A STUDENT PERFORMANCE ANALYSIS

LITERATURE SURVEY

Team ID: NM2023TMID01820

Project Name: Unleashing the potential of our youth: A student performance analysis

S. No	Title of the Paper	Author	Year of Publication	Objective	Pros	Cons	Reference Link
1.	STUDENT PERFORMANCE ANALYSIS SYSTEM	Somya Mishra, Mrunal Lokare, Aniket Patil, Prof. Chandrashekhar Badgujar	04 Apr 2021	This paper reviews online interface for students, faculty, etc. to increase efficiency of record management, reduce access and delivery time, enhance system security, and minimize non-value-added tasks.	The web-based student performance analysis system offers benefits such as time and effort-saving, efficient analysis, accuracy, easy data management, customization, scalability, enhanced decision-making, and improved communication to educational institutes and coaching classes.	Drawbacks of implementing a web-based student performance analysis system include dependence on technology, setup and maintenance efforts, learning curve, data security concerns, customization limitations, accessibility/connectivity issues, and overreliance on automated analysis.	https://www.irjet.net/archives/V8/i4/IRJET-V8I4700.pdf
				The proposed system uses data mining to analyze student	the proposed system has the potential to harness the power of data mining	The system has drawbacks such as data quality and accuracy, lack of contextual	https://www.ijert.org/student-

2.	Student Performance Analysis System using Data Mining	Disha Kalambe, Anita Labade, Surabhi Khedekar, Komal Mahajan	24 Apr 2020	performance in academic performance, extra-curricular activities, strengths, weaknesses, and hobbies. It generates a scorecard and provides guidance for improvement, contributing to overall growth	to analyze student performance from a holistic perspective and provide personalized guidance, leading to improved educational outcomes for students.	understanding, algorithm bias, limited human interaction, implementation challenges, privacy and security risks.	performance-analysis-system-using-data-mining
3.	Students' Performance Analysis Using Machine Learning Algorithms	Rosemary Vargheese , Adlene Peraira , Aswathy Ashok and Bassant Johnson	29 June 2022	Universities and organizations struggle with analyzing diverse student performance data. SPAS, a proposed system, uses data mining to predict performance and aid lecturers in identifying struggling students.	The proposed system predicts student performance in specific courses, tracks and retrieves performance data, and identifies poorly performing students. This assists lecturers in automatically predicting student performance, monitoring progress, and providing timely attention to struggling students.	System limitations were identified considering the users' evaluations on the system, which are resources, time constraint, inflexible rules implemented in the system, the prediction is not updated dynamically within the system's source codes.	https://www.ijres.org/papers/Volume-10/Issue-6/100618041809.pdf
4.	Student Performance	Chew Li Sa, Dayang Hanani bt. Abang Ibrahim, Emmy	Jan 2021	SPAS is a new system that tracks and analyzes student performance in a specific course at FCSIT, UNIMAS. It utilizes predictive system based on classification data	The proposed system has recognition of the need for a system to track students' performance, proposal of a predictive system, focus on a specific course and department, mention of	The system has drawbacks of lack of details on the student management system, limited explanation of privacy setting, limited scope of the proposed system, limited details on data mining technique,	https://www.researchgate.net/publication/282956807_Student_performance_analysis_system_SPAS

	Analysis System (SPAS)	Dahliana Hossain, Mohammad bin Hossin		mining to generate performance prediction rules, addressing restricted access to the existing student management system for Information System department lecturers.	data mining technique, emphasis on student performance improvement	absence of potential challenges or limitations.	
5.	STUDENTS PERFORMANCE ANALYSIS SYSTEM	Vinay Devabhaktuni, Kancharla Sharath Reddy, V. Shiva Teja, G. Kavitha Reddy	06 June 2022	SPAS bridges gap between employers and future IT employees by analyzing college-level student performance. It uses intelligent learning algorithm for prediction. Traditional techniques inadequate, need tool for extracting useful information.	Pros of SPAS and tool for extracting useful information from student performance data bridges gap between employers and students with insights on skills' readiness for job placement. Utilizes intelligent learning algorithm and rich database for accurate performance prediction. Employs cumulative predictor algorithm with random forest trees for robust and reliable model. Facilitates data-driven decisions for universities by extracting insights from various student performance data formats. Overcomes challenges of analyzing increasing student data,	Cons of this system is automation may lead to job displacement, causing concerns about unemployment and career prospects. Difficulty in attaining necessary skills for desired IT jobs may indicate a gap in the education system, resulting in inequality and limited opportunities. Reliance on SPAS for performance evaluation may raise data privacy and security concerns. The cumulative predictor algorithm in SPAS may have limitations in accuracy and reliability. Extracting useful information from various formats of student data may pose challenges in data extraction, quality, and integration. Concerns	https://www.irjmets.com/uploadedfiles/paper/issue_6_june_2022/26568/final/fin_irjmets1655801430.pdf

