

Enhancing the Learning Experience of Students by Early Prediction of Student Academic Performance using Machine Learning

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Abstract: Machine learning (ML) is expected to provide a variety of ways and effective tools to improve education in general in the future. Digital data tracks from different sources covering various aspects of students' lives are stored daily on most modern university and college campuses. However, it is very challenging to get a complete view of a student and combine that data, use this data to accurately predict a student's academic performance, and use such predictions to enhance students' positive engagement with universities or colleges. First of all, data from previous year's students (name, year, department, category, mark, etc.) such as academic performance and behavioral measurements are entered using online forms. Subsequent features were extracted and machine learning-based training was provided and machine learning-based taxonomy algorithms will be developed to predict educational performance. Based on the accuracy obtained through the analyzed and tested Machine Learning algorithms, will provide a set of recommendations for teachers to improve students' quality and learning ability.

Keywords: Machine learning, Supervised approach, linear regression, GPA

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