

TABLE OF CONTENT

LIST OF FIGURES	iii
LIST OF TABLES	v
ABSTRACT	vi
CHAPTER I INTRODUCTION.....	1
1.1 Background.....	1
1.2 Problem Statement.....	2
1.3 Scope of the Problem	3
1.4 Research Purpose	3
1.5 Benefits of The Research	3
CHAPTER II LITERATURE REVIEW	4
CHAPTER III THEORETICAL FRAMEWORK	12
3.1 Machine Learning	12
3.1.1 XGBoost.....	12
3.1.2 LightGBM	14
3.1.3 Support Vector Machine.....	16
3.1.4 Logistic Regression.....	18
3.2 Web Scraping.....	19
3.3 Valorant.....	19
3.4 Data Preprocessing.....	22
3.4.1 One Hot Encoding.....	23
3.4.2 Feature Selection.....	23
3.4.3 Min-Max Scaler	24
3.5 K-Fold Cross Validation	24
3.6 Model Evaluation	25
CHAPTER IV RESEARCH METHODOLOGY	27
4.1 Research Description	27
4.2 Dataset Acquisition	29
4.3 Dataset Preprocessing	29
4.4 Model Training	32
4.5 Evaluation Plan	35

CHAPTER V IMPLEMENTATION	36
5.1 Dataset Acquisition	36
5.1.1 Extract Match ID	37
5.1.2 Extract Match Data	38
5.1.3 Format Scraped Data.....	40
5.2 Dataset Preprocessing	42
5.2.1 One-Hot Encoding	44
5.2.2 Feature Selection	45
5.2.3 Feature Vector	47
5.2.4 Merging All the Preprocessing Process Results	49
5.3 Model Training	50
5.3.1 Hyperparameter Tuning	51
5.3.2 Prediction Implementation	53
CHAPTER VI RESULT AND DISCUSSION	54
6.1 Data Acquisition Result	54
6.2 Hyperparameter Tuning Result	55
6.3 Discussion	56
6.3.1 Prediction Result using All Dataset	56
6.3.2 Prediction Result using Feature Selection Dataset	57
6.3.3 Prediction Result using Feature Agents and Map	59
6.3.4 Discussion Overall Result	61
CHAPTER VII CONCLUSION	63
7.1 Conclusion.....	63
7.2 Suggestion	63
REFERENCES.....	64