

A project report on

IMAGE ENHANCEMENT USING ADAPTIVE TRANSFORMATION

Submitted in partial fulfilment of the requirement for the award of degree of

Master of Technology
In
Information Systems

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CERTIFICATE

This is to certify that **Rohit Kumar Maurya (2K14/ISY/23)** has carried out the major project titled “**Image Enhancement using Adaptive Transformation**” in partial fulfilment of the requirements for the award of Master of Technology degree in Information Systems by **Delhi Technological University**.

The major project is bonafide piece of work carried out and completed under my supervision and guidance during the academic session 2014-2016. To the best of my knowledge, the matter embodied in the thesis has not been submitted to any other University/Institute for the award of any degree or diploma.

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ABSTRACT

In this we proposed power law transformation algorithm which utilizes the information around the central pixel to enhance the contrast of an input image. The algorithm is based on the observation that contrast of an image can be enhance by using the log on the difference of the maximum and minimum pixel value in the neighbor and then calculate the gamma value for that window. The gamma value plays the important role which is calculate as a log transformation function. The adaptive transformation function which is used to get the output of the given image. Experiment results show that power law transformation plays the better results. The only parameter is the size of the window, which is used for better enhancement results. This algorithm can also be used when the image is pre-processing by some other algorithm. The algorithm used, enhance the image if the image is not clearly visualize. Experimental result shows that power law transformation produces better or comparable enhance images than several state-of-the-art algorithms. The only parameter in power law transformation which requires tuning is the size of the spatial neighborhood support which provides the contextual information for a given dynamic range of the enhanced image. The algorithm can be applied to a wider range of the image types.

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