

TABLE OF CONTENTS

SUPERVISOR APPROVAL SHEET	v
EXAMINER TEAM APPROVAL SHEET	vi
STATEMENT.....	vii
ACKNOWLEDGEMENT	ix
TABLE OF CONTENTS.....	xi
LIST OF FIGURES	xiii
LIST OF TABLES	xv
LIST OF APPENDICES	xvi
ABBREVIATIONS	xvii
ABSTRACT	xviii
INTISARI	xix
CHAPTER I INTRODUCTION	1
I.1. Motivation	1
I.2. Problem Statement and Scope of Research	2
I.3. Research Originality	3
I.4. Research Objectives	3
I.5. Benefit of Research	4
CHAPTER II LITERATURE REVIEW	5
II.1. Related Work	5
II.2. Theoretical Background	8
II.2.1. Orthorectification	8
II.2.2. Image Histogram	10
II.2.3. Artificial Neural Network	12
II.2.4. Convolutional Neural Network	14
II.2.5. Mask R-CNN	14
II.2.6. Building Regularization	15
II.2.7. Accuracy Assessment.....	16
II.3. Research Questions.....	18
CHAPTER III EXPERIMENTS	19
III.1. Research Description	19
III.2. Preparation.....	20
III.2.1. Data	20
III.2.2. Tools and Equipment	20
III.3. Methodology.....	20
III.3.1. Data Preparation.....	22
III.3.2. Training	22
III.3.3. Prediction	23
III.3.4. Vectorization	25
III.3.5. Accuracy Assessment.....	26
III.3.6. Regularization	26
CHAPTER IV RESULT AND DISCUSSION	27
IV.1. Training Loss	27
IV.2. Prediction Results	28



IV.3.	Histogram Analysis	30
IV.4.	Vectorization Results.....	38
IV.5.	Accuracy Assessment	42
IV.6.	Regularization Results	46
CHAPTER V	CONCLUSION AND FUTURE WORK	49
V.1.	Conclusions	49
V.2.	Recommendations	49
REFERENCES	50