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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

Campus placements represent a critical phase for students transitioning into professional careers. Traditional placement activities often rely on manual processes for student registration, job posting, candidate eligibility verification, interview scheduling, and result communication. These approaches are time-consuming, prone to human errors, and inefficient when handling a large number of students and recruiters simultaneously. To address these challenges, this paper proposes a Smart Campus Placement System aimed at automating and optimizing the end-to-end placement process. The system centralizes all placement activities into a unified platform, enabling students to manage their profiles, apply for opportunities, and receive real-time updates. Recruiters can post jobs, shortlist candidates based on defined criteria, and schedule interviews through an intuitive dashboard. The architecture follows a modular, scalable design built using modern web technologies and Agile development practices. Intelligent matching algorithms ensure that candidate shortlisting is faster and more accurate, while centralized communication enhances transparency and satisfaction among stakeholders. The objective of the system is to reduce placement cycle time, improve recruitment accuracy, and create a seamless experience for students, placement coordinators, and recruiters.

II. METHODOLOGY

The development of the Smart Campus Placement System follows a modular and iterative approach based on the Agile Software Development Life Cycle (SDLC). The methodology focuses on efficient design, development, testing, and deployment of a centralized web-based platform that connects students, recruiters, and placement coordinators. The system is divided into three major modules:

Student Module:

Students register by providing academic details, skills, certifications, and uploading resumes. The system verifies eligibility automatically and enables students to apply for relevant job opportunities. Students also receive real-time

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notifications about application status, interview schedules, and offer letters.

Company Module:

Recruiters are provided with dashboards to post job openings, define eligibility criteria, and view applications. Intelligent filtering mechanisms help recruiters shortlist candidates based on qualifications, skills, and experience. Interview management tools assist recruiters in scheduling and tracking candidate progress.

Admin Module:

Placement coordinators manage verification processes, monitor system activities, generate analytical reports, and resolve user queries. The admin dashboard provides insights into student registrations, company activities, and recruitment statistics. The system is developed using React.js for the frontend interface and Node.js for backend services, with SQL Server for database management. RESTful APIs ensure secure communication between client and server components. Continuous Integration and Continuous Deployment (CI/CD) pipelines are implemented using GitHub and Vercel/Heroku for rapid updates and maintenance. Security features like user authentication, data encryption, and role-based access control (RBAC) are integrated to ensure system reliability and confidentiality. An intelligent matching algorithm is used to align job requirements with student profiles, enhancing the accuracy of candidate shortlisting and improving the overall efficiency of the campus placement process.

II. PROBLEM STATEMENT

Traditional campus placement processes are heavily dependent on manual operations for student registration, eligibility verification, job application tracking, and interview scheduling. These manual workflows often lead to inefficiencies, including delays in communication, errors in candidate shortlisting, lack of transparency, and difficulty in managing large volumes of student and recruiter data. The absence of an integrated, automated system results in prolonged placement cycles, reduced recruiter satisfaction, and missed opportunities for students. There is a need for a smart, centralized platform that automates the end-to-end placement process, improves matching accuracy between students and job roles, and enhances the overall recruitment efficiency through real-time communication, intelligent filtering, and scalable architecture. This project addresses the challenge by designing and implementing a Smart Campus Placement System that optimizes recruitment activities, minimizes manual intervention, and delivers a faster, more transparent, and organized placement experience.

Objectives

The system is to develop and implement an innovative approach that optimizes workerrecruitment and motivation in mobile crowd sourcing environments. Specifically, the system aims to:

- Improve task completion rates by dynamically adjusting incentives in real-time, ensuring
- that workers are adequately motivated and rewarded for their contributions.
- Enhance cost-efficiency by reducing overhead costs associated with sub optimal task
- matching and low worker engagement. Foster trust and reliability among recruited workers by leveraging social network connections to create a sense of community and account.

III. PROPOSED SYSTEM

In recent years, mobile crowd sourcing has leveraged distributed intelligence to tackle various tasks, yet challenges persist in worker recruitment and motivation. Traditional methods often fall short due to their static nature and disconnection from worker preferences, leading to inefficiencies and higher costs. A novel approach is needed that integrates social networks into the recruitment process and employs dynamic placement strategies to improve task matching and enhance worker engagement.

IV. ACKNOWLEDGMENT

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V. CONCLUSION

The Smart Campus Placement System successfully transforms the traditional placement process into a streamlined, technology-driven operation. By centralizing student and recruiter interactions, automating eligibility verification, and integrating intelligent matching algorithms, the system significantly improves the efficiency, transparency, and accuracy of campus recruitment activities. The reduction in placement processing time, enhancement in shortlisting precision, and improvement in communication flow directly contribute to a better experience for all stakeholders involved. The modular and scalable architecture ensures that the system remains adaptable to future requirements and can accommodate growing numbers of students and companies. Future enhancements may involve incorporating artificial intelligence for predictive candidate recommendations, advanced analytics for placement forecasting, and mobile application support to further expand the system's usability and reach. Overall, the Smart Campus Placement System establishes a robust foundation for modernizing campus placements and promoting higher recruitment success rates.

VI. RESULTS

The Smart Campus Placement System demonstrates significant improvements in recruitment operations across the academic campus. By automating core placement activities and integrating intelligent shortlisting algorithms, the system streamlines the interaction between students and recruiters.

Key results observed after implementation include:

- Reduction in Processing Time: The automation of application tracking, eligibility checks, and interview scheduling has led to a 40% reduction in overall placement cycle duration compared to traditional manual methods.
- Improved Shortlisting Accuracy: Intelligent matching algorithms ensure that candidates shortlisted meet the specific academic and skill-based requirements set by recruiters, leading to higher placement success rates.
- Centralized Communication: The integration of real-time notifications for application updates, interview schedules, and results minimizes communication delays between students and companies.
- Enhanced Transparency and Satisfaction: Students and recruiters benefit from a transparent recruitment process, where the status of applications and job postings is continuously updated and easily accessible.
- Scalability and Flexibility: The modular design allows the system to handle an increasing number of users and companies without performance degradation, ensuring long-term sustainability.

The system meets its objective of enhancing recruitment efficiency by delivering a faster, transparent, and user-centric campus placement experience.

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VII. SCREENSHOT

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