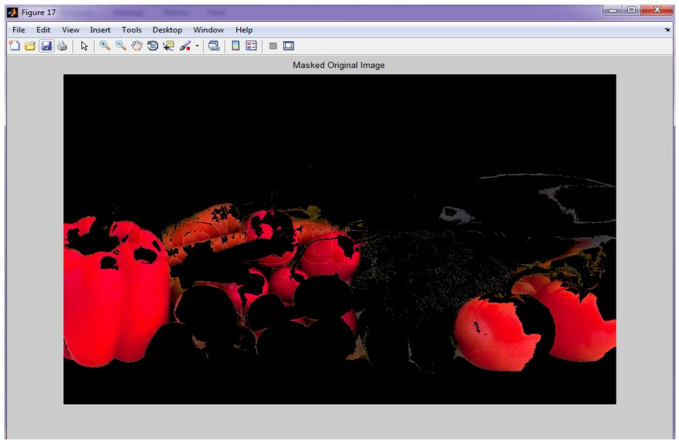

Fig 15: Masked original image after detecting red colour

III. CONCLUSION

In this paper different kinds of images are tested on the bases of the colour segmentation. Different types of images are tested i.e. medicine image, flowers image, and vegetables image. For the best result fuzzy logic is used. Fuzzy logic is used for the edge detection .This gives the better result because error chances are less due to edge detection. This improved segmentation technique used in various fields i.e. separation of medicine, flowers, vegetables and many more. Basically this technique is useful for industrial purpose because of huge data available for shorting. Manually this will take more time so use this technique for faster response and less error because this works automatically.

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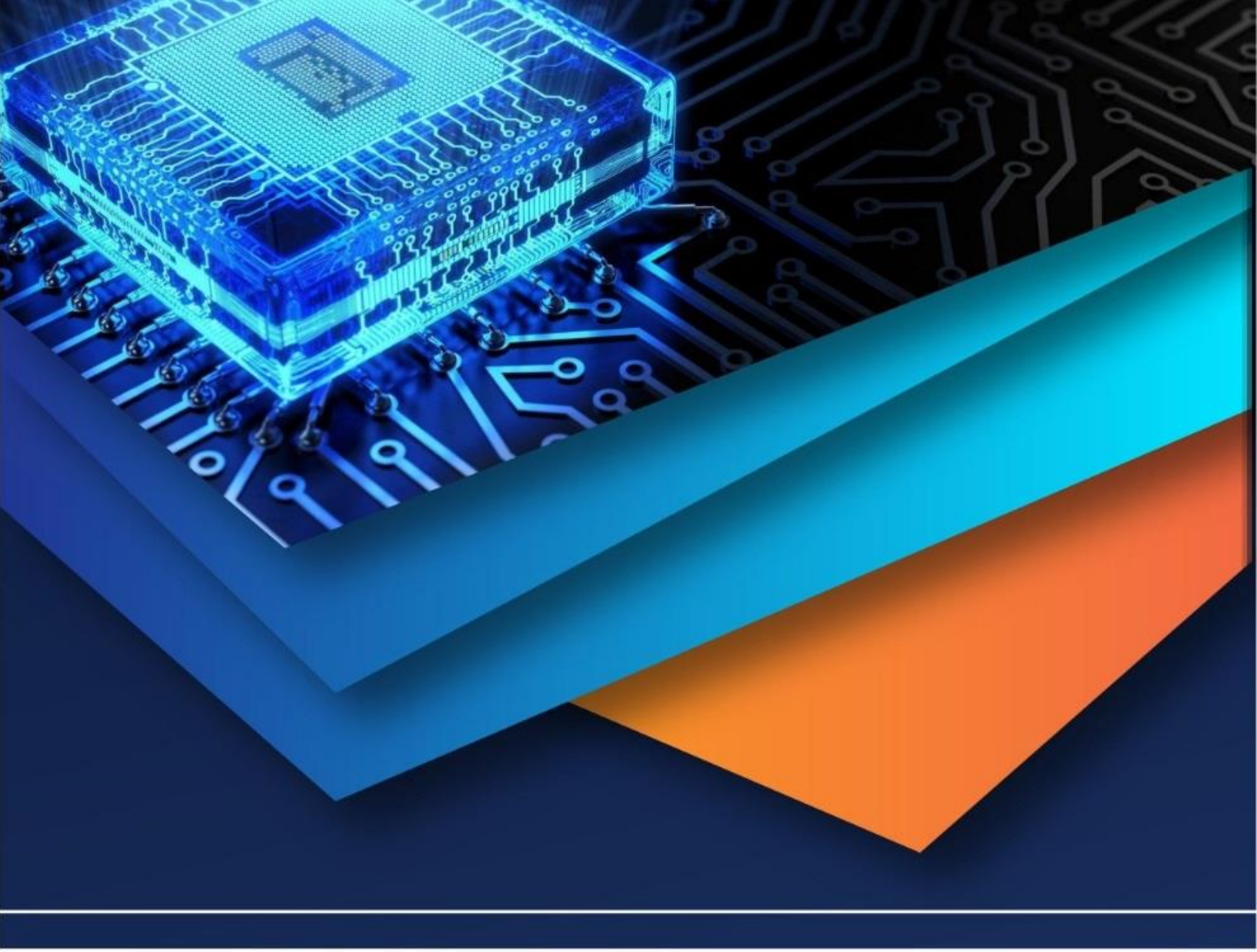

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