

HIREBRIDGE - An AI Driven Career Hub

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Abstract – The campus placement process is a crucial phase in a student’s academic journey, yet it remains burdened by inefficiencies, manual coordination and lack of personalization. Placement officers often face challenges in managing large amount of student data and ensuring timely communication. On the other hand, students struggle with creating effective resumes, discovering relevant job opportunities, and acquiring the appropriate skills. These disconnects reduce the effectiveness of the placement process and limits the student outcomes. To overcome all these challenges, our project *HIREBRIDGE: An AI Driven Career Hub* – A centralized placement portal that intelligently connects the students of the college and the placement officers through automation and data driven insights. The platform integrates AI to streamline resume creation, offer personalized job recommendations and facilitate smooth placement management.

This platform enables students to generate tailored, ATS-friendly resumes that reflect their unique strengths. Meanwhile AI algorithms analyze the student profiles and job descriptions to recommend opportunities aligned with individual career paths. For placement officers, it provides robust tools to manage candidate records, monitor and track the placement progress. This automation reduces the manual workload and ensures an efficient communication between all the stakeholders.

Index Terms – Artificial Intelligence (AI), Career Hub, Placement Automation, Resume Builder, Job Recommendation System, Machine Learning, Natural Language Processing (NLP), Centralized Placement Portal, Student Employability, Campus Recruitment.

I. INTRODUCTION

In academic institutions, the campus placement process serves as a vital bridge between student education and professional employment. However, this process encounters a multitude of challenges, including poor co- ordination between students and placement officers, inefficient data

handling and lack of personalized job recommendations. Placement officers are burdened with manual tasks such as managing student data, updating job postings etc which can be time-consuming and prone to errors. On the other hand, students are expected to craft compelling resumes, stay updated on job openings and prepare for the interviews – often with minimal support and guidance.

The growing competition in the job market and the rising expectations of the recruiters amplify the need for more intelligent, responsive and automated placement management system. These challenges highlight the need for a centralized, AI powered solution that can streamline the placement workflow and also enhance the student employability through personalized support.

HireBridge addresses these challenges by serving as an AI driven placement portal that benefits both students and placement officers. The objective of the system is to simplify and automate key components of the placement process, such as resume creation, job matching and progress tracking. By integrating technologies like machine learning, natural language processing and intelligent UI design, HireBridge aims to build a seamless ecosystem that bridges the gap between student potential and placement success.

Beyond the functionality, HireBridge is built with deep understanding of the real-life struggles students and placement officers face during the recruitment drives. Many students remain unaware of how to tailor their skills to meet market demands or how to navigate through the application tracking system(ATS) that filters resumes even before human eye sees them. From the placement officer’s perspective, the platform acts as a digital assistant—simplifying repetitive administrative tasks and allowing greater emphasis on strategic planning and student engagement. The dashboard offers features like automated student data syncing, bulk job role assignment, real-time placement tracking, and visual analytics to help placement teams make informed decisions quickly. With the added benefit of seamless communication tools and interview scheduling automation, HireBridge reduces chaos during peak recruitment seasons and enhances coordination across department.

II. LITERATURE REVIEW

In many academic institutions, the campus placement process is still managed manually, making it labour-intensive, time-consuming, and prone to inefficiencies. The Training and Placement Officer (TPO) often relies on physical records and spreadsheets to store student data, company information, and historical placement details. With the number of students increasing each academic year, the manual workload becomes increasingly unmanageable, leading to delays, miscommunication, and data discrepancies. This traditional approach introduces several challenges. Manual data entry is error-prone and can result in incorrect or inconsistent records. Student information is often stored in unstructured or fragmented formats, making data retrieval or updates a complex task. The absence of a centralized database also contributes to redundant entries and difficulties in maintaining data accuracy.

Exchange of information between the students and the placement officer is another critical issue. Many students miss out on important placement opportunities due to untimely or unclear communication from the TPO. The lack of real-time notifications, personalized updates, and a centralized platform often leads to a communication gap, which can hinder students' chances of securing suitable job roles. This also highlights issues regarding fairness and equal access to opportunities.

Given these limitations, it is evident that the current system lacks scalability and efficiency. As technology evolves, there is an increasing need for intelligent, automated solutions that can streamline placement operations. Recent advancements in artificial intelligence, data analytics, and web-based platforms offer promising alternatives to traditional systems. Several institutions are exploring AI-powered portals that can automate routine tasks, enhance communication, and provide personalized recommendations to students.

This survey highlights the urgent need for a smarter, more transparent, and data-driven solution—one that not only reduces the burden on the TPO but also empowers students by ensuring efficient, fair, and accessible placement services.

III. OBJECTIVES

HireBridge: An AI-Driven Career Hub aims to make campus placements smoother, smarter, and more student-friendly. The current system often feels slow and disconnected—students miss updates, and placement officers are buried in manual tasks.

This platform uses AI to tackle those challenges, offering timely job alerts, personalized recommendations, and easier coordination for everyone involved.

At its core, *HireBridge* is about saving time, reducing errors, and making sure no student misses an opportunity due to a communication gap. It brings transparency, efficiency, and a more connected placement journey for both students and TPOs.

Key Objectives:

- Automate repetitive and manual placement-related tasks to reduce workload for TPOs.
- Enable real-time notifications and updates to keep students informed about opportunities.
- Maintain a centralized, clean, and structured database of student and company records.
- Foster better communication and transparency between all stakeholders.
- Help students create ATS friendly resumes and prepare for the companies.
- Match students' skills with relevant job openings to enhance placement outcomes.