					enabling informed decisions about performance and placement.	may arise regarding the potential impact, reliability, and privacy of using SPAS for performance evaluation and prediction.	
6.	Students Performance Analysis System Using Cumulative Predictor Algorithm	Mr. K. Praveen Kumar, K. Sai Pranav, D Gowtham, S. Abhishek	22 May 2022	The project highlights the increasing automation of mundane tasks and rising expectations for students with programming skills, and the aim of the project to bridge the gap between employers and future employees using a college-level Student Performance Analysis System (SPAS). SPAS features an online web application system, intelligent learning algorithm, and cumulative predictor algorithm for performance evaluation. The objective is to provide an overview of the project's focus on using SPAS for analyzing student performance	The implementation of SPAS at the college level can provide several benefits, including bridging the skills gap, automating mundane tasks, utilizing intelligent learning algorithms, data-driven decision making, improving employability, and enhancing student engagement.	SPAS has potential benefits in bridging the employer-employee gap, but limitations such as limited data availability, biased data, reliance on historical data, lack of holistic evaluation, overemphasis on placement outcomes, potential stress and pressure on students, and technical challenges must be carefully considered for effective and ethical use in the college setting.	https://www.ijraset.com/research-paper/students-performance-analysis-system-using-cumulative-predictor-algorithm

				data and making job placement predictions.			
7.	STUDENT PERFORMANCE ANALYSIS SYSTEM	Devita Durge, Nikhil Bagul, Rushikesh Gadge, Siddhesh Bhavsar	Sep 2020	The aims and objective of the project that is to allow users (faculty) to analyze progress of his subject, allow students to compare his performance in different tests. Provide convenience to faculty to guide and mentor students in their academic performance. To design a user-friendly graphical user interface. To conveniently maintain digital records of student, faculty and courses.	This system has the benefits of User-friendly GUI for faculty to manage student data and for students to view academic records. Academic records and performance analysis stored in image format. Pie chart displays enrolments in each course. Machine learning regression algorithm predicts upcoming test marks. Easy data update and maintenance in digital format. No data loss threat with multiple data copies.	The system has the drawbacks of Single student cannot enroll for multiple courses using same student id. Graphical user interface is user friendly but not fascinating. Student cannot analyze his grip over subtopics of same subject.	https://www.jetir.org/view?paper=JETIR2009095
8.	ACADEMIC PERFORMANCE ANALYSIS	Mr. M. Thirunavukkarasu, B.J.S.S Sriram, Javvaji Chandrasekhar Reddy	Apr 2021	The main objective of this system is Analyzing students' overall academic performance using data segregation and prediction techniques. System provides access for students to view results and professors to	Focuses on analyzing overall academic performance, not just external exams. Utilizes data segregation and prediction techniques to predict pass/fail for students. Provides a system for students to access their results and	Some potential cons in this system is data accuracy and reliability, overreliance on previous results, limited scope of prediction, ethical concerns, lack of personalized approach.	https://www.ijres.org/papers/Volume-10/Issue-6/100618041809.pdf

				receive pass/fail prediction reports using machine learning (Linear Regression, SVM). Enhances academic performance evaluation and support by assisting students who may need additional help.	for professors to receive reports. Helps professors assist students who may need additional support. Enhances academic performance evaluation and support through machine learning algorithms. Improves student performance and increases chances of passing exams.		