Students GPA Estimation

Introduction

In today's rapidly evolving educational landscape, institutions continually seek innovative approaches to enhance student success and well-being. One crucial aspect of this endeavor is the early identification of students who may require additional support or interventions. By accurately predicting academic performance, schools can proactively address the needs of at-risk students and provide timely assistance.

This project aims to develop an AI-powered predictive model that can estimate a student's Grade Point Average (GPA) based on various relevant factors. By leveraging advanced machine learning techniques, we seek to create a tool that can assist educators in identifying students who may be struggling academically and require targeted support.

Problem Statement

Students often encounter a complex interplay of academic and non-academic challenges that can hinder their academic progress. Traditional methods of identifying at-risk students may not always be sufficient to address these multifaceted issues. To effectively support students and improve their overall well-being, we propose developing an AI-powered predictive model that can accurately estimate a student's GPA based on a variety of factors, including demographic information, academic history, behavioral data, and non-academic factors such as socioeconomic status, mental health, and family support. By leveraging advanced machine learning techniques, this model will enable educators to proactively identify students who may be struggling academically or experiencing non-academic difficulties, allowing for timely interventions and personalized support. This project aims to empower educators with data-driven insights to foster a more inclusive and supportive learning environment that addresses the holistic needs of students.

Goals

1. **Accurate GPA Prediction:** Develop a robust AI model capable of accurately predicting a student's GPA based on a diverse range of factors, including academic performance, demographic information, and non-academic factors.
2. **Early Identification of At-Risk Students:** Utilize the predictive model to identify students who may be at risk of academic failure or experiencing non-academic challenges early in their academic journey.
3. **Targeted Interventions:** Provide educators with actionable insights to implement targeted interventions and support services for at-risk students, such as tutoring, counseling, or academic advising.
4. **Improved Student Outcomes:** Ultimately, enhance student success by providing timely and effective support, thereby increasing graduation rates and overall student satisfaction.
5. **Data-Driven Decision Making:** Empower educators with data-driven insights to make informed decisions regarding resource allocation, curriculum development, and instructional strategies.

Related Work

1. Does the Education Level of a Parent Affect a Child's Achievement in School? | How To Adult
2. Parental Involvement is Key to Student Success
3. The influence of sports participation on academic performance among students in higher education: Sport Management Review: Vol 20 , No 4 - Get Access
4. School absenteeism and academic achievement: Does the timing of the absence matter? - ScienceDirect