

TABLE OF CONTENTS

ABSTRACT	i
ABSTRAK	ii
APPROVAL SHEET	iii
LIST OF FIGURES	vi
LIST OF TABLES	viii
CHAPTER I	1
INTRODUCTION	1
1.1. Background.....	1
1.2. Problem Statement	3
1.3. Research Objectives.....	4
1.4. Scope of Work	4
1.5. Research Methodology	5
1.6. Hypothesis.....	6
1.7. Research Timeline	7
CHAPTER II	9
LITERATURE OVERVIEW	9
2.1. State of The Art.....	9
2.2. Line of Sigh (LOS)	10
2.3. Regression.....	11
2.4. Ultra-Wide-Band (UWB).....	13
2.5. Two-Way Ranging (TWR)	16
2.6. Library DW1000 Arduino.....	18
2.7. Support Vector Regression	19
CHAPTER III	27
SYSTEM MODEL AND DESIGN	27
3.1. Research Flow.....	27
3.2. System Design	29
3.2.1. Block Diagram	32
3.2.2. Measurement Scenario.....	33
3.3. Data Representation	36
3.4. Algorithm Testing.....	37
CHAPTER IV	42

RESULT AND DISCUSSION	42
4.1. Ranging Process.....	42
4.1.1. Ranging Before Regression	46
4.1.2. Ranging After Regression.....	53
4.2. Positioning	56
CHAPTER V	61
CONCLUSION AND SUMMARY	61
5.1. Conclusion	61
5.2. Suggestion.....	62
REFERENCE.....	63