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| **Tech Saksham**  Final Project Report  **DEEP DIVE** |  |  |

**“STUDENT MARK DATASET USING LINEAR REGRESSION”**

**“AIMAN COLLEGE OF ARTS AND SCINCE**

**FOR WOMEN ”**

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| **ROLL NO** | **NAME** |
| CB20S 259884 | AYISHA SITTIKA M |
| CB20S 259888 | HAJI NABISA BEEVI M |
| CB20S 259895 | MARJUKA PARVEEN R |
|  |  |
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| --- | --- |
|  | TRAINER NAME  MAYANK SHRIVATAVA |
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**ABSTRACT**

Analyzing and predicting academic performance is important for any educational institution. Predicting student performance can help teachers to take steps in developing strategies for improving performance at early stages. With the advancement of machine learning and supervised and unsupervised techniques developing these kinds of applications are helping teachers to analyze students in a better way compared to existing methods. In this student marks prediction using Linear regression project students’ academic performance is predicted considering input as previous students’ marks and predicting next subject marks and the accuracy of the model is calculated**.**

**INDEX**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Table of Contents** | **Page No.** |
| 1 | Chapter 1: Introduction | 1 |
| 2 | Chapter 2: Services and Tools Required | 3 |
| 3 | Chapter 3: Project Architecture | 4 |
| 4 | Chapter 4: Architecture Blocks Detail Working | 5 |
| 5 | Conclusion | 6 |
| 6 | References | 7 |
| 7 | Code | 8 |

**CHAPTER**

**INTRODUCTION**

This research looks at how machine learning applications effect higher education teaching and learning, as well as how to improve the learning environment. Data can be anything related to population, academic data of students, and interests of people. New data appears from time to time, as we can see.. Analysing the data is the difficult task for humans. So here comes the computer, which can analyse data faster than people because it is stored digitally and in a well-formatted manner. This is where the machine learning emerged. Machine learning is the branch of Artificial Intelligence that provides ability to automatically learn from past experiences. Here the machines do get programmed explicitly. It gives the computer the power to make humans and machines look alike in terms of learning, as the name implies. Machine learning is divided into two categories based on the nature of the learning signal: supervised learning and unsupervised learning. This study focuses on supervised learning, more specifically on predictive analysis. When it comes to making predictions about future outcomes, predictive analysis is crucial. Predictive analysis has a wide range of applications. Predicting a student's academic success is critical since it can alert professors to students who may drop out of the course, and it can provide valuable information. Additional help to the scholars who want to enhance their educational performance. This have a look at is on implementation of system mastering in education. The outcome of this study is to predict student’s academic performance. Students' data is utilised to create a model that can predict a student's academic achievement based on some background information. The dataset created by the students should be used as the study's input data.

**Overview**

* 1. **Feature**

Extensive efforts have been made in order to predict student performance for different aims, like: detecting at risk students, assurance of student retention, course and resource allocations, and many others. This research aims to predict student performance to engage distinct students in researches and innovative projects that could improve universities reputation and ranking nationally and internationally. However, analyzing students records for startup to medium size institutes or schools, like the British University in Dubai which have small size of students records, have never been explored in educational or learning analytics domain. Yet, that were investigated in other fields, like: health sciences and Chemists (Ingrassia & Morlini, [2005](https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-019-0160-3#ref-CR7); Pasini, [2015](https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-019-0160-3#ref-CR13)). So, this project aims to explore the utilization possibility of small students’ dataset size in educational domains.

* 1. **Advantages**
* Before the final marks of all subjects are evaluated prediction can be performed.
* Using a machine learning process automation of marks prediction can be done.
  1. **Scope**

Student marks prediction is a popular data science case study based on the problem of regression. It is a good regression problem for data science beginners as it is easy to solve and understand. So if you want to learn how to predict the marks of a student with machine learning, this article is for you. In this article, I will take you through the task of student marks prediction with machine learning using **Python**.

**CHAPTER 2**

**SERVICES AND TOOLS REQUIRED**

* 1. **Services Used**

**2.1.2 Liberty Profile**

* 1. **Tools and Softwares used**
* Operating system: Windows XP/7/10
* Coding Language:            python
* Development environment: anaconda, Jupiter
* Dataset: students mark the dataset
* IDE :           Jupiter notebook

**CHAPTER 3**

**PROJECT ARCHITECTURE**

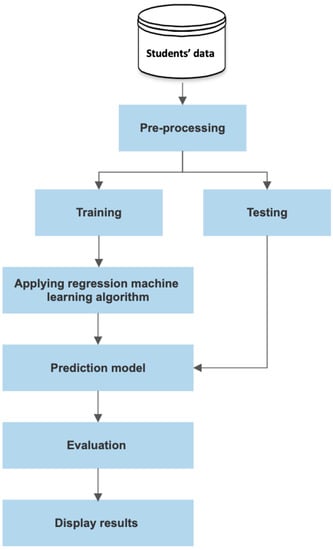
**3.1 Architecture**

**USER FRONTEND BACKEND**

|  |  |  |
| --- | --- | --- |
|  | **HTML 5** | **python database** |

**CHAPTER 4**

**ARCHITECTURE BLOCKS DETAIL WORKING**



**CONCLUSION**

##### The studies is targeted on predicting student’s overall performance the usage of personalised analytics. This paper presents two different approaches to work on the thesis. The author's initial technique is the Regression Algorithm, which is a data mining function. The root mean square method is also used to calculate the regression algorithm's error rate. In this paper the author worked on how to improve the prediction algorithms which are used to analyze and predict the student’s performance. The decision trees algorithm is used in this paper's work.

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