

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.

TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
	ABSTRACT	v
	LIST OF FIGURES	ix
1.	INTRODUCTION	1
1.1	IMAGE PROCESSING	1
1.2	FEATURES OF AN IMAGE	1
1.3	COLOR MODEL	2
1.4	TEXTURE ANALYSIS	2
1.5	ILLUMINATION INVARIANCY	3
1.6	GOAL	3
1.7	MOTIVATION	3
1.8	ORGANIZATION OF THE REPORT	4
2.	LITERATURE SURVEY	5
2.1	INTRODUCTION	5
2.2	LITERATURE REVIEW	5
2.3	CONCLUSION	8
3.	ARCHITECTURAL DESIGN	9
3.1	ARCHITECTURE	9
3.2	ILLUMINATED IMAGE	10
3.3	LUMINANCE CALCULATION	10

3.4	ISOLATION OF MAXIMUM ILLUMINATED AREA	11
3.5	AVERAGE FILTER	11
3.6	LUMINANCE CORRECTION	11
3.7	SOFTWARE AND HARDWARE ENVIRONMENT	12
	3.7.1 HARDWARE ENVIRONMENT	12
	3.7.2 SOFTWARE ENVIRONMENT	12
4.	PROPOSED DETECTION AND CORRECTION METHOD	13
4.1	PRE-PROCESSING	13
4.2	LUMINANCE CALCULATION	13
4.3	REFINING THE MOST ILLUMINATED PORTION	14
4.4	BIT-PLANE SLICING	15
4.5	ALGORITHMS FOR ILLUMINATION DETECTION	16
4.6	ILLUMINATION NORMALIZATION	17
4.7	ALGORITHM FOR ILLUMINATION NORMALIZATION	18
5.	EXPERIMENTS AND RESULTS	19
5.1	LUMINANCE CALCULATION	19
5.2	REFINING THE ILLUMINATED PART IN THE IMAGE	20
5.3	BIT-PLANE SLICING	21
5.4	ILLUMINATION NORMALIZATION	23

6.	CONCLUSION	24
6.1	SUMMARY	24
6.2	FUTURE WORKS	24
7.	REFERENCES	25

LIST OF FIGURES

FIGURE NO	TITLE	PAGE NO
3.1	ARCHITECTURE DIAGRAM FOR ILLUMINATION CORRECTION METHOD	8
4.1	BIT-PLANE SLICING	14
5.1	INPUT IMAGE (CONTAINING NON-UNIFORM ILLUMINATION)	19
5.2	RESULT OF IDENTIFICATION OF LUMINANCE COMPONENT CORRESPONDING TO THE ORIGINAL IMAGE	19
5.3	RESULT OF REFINED ILLUMINATION SPOT CORRESPONDING TO THE ORIGINAL IMAGE	20
5.4	RESULT OF BIT-PLANE SLICING APPLIED FOR A SMALLER REGION	21
5.5	RESULT OF BIT-PLANE SLICING APPLIED FOR A LARGER REGION	21
5.6	RESULT OF ILLUMINATION NORMALIZATION	22