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AI-Based Feed-Forward Neural Network Training based Interactive Shopping for Blind

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ABSTRACT: The goal of this research is to figure out how to calculate academic achievements and students cognitive quotients for placement. This study will attempt to forecast students intelligence quotients or academic grades to measure the IQ of a student in a holistic manner using all kinds of parameters, from students' academic records to input from their professors and even their family background, thus creating a dataset of 9000 instances with all these data. We implemented and trained multiple machine learning algorithms on the data and collected the outcomes to select the best algorithm. Students' quantitative reasoning ability was selected as a parameter that could be assessed by their performance on aptitude tests. Certifications of the student during their bachelor's degree have been considered, which would also give us an idea about the student's critical and logical thinking ability. All the parameters were rated on a scale of 1-10. The driving motivation behind this investigation was to discover what parameters force a student to be placed in a company then the final overall ''student score'' is calculated to determine a student's intelligence quotient. The final IQ score of the student-generated was graded on a scale of 0-3 and a suitable salary package range for the student was estimated giving the company a good idea of the student's capability.

KEYWORDS:-. Intelligence quotient (IQ), student assessment, academic performance, machine learning, data mining.

I. INTRODUCTION

In the current digital era, the rapid growth of technology has significantly influenced every sector, including education and employment. One of the critical challenges faced by educational institutions today is bridging the gap between academic knowledge and industry demands. Traditional campus placement systems often lack efficiency, transparency, and speed, which can hinder students' access to opportunities and delay the recruitment process.

A Smart Campus Placement System is an advanced solution that leverages modern technologies like data analytics, artificial intelligence, and automation to streamline the recruitment process. It focuses on improving the efficiency and fairness of campus placements by managing data-driven student profiles, automating resume shortlisting, scheduling interviews, and matching student capabilities with job requirements accurately.

This project, titled "Smart Campus Placement System Leveraging Recruitment Efficiency," aims to design and develop a digital platform that not only optimizes the hiring process but also enhances student engagement, institutional transparency, and recruiter satisfaction. By integrating real-time tracking, intelligent filtering, and predictive analytics, this system can become an effective interface between students, institutions, and recruiters.

This report elaborates on the current limitations of existing systems, proposes a technically sound and scalable solution, and discusses its implementation, testing, and future scope in the education and hiring ecosystem.

II. LITERATURE SURVEY

1. On the Design of Student Assessment Model Based on Intelligence Quotient Using Machine Learning(Nikhila Kathirisetty and Hirn Kumar Thakkar 1,Rajendrasinh Jadeja 2,Deepak Gara3, 4,(Member, IEEE))) ,2022
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2. A Comparative Study of Different Machine Learning Techniques to Predict the Result of an Individual Student using Previous Performances (Khalil Ahammad 1, Partha Chakraborty 2),2021
Machine learning is a sub-field of computer science refers to a system's ability to automatically learn from experience and predict new things using the learned knowledge. Different machine learning techniques can be used to predict the result of the students in examination using previous data. Machine learning models can recognize vulnerable students who are at risk and take early action to prevent them from failure. Here, a model was developed based on the academic performance of the students and their result in the SSC exam. This paper also shows a comparative study of different machine learning techniques for predicting student results. Five different machine learning techniques were used to demonstrate the proposed work. They are Naive Bayes, K-nearest Neighbours, Support Vector Machine, XG-boost, Multi-layer Perceptron. Data were preprocessed before fitting into these classifiers. Among the five classifiers, MLP achieved the highest accuracy of 86.25 percentage . Other classifiers also achieved a satisfactory result as all of them were above 80 percentage accuracy. The results showed the effectiveness of machine learning techniques to predict the performance of the students.

3. Gender Differences in Connectome-based Predictions of Individualized Intelligence Quotient   and Sub-domain S cores (Rongtao Jiang1,2, Vince D. Calhoun3),2020
The purpose of this research paper is to understand the role of employability skills and emotional intelligence toward employer satisfaction in recruiting fresh information technology engineering graduates from institutions of higher learning in India. Using a structured questionnaire, the study surveyed 507 employers from the information technology sector companies in India, who as recruiters conduct campus placement drives across various engineering schools in the country. An application of structured equation modeling to the data revealed emotional Intelligence partially mediates in the relationship between employ ability skills and employer satisfaction while recruiting these fresh engineering IT graduates. The finding of the study will be supportive for the students, academicians and practitioners in recognizing the need of soft skills for making young engineering graduates employable

4. Emotional Intelligence and its Realationship to Employability Skills and Empolyer Satisfaction with fresh Engineering Graudates (Pawan Kumar Chand Ashwin Sadashiva Kumar Amit Mittal1),2019
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5. A comparative analysis of emotional intelligence and intelligence quotient among Saudi business students' toward academic performance (Sania Khan),2019
Understanding the determinants of student learning outcomes and their academic performance is never being easy. Most of the studies examined the impact of emotional intelligence (EI) and intelligence quotient (IQ) on academic performance discretely, and their combined influence was not studied .The data relevant to it to this study will created from 416 students of various Business Colleges of Saudi central province universities, using online survey questionnaire. Structural equation modeling analysis using SPSS AMOS was used to evaluate the data. The private students possess a significant IQ, and their academic performance is primarily driven by IQ and with high EI; whereas public sector students possess moderate EI with insignificant IQ levels and tend to perform average in their academics. All the measurement items of EI and IQ explained only 43.6 percentage of variance in public student's performance

and 56.3 percentage in private student's performance. The study argues the cognitive intelligence is very purposive in academics but narrow in nature and does not extend the horizon of student's lifelong learning. Therefore ,EI is vital and plays a prominent role in supporting their IQ as well. The study is limited to only business students; therefore, findings may not be generalized to other academic domains and for master level students. It suggests to conduct further studies to explore relationship among various exogenous variables.

