

**UNIVERSITI TEKNOLOGI MARA**

**CLASSIFICATION OF STUDENT  
ACADEMIC PERFORMANCE BY  
USING NAÏVE BAYES**

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## **STUDENT DECLARATION**

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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## ABSTRACT

Student academic performance can be identified as student's ability to perceived and convey their learning outcomes through both assignment and examination. Both usually will be represent as Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) as a definite result for their performance. There are a lot of factors influence student academic performance, in this project, several new independent variables that has not been use and explore are used in the prediction model for student academic performance. The Artificial Intelligence (AI) strategy used is Naïve Bayes technique which has the best performance in learning speed, hidden values consideration, overfitting dealings, incremental learning attempt, ability explanation, and in handling model parameter compared to other techniques. In this project, agile approach is used as a main framework in order to satisfy the customer by early and continous delivery of valuable software. Agile methodologies help groups respond to unpredictability through incremental, iterative work rhythms and empirical feedback. All data is collected by survey within scope of UiTM Jasin with 140 respondents from faculty of computer & mathematical sciences with variables factors affecting performance such as study skills, gender, procrastination, material, and average weekly study hour. Procrastination and study skill are new independent variables to be test which never being used by previous research as it has potential to influence student performance. 80% of the data collected were used as training data, and 20% were for the new data to be tested. 31 prediction models were produce from the combination of variables. Among 31 prediction models, the best prediction model for student academic performance with accuracy percentage up to 58.04% from the 112 data learnt. For future prospect, all independent variable used in this model can be improve and expended with another AI technique such as Neural Network and Support Vector Machine. The overall result for the system functionality is working well at its best. This system able to predict the expected outcome as data is advanced with appropriate variable. In near future, more potential from this research can be extended in term of using different technique and independent variables used to increase the accuracy of prediction.

**Keywords:** Academic Performances, Artificial Intelligence, Naïve Bayes, Prediction

## TABLE OF CONTENTS

<b>CONTENTS</b>	<b>PAGE</b>
<b>SUPEVISOR APPROVAL</b>	i
<b>STUDENT DECLARATION</b>	ii
<b>ACKNOWLEDGEMENT</b>	iii
<b>ABSTRACT</b>	iv
<b>TABLE OF CONTENTS</b>	v
<b>LIST OF FIGURES</b>	ix
<b>LIST OF TABLES</b>	xii
<b>LIST OF ABBREVIATION</b>	xiii
<b>CHAPTER ONE : INTRODUCTION</b>	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Objective	4
1.4 Scope	4
1.5 Significance	5
1.6 Expected Outcome	5
1.7 Conclusion	5
<b>CHAPTER TWO : LITERATURE REVIEW</b>	
2.1 Introduction	6
2.2 Student Academic Performance	7
2.2.1 Definition	7
2.2.2 Factors That Affect Student Performance	8
2.2.2.1 CGPA	8
2.2.2.2 Gender	8
2.2.2.3 Materials for Study	9
2.2.2.4 Study Skill	9

2.2.2.5 Procrastination	10
2.2.2.6 Average Weekly Study Hour	10
2.2.3 Assigning Grade	10
2.3 Prediction	11
2.3.1 Definition	11
2.3.2 Benefit	12
2.3.3 Technique	12
2.4 Artificial Intelligence	12
2.4.1 Machine Learning	13
2.4.1.1 Clustering	13
2.4.1.2 Control	14
2.4.1.3 Classification and Prediction	14
2.4.1.4 Optimization	14
2.4.2 Artificial Intelligence Technology	14
2.4.2.1 Decision Tree	15
2.4.2.2. Neural Network	15
2.4.2.3 Naïve Bayes	16
2.4.2.4 Support Vector Machine	17
2.5 Comparison of Techniques	18
2.6 Prediction Model	19
2.7 Conclusion	20

## **CHAPTER THREE : METHODOLOGY**

3.1 Introduction	21
3.2 Project Framework	21
3.3 Detail of Phase in Agile	22
3.3.1 Planning	24
3.3.2 Analysis	25
3.3.3 Design and Development	26
3.3.4 Testing	28
3.3.5 Documentation	30