DECLARATION

We hereby declare that the work entitled "**REMOVAL OF ILLUMINATION INVARIANCY IN 3D COLOR IMAGES**" is submitted in partial fulfillment of the requirement for the award of the degree in B.TECH, in University College of Engineering, BIT Campus, Anna University, Tiruchirappalli. It is the record of our own work carried out during the academic year 2018-2019 under the supervision and guidance of **Dr.R.KRISHNAMOORTHY,** Professor, Department of Information Technology, University College of Engineering, BIT Campus, Anna University, Tiruchirappalli. The extent and source of information are derived from the existing literature and have been indicated through the dissertation at the appropriate places.

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ABSTRACT

Many techniques and systems have been designed and implemented for solving illumination invariancy. Particularly for color images the techniques available are less. In this project work, a good number of literatures based on illumination are collected and studied. After analyzing various available approaches, a method for illumination correction using bit slicing and illumination normalization is proposed.

In this proposed work, a two-segment procedure for illumination correction is presented. In the first part, illuminated region is detected for a color image by luminance calculation, and then average filter is applied for each luminance value to extract the bright spot in the image. In the second part, the highly illuminated region extracted is corrected using bit slicing algorithm. This algorithm solves uneven distribution of light in an image. After this part, normalization is done using box filtering to ensure uniform illumination over the image.

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