

IntelliHire : AI DRIVEN PLACEMENT AND CARRER ASSISTANT

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I. ABSTRACT

The transition from College to Career is one of the most challenging phases for students. Many students don't know at which level their skills stand against the industry expectations, what recruiters look out for in resumes, or how they can improve their chances of getting hired. Existing platforms mostly cater recruiters, and leave the students without meaningful, personalized support .To fill this gap, we are presenting IntelliHire – an AI-powered web platform which is specifically designed to guide students throughout their placement journey. IntelliHire offers a Resume Analyzer which gives actionable feedback by reading the uploaded resumes, a Job Recommendation System which suggest students relevant openings based on their profile, a Skill Gap Detector which highlights that what is missing and how to fix that, and a Quiz Module that lets students practice Aptitude and DSA on beginner, intermediate and advanced levels.

This platform is built using React.js, Node.js, and PostgreSQL with Supabase, and it relies on an AI API which handles the messy, inconsistent format of real resumes – which cannot be easily managed by rulebased systems. While testing with real students and real resumes, we got strong results in resume parsing, skill gap detection, job recommendation, and overall usability. Students found it easy to navigate through platform and genuinely useful for placement preparation. IntelliHire proves that AI in hiring should not mean only automating recruitment – this can equally be powerful when used for student's growth, preparation, and help in competing with confidence.

Keywords: AI-Powered Placement Assistance, Resume Analysis, Job Recommendation, Skill Gap Detection, Natural Language Processing, Student Career Guidance, Web-Based Platform, Quiz Module, Placement Preparation.

II. INTRODUCTION

Students who pursue college degrees face their toughest challenge when they attempt to establish themselves in their first job. The current job market requires candidates to possess multiple skills and present effective resumes and demonstrate industry knowledge because having a degree no longer satisfies employer requirements. Most students who approach the placement process do so without proper

guidance because they lack knowledge about their current abilities and areas needing development. Traditional placement support systems which include college career cells and online job portals have managed to link students with job opportunities yet they depend on one vital element which needs to be customized for each user. The browsing process for job listings becomes overwhelming for students because they lack knowledge about their suitability for available positions. The act of submitting a resume becomes a guessing game because applicants lack knowledge about their document weaknesses and they do not understand what recruiters desire to see.

IntelliHire exists to solve this particular need. It operates as an AI-powered web platform which provides job recommendations to students while guiding them through their entire placement process. The system uses Natural Language Processing techniques to analyze student resumes which it uses to extract essential information about their skills and educational background and work experience and other qualifications. The matching process relies on TF-IDF vectorization and cosine similarity as its basic elements which operate together with advanced semantic models to achieve better matching results.

The student-first approach of IntelliHire recruitment system establishes its unique value which distinguishes it from standard recruitment automation software. Existing systems provide recruiters with tools which enable them to handle large application volumes by performing rapid and efficient candidate screening. The system offers a new view of student treatment which states that students should receive active system access which leads to valuable system feedback and practical system recommendations. The Resume Analyzer module provides students with particular advice which shows ways to enhance their resume. The Skill Gap Detection module enables users to determine which specific skills they require for their desired position and provides them with steps to achieve those skills. The Recommendation System then ties everything together by suggesting opportunities that genuinely align with the user's current profile. IntelliHire uses modern full-stack architecture as its technical foundation. The frontend combines React.js technology to create an interactive user interface which enables users to experience seamless operation throughout their session. The backend uses Node.js technology to manage application processes. Data storage occurs through either MongoDB or MySQL systems which operate according to the specific type of data being saved which includes user profiles and job listings and analysis outcomes. The motivation for this research study arises from a basic yet critical fact which shows that students

require more than just job listings. They need a system that understands their current state and their future ambitions the obstacles which separate those two states. The combination of AI and NLP technology with a student centered design approach enables IntelliHire to create an improved placement process which delivers transparent operations and efficient functions and empowering outcomes for users who require assistance.

III. LITERATURE REVIEW

[1] **Khatri et al. (2025)**-- The resume screening system was made by using NLP and ML. Candidates were categorized as

[2] **Patel et al.(2023)**-- Resumes were ranked in job domains using TF-IDF and Random Forest Classifier. Its primary limitation was that the accuracy remained at only 57% because TFIDF failed to capture semantic meaning.

[3] **Desai et al.(2025)**-- Solved the keyword dependency problem of traditional ATS. Achieved better candidate matching through TFIDF similarity. The absence of deep learning models like BERT is a noted limitation.

