

## ***CERTIFICATE***

This is to certify that **Mr. Ram Mukund Tiwari (09/IS/09)** has carried out the major project titled “**Fuzzy Edge Detection of Blurred image using Bacteria Foraging**” as a partial requirement for the award of Master of Technology degree in Information Systems by Delhi Technological University.

The major project is a bonafide piece of work carried out and completed under my supervision and guidance during the academic session **2009-2011**.

The matter contained in this report has not been submitted elsewhere for the award of any other degree.

(Project Guide)

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# ABSTRACT

This paper proposes an approach to edge detection of blurred color images. The edge detector involves two phases –Deblurring of color image using wavelet and edge detection using bacteria foraging. Here deblurring is performed without estimating the image blur. The deblurring algorithm performs deblurring in the spectrum domain. In edge detection process, we find out the edge pixels on the basis of intensity difference value of pixel in their 8-neighbourhood. First step is Chemotaxis step in which we calculate the eight directional nutrients in the form of intensity difference and find out the edge pixels in the neighborhood of bacteria. Next in the Elimination and Dispersal step if a bacterium found itself low on nutrients than it will be eliminated from its current location and dispersed to some other location. Now if we trace all the edge pixels, given by the movement of bacteria than we will get an image highlighted with all the associated edges. By using the proposed technique, a marked visible improvement in the important edges is observed on various test images over common edge detectors.

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