
CONTENTS

APPROVAL	ii
SELF DECLARATION AGAINST PLAGIARISM	iii
ABSTRACT	iv
ABSTRAK	v
DEDICATION	vi
ACKNOWLEDGMENTS	vii
CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
1 INTRODUCTION	1
1.1 Background	1
1.2 Problem Identification	2
1.3 Objective and Hypotheses	3
1.4 Scope and Delimitation	4
2 REVIEW OF LITERATURE AND STUDIES	5
2.1 Related Literatures	5
2.2 Related Studies	7
2.2.1 Dumbbell Topology	7
2.2.2 Round-Trip Time	8
2.2.3 Model Baseline	8
2.2.4 Activation Function	11
2.2.5 Evaluation Performance	13
2.2.6 Model Comparison	15
3 RESEARCH METHODOLOGY	17
3.1 Research Design	17
3.1.1 Data Collection	17
3.1.2 Dataset Splitting	18
3.1.3 Estimated RTT	18
3.1.4 Evaluation Performance	18

3.2	System Implementation	19
3.3	Experiment Scenario	19
3.3.1	RELM Baseline	19
3.3.2	Improving Regularized Extreme Learning Machine	21
3.4	Comparison Several Model Machine Learning	22
3.5	Experiment Regression Problems	22
4	PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA	24
4.1	Presentation of Data	24
4.1.1	RELM using Grid Search for Hidden Layer(Tanh, Sigmoid and ReLU Activation)	24
4.1.2	RELM changes the constant C by trial and error	26
4.1.3	Cross Validation for RELM model	28
4.1.4	Improving RELM (Find the best C constants using brute force) . . .	29
4.1.5	Improving RELM (Find the best C constants using proposed function)	30
4.2	Analysis of the experiment result	31
5	CONCLUSION	34
	BIBLIOGRAPHY	35
	Appendices	39
A	MISCELLANEOUS	41