[4] **Sanyal et al.(2025)**-- It was a lightweight Flask-based system which can parse non-standard resumes too. Fetches live job postings from SerpAPI. Got 88.3% parsing accuracy from 100 resumes.

[5] **Nandi et al.(2025)**— Combined SBERT + RL + Knowledge Graph for India's

Features	Khatri et al. (2025)	Patel et al. (2023)	Desai et al. (2025)	Sanyal et al. (2025)	Satakar et al. (2023)	Bath et al. (2025)	Nandi et al. (2025)	IntelliHire (Proposed)
Technology Used	S-BERT, Cosine Similarity, NLP	TF-IDF, Random Forest, Cosine Similarity	TF-IDF, Cosine Similarity, React.js, Supabase	NLP, Flask, SerpAPI, pdfplumber	LLMs, FAISS, HNSW, Chroma DB	BERT, NER, OCR, Sentence Transformers	SBERT, VADER, RL, Knowledge Graph	AI API, React.js, Node.js, MySQL, Supabase
Resume Parsing	✓	✓	✓	✓	✓	✓	✗	✓
Resume Feedback	✗	✗	✗	✗	✗	✗	✗	✓
Job Recommendation	✗	✗	✓	✓	✗	✗	✓	✓
Skill Gap Detection	✗	✗	✗	✗	✗	✗	✗	✓
Quiz Module	✗	✗	✗	✗	✗	✗	✗	✓
Candidate Ranking	✓	✓	✓	✓	✓	✓	✓	✓
Semantic Matching	✓	✗	✗	✗	✓	✓	✓	✓
Keyword Matching	✗	✓	✓	✓	✗	✗	✗	✗
Multilingual Support	✗	✗	✗	✗	✗	✗	✓	✗
Real Time Job Data	✗	✗	✗	✓	✗	✗	✓	✗
Web Based Interface	✓	✓	✓	✓	✗	✓	✓	✓
Admin Dashboard	✗	✗	✓	✗	✗	✗	✗	✓
Student Centered	✗	✗	✗	✗	✗	✗	Partial	✓
Scanned Resume Support	✗	✗	✗	✗	✗	✓	✗	✗
Emotion Aware	✗	✗	✗	✗	✗	✗	✓	✗
Target Users	Recruiters	Recruiters	Recruiters	Job Seekers	Recruiters	Recruiters	Students & Professionals	Students
Limitations	No skill gap or feedback	Low accuracy 57%, no semantic matching	No deep learning models, small dataset	No ML ranking, depends on third party API	No ranking mechanism, small scale	OCR sensitive to scan quality, needs domain fine tuning	Broad career focus, not placement specific	Static job listings, no multilingual support

Made with Whimsical

Fit, Close Fit and Not Fit using Cosine similarity. Got faster and more consistent results because of manual screening.

counselor shortage problem. Had multilingual support. Got 90.5% Top-3 Hit Rate and 4.71/5 user satisfaction.

