
CONTENTS

APPROVAL	ii
SELF DECLARATION AGAINST PLAGIARISM	iii
ABSTRACT	iv
ABSTRAK	v
DEDICATION	vi
ACKNOWLEDGMENTS	vii
PREFACE	viii
CONTENTS	ix
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF TERMS	xiii
LIST OF NOTATIONS	xiv
1 INTRODUCTION	1
1.1 Rationale	1
1.2 Theoretical Framework	4
1.3 Conceptual Framework/Paradigm	5
1.4 Statement of the Problem	6
1.5 Objectives and Hypothesis	6
1.5.1 Objectives	6
1.5.2 Hypothesis	7
1.6 Assumption	7
1.7 Scope and Delimitation	7
1.8 Significance of the Study	7
2 REVIEW OF LITERATURE AND STUDIES	9
2.1 Related Studies	9
2.2 Transfer Learning in Pre-trained Language Models	12
2.3 Attention Mechanism	14

3 RESEARCH METHODOLOGY	17
3.1 Research Design	17
3.1.1 Dataset & Data Pre-processing	17
3.1.2 Development of DTA Prediction Model	20
3.1.3 Experimental Scenario	24
3.1.4 Evaluation Metrics	27
3.2 Tools for Data Analysis	29
3.2.1 Library	29
3.2.2 Tool	30
4 PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA	31
4.1 The Exploration of Parameter Impact	31
4.2 Evaluation of the Best Model	32
4.3 The Drug and Receptor Representation	36
4.4 The Interaction Modeling	37
4.5 The Method Comparison	38
5 CONCLUSION AND RECOMMENDATIONS	41
5.1 Conclusions	41
5.2 Recommendations	41
BIBLIOGRAPHY	42
Appendices	47
A MISCELLANEOUS	49
A.1 The Descriptive Statistics in Davis and KIBA Datasets	49
B Curriculum Vitae	50