

# A NOVEL IMAGE EDGES DETECTION BY USING GAUSSIAN FUNCTIONS

<sup>1</sup>Hussain K. Khleaf, <sup>1</sup>Kamarul H. Bin Gazali, <sup>2</sup>Ajisman Apen

<sup>1</sup>Faculty of Electrical and Electronic Engineering, Universiti Malaysia Pahang, 26600 Pekan, Malaysia.

<sup>2</sup>Faculty of Manufacturing Engineering, University Malaysia Pahang, 26600 Pekan, Malaysia.

## ABSTRACT

Nowadays, the Edge detection is a very important process and treatments in biomedical image's application to the understanding and analysis of distinction objects in digital images. Edge detection is discontinuity or sudden change process of certain visual properties (such as the intensity of lighting, composition, color). In this study, edge detected of digital color images using a Gaussian function was proposed. First, the least squares' method used to compress the image data. Second, color image edge detected by using Sobel's operator by changing the intensity of homogeneous regions. Finally, the result shows the effectiveness and capability of the proposed to detect the real edges in color photographs with different color compared with standard methods to detect the edge.

*Keywords:* edge detection, Sobel's operator, Gaussian function

## INTRODUCTION

Color images are a model of the three packages combined to form one image as each package represents a different color and more of these images commonly are represented by red, green, blue, or so-called RGB as each package is a model of monochrome and using (8 bits / pixel) for the purpose of representation of each element and hence the color images will be (24 bits / pixel).

Each packet of the packets of the three which means that each color has a (256) gradually in intensity, which makes is similar to natural images in terms of hue combined (Allan.H , 2003, David B. T., 2007), that the total number of color images with true color up to 16 million colors different for each color as a basic 2 gradients and the total 16,777,216 that this amount of colors the possibility of a specific entity drive of the computer, but in general can be viewed 256 colors different in that one.

In many applications the fundamental transformation RGB color information on the satellite channels you disconnect the other sports information gloss color information to make it easier to deal with them on these packages fall within the ranges of the visible spectrum (Visible Spectrum) The other packages are located in areas that are not visible (Tech. J., 2004). Describe the amount of quantitative point in this space, I have designed these spaces are mathematical coordinate system is derived from the basic RGB color space as shown in Figure 1.

The system of RGB does not give a good model for understanding sensory human to the color and often result in a distortion in color when you apply the methods of different treatment and hence the spaces of colors is based on the perception of the human as possible to be more useful, where each element in the color images with three values according to three pure colors (red, blue, green) and represents these values in vector spaces of colors gives the characteristics of an item's color depending on the length and direction of the vector (Michelle P. S., 2009).