

# Review Paper on Comparative Analysis of Techniques for Predicting Student Performance

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**Abstract:** *The Classification is one in all the foremost researched queries in machine learning and data processing. A good vary of real problem area unit expressed as classification issues, as an example credit rating, bankruptcy foretelling, diagnosis, pattern recognition content, text classification, package quality assessment and a lot of organic process algorithms area unit used for coaching classification Studies are drained the previous few decades. Genetic programming (GP) may be a versatile and powerful organic process technique with some options which will be terribly valuable and appropriate for categorization development. This paper surveys the present literature on the utilization of genetic programming for classification, showing the varied ways that during which this organic process algorithmic program will facilitate manufacture correct and reliable classifications. This study presents a learning behavior diagnosing system to check the educational standing of scholars from the educational portfolio-The projected linking layer permits the projected system to figure on completely different e-learning platforms while not reprogramming. Furthermore, the utilization of superordinate agents permits academics and students to receive info concerning their learning standing or info provided by the projected system each on the net and by e-mail. what is more, pc engineering info methodology was adopted to judge the projected system. Assessment of confidence between learning scenario and learning action offers positive empirical results.*

**Keywords:** Decision Tree Algorithm, Naïve Bayes Algorithm, Support Vector Machine

## I. INTRODUCTION

Higher education establishments care regarding students' performance as a crucial a part of it this can be the rationale The fact is that almost all square measure supported instructional establishments On the simplest record of educational performance is simply too a lot of Discussion and review supported student performance On previous analysis. Schools, schools and additional Educational establishment's square measure running quick to supply Scholars during this competitive world this can be educational Institutions target manufacturing graduates with smart teachers Performance additionally as extra-curricular activities they have it

To track however a selected student is playing areas and within which areas they have additional coaching using Educational data processing Techniques, instructional Officials could have ideas before beginning a replacement one semester and may create conversant choices that may facilitate them effectively handling all issues of scholars to perform as desired in teachers or in their personal life They already apprehend there's an oversized quantity of knowledge so that the academic information was analyzed mistreatment mining technique Look for totally different trends and patterns to predict the scholar

The amount of performance information is increasing day by day To analyses we want to make algorithms mistreatment data processing and then compare them to induce the utmost accuracy rate. The higher the accuracy rate, the additional specific the prediction. Several information classification techniques square measure used for this Predicting outcomes every has its own blessings and disadvantages this paper covers the utilization of call trees, Naive Bayes', Support Vector Machine Techniques and Algorithms supported them. This rule was used Study and determine current examination position Techniques for tutorial Performance Analysis.

## II. LITERATURE SURVEY

[1]. In this paper they aimed that data mining techniques are widely used in educational field to find new hidden patterns from student's data. The hidden patterns that are discovered can be used to understand the problem arise in the

educational field. This paper surveys the three elements needed to make prediction on Students' Academic Performances which are parameters, methods and tools. This paper also proposes a framework for predicting the performance of first year bachelor students in computer science course. Naïve Bayes Classifier is used to extract patterns using the Data Mining Weka tool. The framework can be used as a basis for the system implementation and prediction of Students' Academic Performance in Higher Learning Institutions.

[2]. In this study presents a the educational database holds on the massive amount of data and it is increasing rapidly. Data mining provides effective techniques for discovering useful knowledge and pattern from students' data. The discovered patterns can be used to understand many problems in the educational field. This paper proposes a framework to predict the achievement of first-year bachelor's students in computer science course. Decision Tree, Naive Bayes, and Multi-Layer Perceptron classification methods are applied to the students' data using the WEKA Data Mining tool to produce the best prediction model of the students' academic performance. Experiments conducted to detect the best model among the used techniques then the models' accuracy is computed. The extracted knowledge from the prediction model will be utilized to recognize and profile the student to decide the students' level of success in the first semester.

[3]. This paper states that educational data mining concerns with developing methods for discovering knowledge from data that come from educational environment. In this paper we used educational data mining to analyze learning behavior. In our case study, we collected students' data from Database course. After preprocessing the data, we applied data mining techniques to discover association, classification, and clustering and outlier detection rules. In each of these four tasks, we extracted knowledge that describes students' behavior.

[4]. This paper represents the data mining techniques to the young and fast-growing field of data mining (also known as knowledge discovery from data, or KDD for short). The book focuses on fundamental data mining concepts and techniques for discovering interesting patterns from data in various applications. In particular, we emphasize prominent techniques for developing effective, efficient, and scalable data mining tools. This chapter is organized as follows. In Section 1.1, you will learn why data mining is in high demand and how it is part of the natural evolution of information technology. Section 1.2 defines data mining with respect to the knowledge discovery process. Next, you will learn about data mining from many aspects, such as the kinds of data that can be mined (Section 1.3), the kinds of knowledge to be mined (Section 1.4), the kinds of technologies to be used (Section 1.5), and targeted applications (Section 1.6). In this way, you will gain a multidimensional view of data mining. Finally, Section 1.7 outlines major data mining research and development issues.

III. SYSTEM DIAGRAM

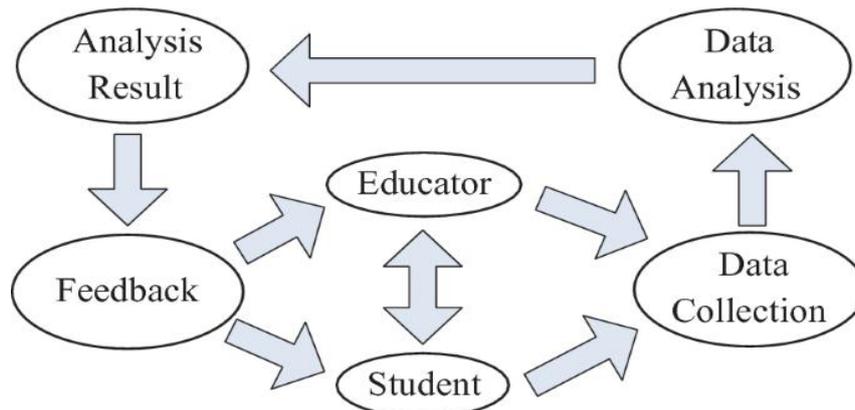


Figure: Predicting Student Performance using data mining techniques

IV. CONCLUSION

This study will be proceeded with the implementation of the framework in order to test for its applicability and prediction accuracy main objective is to provide the best quality education to its students and to improve the quality of managerial decisions Hence we concluded the proposed systems which that prediction model acts like a warning system to detect potential weak students, so that the educators can take an appropriate action towards them. For an instant, system can give advices to prevent failure in the examinations or early desertion of studies.

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