

**Universiti Teknologi MARA**

**Comparison of Fuzzy C Means and K Means  
Clustering technique using Color Segmentation for  
Prostate Cancer Cell Images**

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## **ABSTRACT**

Segmentation of an image entails the division or separation of the image into regions of similar attribute. The most basic attribute for segmentation of an image is its color components for a color image. Clustering is one of the methods used for segmentation. The aim of the project is to investigate two methods of segmentation based on accuracy and efficiency. Twenty color images of prostate cancer cell are converted into L\*a\*b\* color space and are segmented using Fuzzy C-Means clustering and K-Means clustering. Accuracy of segmentation are judged by visually inspecting the abnormal cell area, which is brown in color. Segmentation time is also measured to determine which clustering technique is faster. Results showed that Fuzzy C-Means clustering produced better segmentation results. However, K-Means clustering technique is faster compared to Fuzzy C-Means clustering.

# CONTENTS

	<b>PAGE</b>
<b>APPROVAL</b>	<b>i</b>
<b>DECLARATION</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>iv</b>
<b>CONTENTS</b>	<b>v</b>
<b>LIST OF TABLES</b>	<b>vi</b>
<b>LIST OF FIGURES</b>	<b>vii</b>
<b>LIST OF APPENDICS</b>	<b>ix</b>
<b>CHAPTER 1: INTRODUCTION</b>	
1.0 Introduction	1
1.1 Problem Statement	4
1.2 Objective	5
1.3 Scope of Project Research	5
1.4 Research Project Aim	6
1.5 Significance of Project	7
1.6 Summary	7
<b>CHAPTER 2 : LITERATURE REVIEW</b>	
2.0 Introduction	8
2.1 Prostate Cancer	8
2.2 Immunohistochemistry (IHC)	9

2.3	Image Processing	11
2.4	Segmentation	12
2.5	Color Image Segmentation	14
2.6	Color Space Analysis	16
2.6.1	RGB	16
2.6.2	HSI	18
2.6.3	L*a*b*	21
2.7	Segmentation Methods	24
2.8	Related Work	31
2.9	Summary	37

### **CHAPTER 3 : PROJECT METHODOLOGY**

3.0	Introduction	38
3.1	Project Methodology	38
3.2	Research Activities	40
3.2.1	Planning	40
3.2.2	Analysis	41
3.2.3	System Design	43
3.2.4	Implementation	59
3.2.5	Testing and Evaluation	68
3.3	Documentation	68
3.4	Summary	69