



TABLE OF CONTENTS

THESIS TITLE	i
HALAMAN PENGESAHAN	iii
PLAGIARISM-FREE STATEMENT	iv
PREFACE	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	viii
LIST OF PSEUDO/SOURCE CODE	ix
INTISARI	xi
ABSTRACT	xii
CHAPTER I INTRODUCTION	1
1.1 Research Background	1
1.2 Research Problem	2
1.3 Research Objectives	3
1.4 Research Scope	3
1.5 Research Benefits	4
1.6 Report Organization	4
CHAPTER II LITERATURE REVIEW	5
2.1 Study on Machine Learning on Human Detection	5
2.2 Study on Incremental Machine Learning on Human Detection	7
2.3 Study on the Comparisons of Incremental Machine Learning	11
CHAPTER III THEORETICAL BASIS	14
3.1 Human Detection	14
3.2 Incremental Machine Learning	16
3.3 Incremental Support Vector Machine	17



3.4	Unified Classifier Incrementally via Rebalancing.....	19
3.5	Dynamically Expandable Representation.....	23
CHAPTER IV RESEARCH METHODOLOGY		29
4.1	Research Description	29
4.2	Tools and Materials	29
4.3	Research Steps	29
4.4	Dataset Preparation.....	30
4.4.1	Dataset Collection.....	30
4.4.2	Dataset Pre-processing.....	32
4.5	Algorithm Alterations/Implementation.....	33
4.5.1	Incremental Support Vector Machine Implementation	33
4.5.2	Dynamically Expandable Representation.....	35
4.5.3	Unified Classifier Incrementally via Rebalancing.....	37
4.6	Model Training and Evaluation.....	39
CHAPTER V IMPLEMENTATION		40
5.1	Dataset Preparation	40
5.2	Custom Dataset Implementation.....	41
5.3	ISVM Implementation	46
5.4	Parameter Adjustments	49
5.5	Performance Measure	54
CHAPTER IV RESULTS AND DISCUSSION		56
6.1	Dataset Preparation	56
6.2	Custom Dataset Implementation results	57
6.3	Parameter Adjustments results.....	59
6.4	Performance Measure results and comparison	60
6.5	Analysis	62
CHAPTER VII CONCLUSION		64
7.1	Conclusion	64
7.2	Future Works	65
BIBLIOGRAPHY		66