III. PROBLEM STATEMENT

The traditional campus placement process is inefficient due to manual operations, lack of data-driven insights, and absence of smart recruiter-student matching mechanisms. This often leads to delays, mismatches, and missed opportunities for students and recruiters alike.

 The need is to develop a smart campus placement system that automates key placement   activities, incorporates intelligent filtering, provides real-time dashboards, and enhances   recruitment efficiency through better coordination

IV. OBJECTIVES

   A SMART Campus Placement System aims to enhance recruitment efficiency through advanced data analysis and I-driven insights, ultimately bridging the gap between educational institutions and the corporate world. The system's bjectives center on streamlining the placement process by automating and personalizing student-recruiter interactions, improving match accuracy, and reducing time-to-hire for organizations. By integrating machine learning models, the ystem enables the identification and classification of student profiles based on skill sets, academic performance, and extra curricular achievements, allowing recruiters to pinpoint candidates who best fit specific roles. Additionally ,the system facilitates continuous skill assessments and career readiness evaluations to provide students with customized recommendations for career development, ultimately enhancing employability. Through clustering and predictive analytics, the SMART Campus Placement System also offers valuable insights into industry trends and in-demand skills, empowering institutions to align their academic programs with market needs and enhance student job placement rates**.**

V. PROPOSED SYSTEM

     The architecture of the Smart Campus Placement System is structured in a way that it connects students, recruiters, and admin in a proper workflow. It works through a web based and mobile-based platform where all users interact in real-time with secure data handling. The architecture is divided into three layers: Presentation Layer, Application Layer, and Database Layer.

i) Presentation Layer : This is the front-end part, where users like students, placement coordinators, and companies interact with the system. It is developed using JavaScript for web and Flutter for mobile interface. Students can update their profile, view job openings, and apply. Recruiters can post job drives and shortlist candidates. Admin manages the overall access, updates, and reports.
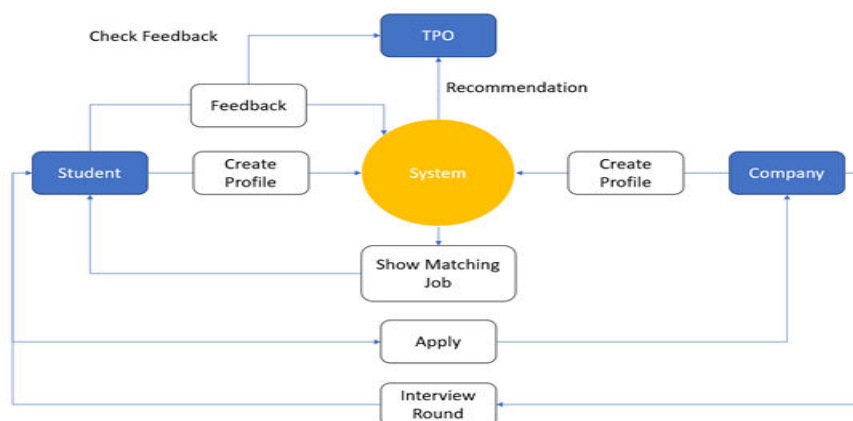

Fig.1: Proposed System Architecture

ii) Application Layer : This layer handles all processing. The logic is written in Javaand JavaScript. It takes the input from users, processes it, applies filters (like eligibility criteria), and connects with the database. The functions include user login, job posting, resume filtering, drive management, result updates, and automated notifications.

iii) Database Layer : The system uses a structured database that stores user details, job openings, selection results, resume data, and drive schedules. SQL-based storage is usedfor organized retrieval. Student records, recruiter information, and placement history are stored securely. The communication between the application layer and database is done through API services.

Data Flow in System : When a student logs in, the application checks credentials, fetches their profile and eligible joblistings. On applying, the system updates the drive data andnotifies admin and recruiter. After selection process, results are uploaded and visible to students and admins.

Security and Scalability : Role-based access is implemented so that users get limited and secure access according to their role. The system is designed to handle multiple drives at the same time without slowdown. Notifications are handled using Firebase for real-time updates.

VI. CONCLUSION

The Smart Campus Placement System focuses on simplifying and speeding up the recruitment process inside educational institutions. Using Android Studio, Java, and Flutter, the platform handles all major placement activities from student registration to job application, interview scheduling, and result updates in one system.

This system organizes the placement process in a smooth way. It avoids confusion and saves time by reducing manual tasks. Students receive job listings based on their academic background and skills, and recruiters get filtered student data without going through piles of resumes. It supports better communication between students, recruiters, and placement officers through centralized updates and notifications. All data remains secure and easy to access, which helps in maintaining a professional and structured placement flow. The system increases efficiency, provides a clean and user-friendly interface, and supports scalability for future upgrades. It fits perfectly in academic environments where managing large student databases is difficult using manual methods. This project reflects a strong practical approach to solving placement-related issues through technology. It stands as a base for more advanced versions that may include real-time chat, mobile app support, and AI-driven job recommendations.

VII. RESULTS

The Smart Campus Placement System effectively improves recruitment efficiency by automating student registrations, job postings, and candidate shortlisting. It reduces placement processing time, increases shortlisting accuracy, and ensures centralized, transparent communication between students and recruiters.

The system delivers a faster, organized, and more reliable campus placement experience.

Screenshot:

ACKNOWLEDGMENT

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