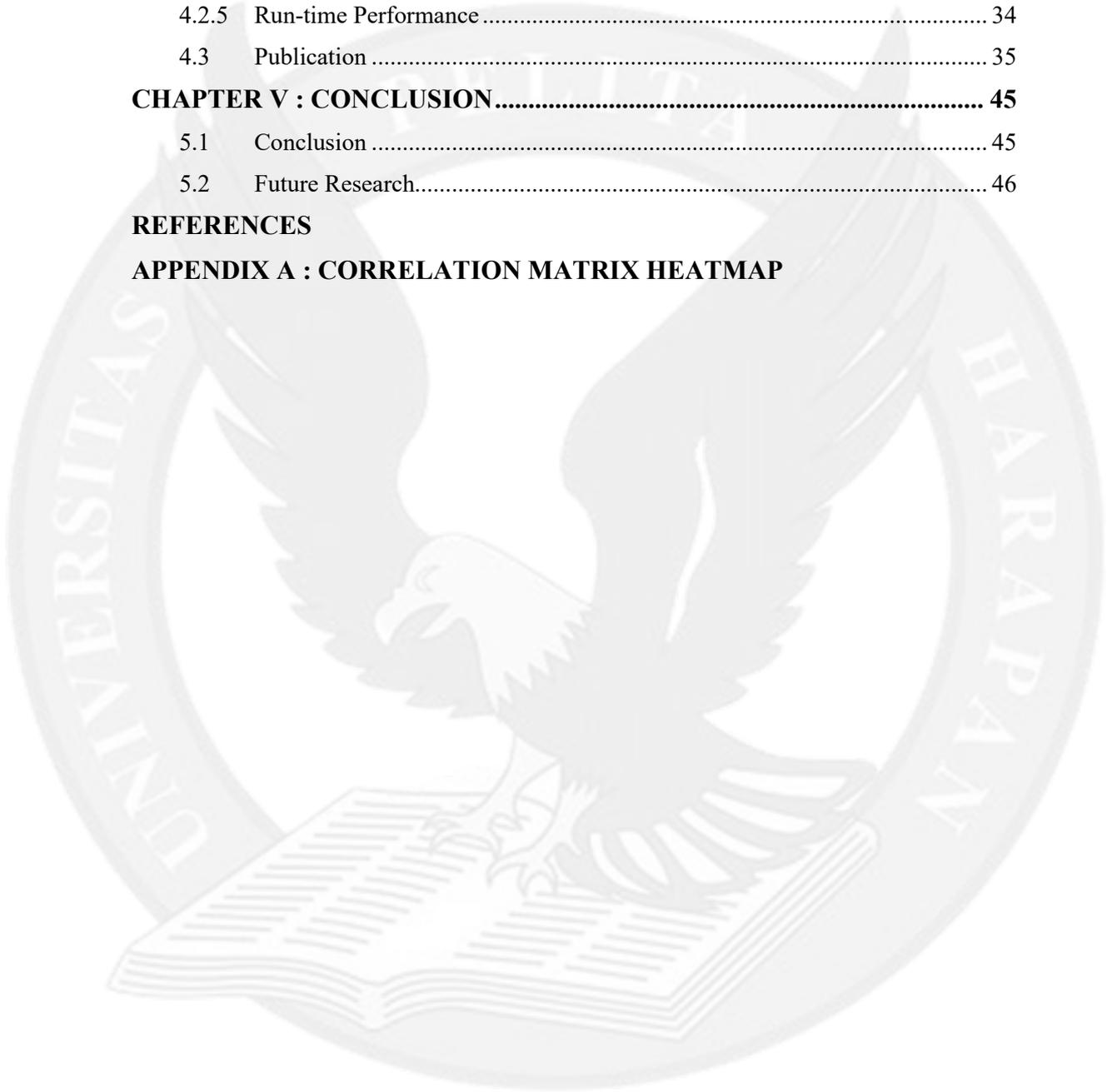


TABLE OF CONTENTS

COVER	
ORIGINALITY STATEMENT OF THE THESIS	
THESIS SUPERVISOR’S APPROVAL	
THESIS EXAMINATION COMMITTEE	
ABSTRACT	v
ACKNOWLEDGEMENTS.....	vii
TABLE OF CONTENTS.....	ix
LIST OF FIGURES	xi
LIST OF TABLES	xii
CHAPTER I : INTRODUCTION	1
1.1 Background	1
1.2 Identification of Problem	3
1.3 Research Scope	4
1.4 Problem Formulation	4
1.5 Research Objectives.....	5
1.6 Thesis Outline	5
CHAPTER II : LITERATURE REVIEW.....	7
2.1 Fraudulent Financial Statements Detection	7
2.2 Fraudulent Financial Statements Predictors.....	9
2.3 Artificial Neural Networks (ANN)	10
2.4 Synthetic Minority Over-Sampling (SMOTE).....	12
2.5 Performance Evaluation Methods.....	12
CHAPTER III : RESEARCH METHODOLOGY.....	15
3.1 Research Workflow.....	15
3.2 Data and Variables.....	16
3.3 Data Preprocessing.....	18
3.3.1 Serial Fraud	19
3.3.2 Minority Oversampling	19
3.4 Proposed Model	20
3.5 Experiments	21
3.6 Evaluation Metrics	22
CHAPTER IV : RESULTS AND DISCUSSION.....	23
4.1 Correlation Analysis	23

4.2	Experiment Results	24
4.2.1	First experiment	27
4.2.2	Second experiment.....	28
4.2.3	Third experiment.....	30
4.2.4	Fourth experiment.....	33
4.2.5	Run-time Performance	34
4.3	Publication	35
CHAPTER V : CONCLUSION.....		45
5.1	Conclusion	45
5.2	Future Research.....	46
REFERENCES		
APPENDIX A : CORRELATION MATRIX HEATMAP		



LIST OF FIGURES

Figure 3.1 Research Workflow Diagram	15
Figure 4.1 Architecture of the Proposed Networks.....	27
Figure 4.2 Compilation of AUC Scores Over the Years.....	32



LIST OF TABLES

Table 3.1 Description of variables used in Cecchini approach.....	17
Table 3.2 Description of variables used in Dechow approach.....	18
Table 4.1 AUC score based on different numbers of neurons	28
Table 4.2 Summary of comparison with previous study (Test period 2003 – 2008)	30
Table 4.3 Summary of comparison with previous study (Test period 2003 – 2005)	31
Table 4.4 Summary of comparison with previous study (Test period 2003 – 2011)	31
Table 4.5 Summary of comparison with previous study (Test period 2003 – 2014)	31
Table 4.6 Ignoring serial fraud (Test period 2003 – 2008).....	33
Table 4.7 Run-time Summary	34