

# CONTENTS

<b>APPROVAL PAGE</b>	
<b>SELF DECLARATION AGAINST PLAGIARISM</b>	
<b>ABSTRACT</b>	<b>i</b>
<b>ACKNOWLEDGMENTS</b>	<b>ii</b>
<b>PREFACE</b>	<b>iv</b>
<b>CONTENTS</b>	<b>v</b>
<b>LIST OF FIGURES</b>	<b>vii</b>
<b>LIST OF TABLES</b>	<b>viii</b>
<b>I INTRODUCTION</b>	<b>1</b>
1.1 Background . . . . .	1
1.2 Problem Identification . . . . .	2
1.3 Objective and Contributions . . . . .	3
1.4 Hypothesis . . . . .	3
1.5 Scope of Work . . . . .	3
1.6 Research Methodology . . . . .	3
1.7 Research Plan and Action Point . . . . .	4
<b>II Basic Concepts</b>	<b>5</b>
2.1 Object Recognition . . . . .	5
2.2 Feature Extraction . . . . .	6
2.3 Feature Memorization . . . . .	7
2.4 Python . . . . .	8
2.5 Visual Mapping . . . . .	8
2.5.1 Depth Camera . . . . .	9
2.5.2 Mapping Algorithm . . . . .	10

<b>III SYSTEM MODEL AND THE PROPOSED DESIGN</b>	<b>11</b>
3.1 Proposed Method . . . . .	11
3.1.1 Design System . . . . .	11
3.1.2 Pre-Configuration . . . . .	12
3.1.3 General System Diagram . . . . .	13
3.1.4 Landmark recognition . . . . .	15
3.1.5 Feature Extraction Algorithm . . . . .	16
3.1.6 Feature Memorization Algorithm . . . . .	19
3.1.7 Mapping Algorithm . . . . .	20
3.2 Experiment Configuration . . . . .	22
3.3 Experiment Type . . . . .	22
3.4 Performance Matrix . . . . .	23
3.5 Performance Analysis . . . . .	23
<b>IV RESULT AND ANALYSIS</b>	<b>24</b>
4.1 Experiment Condition . . . . .	24
4.2 Memorization Test . . . . .	25
4.3 Mapping Test . . . . .	31
<b>V CONCLUSIONS AND FUTURE WORKS</b>	<b>34</b>
5.1 Conclusions . . . . .	34
5.2 Future Works . . . . .	34
<b>REFERENCES</b>	<b>35</b>