TABLE OF CONTENTS

APPROVAL PAGE i
STATEMENT OF ORIGINALITY ii
STATEMENT OF ORIGINALITY iii
STATEMENT OF ORIGINALITY iv
STATEMENT OF ORIGINALITY v
ABSTRAK vi
ABSTRACT vii
PREFACE viii
ACKNOWLEDGMENT ix
TABLE OF CONTENTS x
LIST OF IMAGES xiii
LIST OF TABLES xv
LIST OF ABBREVIATIONS xvi
CHAPTER 1 PROPOSAL IDEAS 1
1.1 General Description of Problem 1
1.1.1 Background Problem 1
1.1.2 General Analysis 2
1.1.3 Capstone's Purpose 3
1.2 Analysis of Existing Solutions 3
1.2.1 STIFIn 3
1.2.2 Enneagram 4
1.2.3 MBTI 5
CHAPTER 2 SOLUTION SPECIFICATIONS AND LIMITATIONS 7
2.1 Basis for Determining Specifications 7
2.2 Limitation and Specification 9

2.2.1 Limitation and Specification Product 9
2.2.2 Specification 9
2.3 Specification Verification and Measurements 11
2.3.1 Machine learning model accuracy measurement with datasets. 11
2.3.2 Accuracy measurement of the GPT machine learning model. 11
2.3.3 Machine learning model accuracy measurement with the same dataset as the GPT machine learning model. 12
2.3.4 Verification of Specifications 12
2.4 Conclusion 13
CHAPTER 3 SOLUTION PLAN DESIGN 14
3.1 Alternative Proposed Solution 14
3.1.1 GPT-3.5-Turbo-0125 14
3.1.2 XGBoost 14
3.1.3 Gradient Boosting 14
3.1.4 CatBoost 15
3.2 Analysis and Solution Selection 15
3.3 Design of the Selected Solution 18
3.3.1 Entity Relationship Diagram Psyche App 18
3.3.2 Unified Modeling Language (UML) 21
3.3.3 Flowchart 23
3.3.4 Pseudocode 26
3.4 Budget and Schedule 29
CHAPTER 4 IMPLEMENTATION 31
4.1 General Description of Implementation 31
4.1.1 PSYCHE Web App 31
4.1.2 Machine Learning Model 31
4.2 Implementation Details 32

4.2.1 Web Application 32
4.2.2 Machine Learning Model 37
4.3 Operating Procedure 57
CHAPTER 5 TESTING AND CONCLUSIONS 59
5.1 Common Test Scenario 59
5.2 Test Detail 59
5.2.1 GPT Model Accuracy Testing on Initial Dataset. 60
5.2.2 Machine Learning Model Accuracy Testing on Initial Dataset 62
5.2.3 Testing Machine Learning Model Accuracy on Larger Datasets 62
5.3 Analysis of Test Results 63
5.3.1 Analysis of Psyche Web Application Testing Results 63
5.3.2 GPT Model Accuracy Testing on Initial Dataset 64
5.3.3 Machine Learning Model Accuracy Testing on Initial Dataset 65
5.3.4 Testing Machine Learning Model Accuracy on Larger Datasets 65
5.4 Testing Web Applications 66
5.4.1 Main Functionality Tests 66
5.4.2 Staging Phase Testing 69
5.4.3 Results of Staging Stage Testing 73
5.5 Conclusion 75
BIBLIOGRAPHY 77
ATTACHMENT 81