IV. PROPOSED SYSTEM

The proposed system, *HireBridge*, is a smart, AI-powered placement portal designed to transform the way campus placements are handled. Instead of relying on outdated spreadsheets and scattered communication, this centralized platform will serve as a one-stop solution for students, placement officers, and recruiters.

Students will have personalized dashboards where job listings tailored to their skills can be viewed, receive real-time notifications, and track application statuses—all in one place. The system will also include intelligent features like skill-to-job matching and resume suggestions, helping students prepare better and aim for the right opportunities.

For Training and Placement Officers (TPOs), *HireBridge* simplifies data management by maintaining a structured, searchable student database, automating routine tasks, and providing insights into placement trends. It also improves communication, allowing quick updates and announcements to reach students instantly.

By integrating AI, automation, and user-friendly design, *HireBridge* aims to eliminate inefficiencies, reduce errors, and ensure that no opportunity is lost due to outdated processes or miscommunication.

V. METHODOLOGY AND SYSTEM DESIGN

The development of HireBridge: An AI Driven Career Hub follows a structured approach that incorporates modern software engineering principles, data driven methodologies and artificial intelligence to streamline and enhance the campus placement process. The methodology is designed to ensure that the requirements of the students and the placement officers are met effectively. The project follows the Agile Software Model, ensuring iterative progress, flexibility and regular feedback.

The *HireBridge* platform is designed with two main modules to serve the key users: the Admin Module and the Student Module. Each module is tailored to meet the specific needs of its users, ensuring a smooth and efficient placement process.

1. Admin Module (Training and placement officer dashboard)

This module is primarily used by the Training and Placement Officer (TPO) or admin staff. It provides full control and visibility over the placement process.

Key Features:

- **Student Management:** Add, update, or delete student profiles and view academic details.
- **Job Posting:** Upload and manage job opportunities received from companies.
- **Skill Matching:** View AI-generated student matches for each job role.
- **Communication Tools:** Send announcements and notifications to selected or all students.
- **Placement Analytics:** Track student applications, company visits, and placement rates.

2. Student Module (Student Dashboard)

This module offers students a personalized interface to manage their placement journey.

Key Features:

- **Profile Creation:** Students can update their academic info, skills, and resumes.
- **Job Recommendations:** AI-based suggestions tailored to student skills and preferences.
- **Application Tracking:** View status of applications, interview dates, and results.
- **Notifications:** Receive updates regarding new job postings or deadlines posted by the TPO.

- **Skill Gap Alerts:** Get insights on missing skills and suggestions for improvement.

VI. RESULTS AND DISCUSSIONS

1. Student Dashboard

The Student Dashboard offers a clean, easy-to-use space to manage your placement journey.



Figure 1 Student Dashboard

2. Resume Generator

The resume generator simplifies the resume creation process by providing users with a clear, step-by-step form.



Figure 2 Resume generator

3. Quick query and vault

The "QuickQuery" feature offers users a direct "Ask Me Anything" interface. This functionality allows for immediate, specific inquiries via a simple text input field.

The "Vault" feature serves as a centralized document storage area for users. It allows users to upload files, as indicated by the "Choose File" and "Upload File" buttons.



Figure 3 Quick query

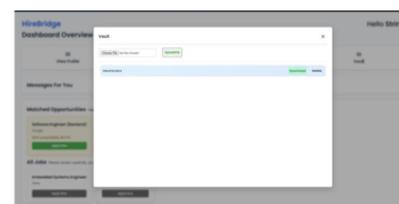


Figure 4 Vault

4. Admin Dashboard

The admin dashboard provides an administrator with quick access to several key management features. It centralizes functions for handling job postings, user accounts, notifications, and placement analytics.



Figure 5 Admin Dashboard



Figure 6 Admin Dashboard – Creation on new jobs



Figure 7 Admin Dashboard- Creation of new user

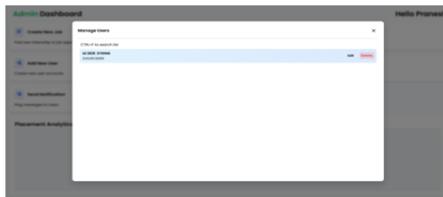


Figure 8 Admin Dashboard – User management



Figure 9 Admin Dashboard – Job Update and management

The HireBridge platform offers a robust ecosystem for both administrators and users. The Admin Dashboard provides essential tools for managing job postings, user accounts, communication, and platform analytics. This administrative control ensures the smooth operation and effectiveness of the platform. Simultaneously, user-centric features like the Resume Generator, Quick Query, and Vault empower individuals in their job search and career management. The integration of these administrative and user-facing functionalities suggests a comprehensive platform designed to bridge the gap between job seekers and opportunities while providing administrators with essential tools for optimal management and oversight. The intuitive design of both the admin and user interfaces likely contributes to a positive and efficient user experience across the platform.

VII. CONCLUSION

HireBridge offers a seamless, user-friendly platform that connects talent with career opportunities. The **Admin Dashboard** acts as the control center, making it easy to manage job postings, user accounts, communication, and placement analytics — ensuring everything runs smoothly.

The platform balances powerful administrative tools with a student-first experience, creating an ecosystem where admins can efficiently manage opportunities while users easily find the support and resources they need. With an intuitive design across both sides, HireBridge provides a strong, reliable foundation for bridging the gap between students and their career goals.

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