Table 1: Comparison of Existing Resume Screening and Career Guidance Systems

IV. PROPOSED SYSTEM

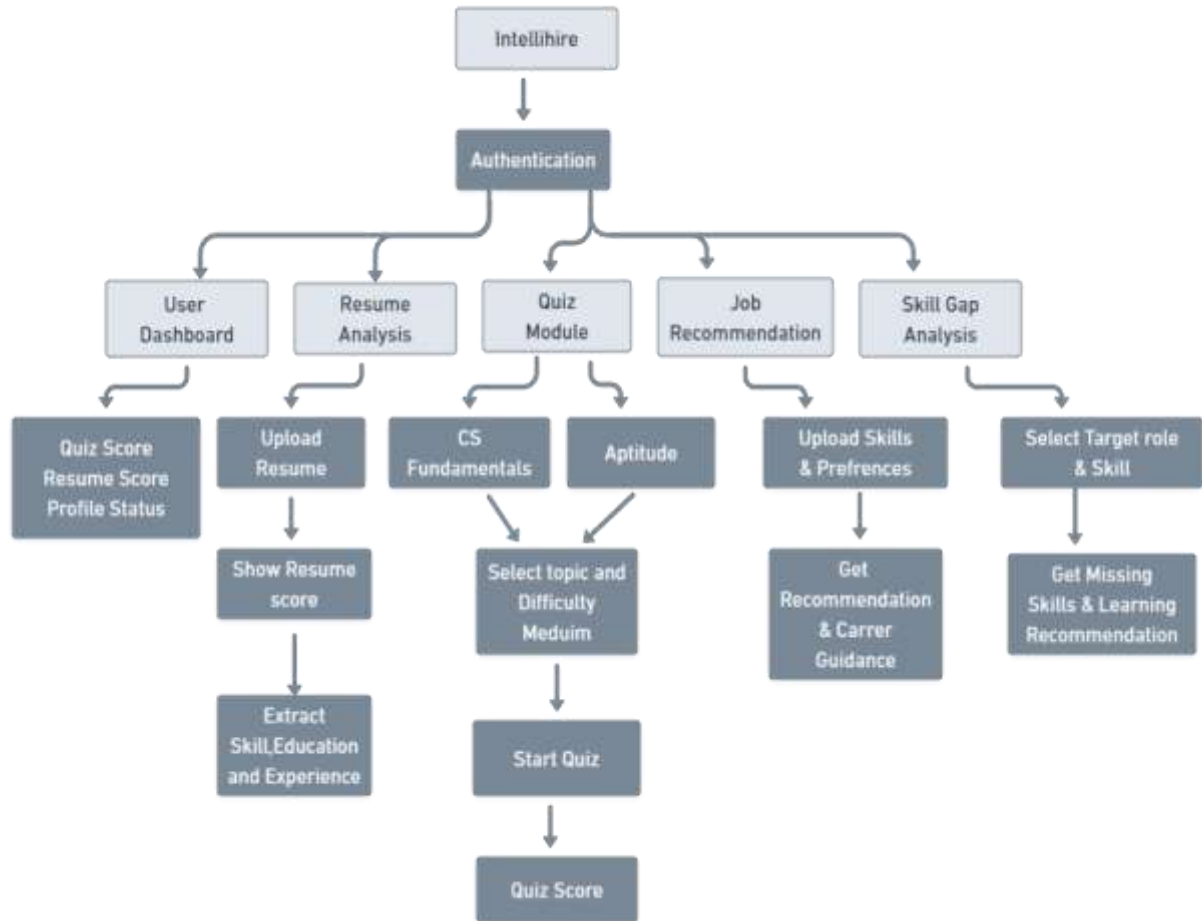
As clearly illustrated in Table 1 above, existing systems are designed primarily for recruiters—not for students. Students are treated merely as passive inputs. IntelliHire bridges this gap by providing resume feedback, skill gap detection, job recommendations, and quiz practice—all within a single student-focused platform.

[1]. System Overview

The recruitment process for student employment has experienced significant changes during the last ten years, but existing student preparation methods remain unchanged. Most platforms provide students with job listings, yet these platforms either lack context for their job openings or operate entirely from a recruiter's viewpoint, which fails to meet

student requirements. IntelliHire was developed to address this gap directly.

Fig 1: System Overview



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[2].System Architecture

IntelliHire uses three different architectural layers to create separate components for its user interface and application logic and data storage functions which work together in a

IntelliHire is a web-based platform that uses artificial intelligence to help students prepare for placements in a more structured and personalized way. The platform operates on an essential principle that students should receive more than basic job opening information. Students must identify their current abilities, their existing barriers, and their necessary actions for improving their job prospects. The system contains features that were created to achieve that specific objective. A student begins the process by submitting their resume for evaluation. The system initiates operations after that point, which involves checking the document through an AI API and creating a detailed student profile that includes their skills and background, which the system uses to generate recommendations and feedback and practice opportunities throughout the platform.

unified system. The development team built the frontend layer by using React.js technology. The team selected this framework because it enables students to experience smoother platform navigation through its interface which updates dynamically without needing to reload entire pages. The interface design enables students to understand its functions without needing to study instructional materials. Node.js operates as the backend layer which processes all application functions. The system processes incoming frontend requests while it connects with the AI API and executes job filtering and skill comparison operations and delivers quiz materials and controls all database operations. The data layer uses MySQL and Supabase as its management system. MySQL stores the core structured data — job listings, quiz questions, skill sets, and user records. Supabase extends this functionality by offering user authentication and real-time data features and REST API support which simplifies secure and efficient backend access for frontend applications.

[3].Core Modules

[3.1] Resume Analyzer

The Resume Analyzer is the first thing a student interacts with on the platform, and in many ways it sets the tone for everything that follows. The AI system processes the uploaded resume through its API which extracts essential details from the document including skills and qualifications and work experience and projects and certifications. The AI API provides resume parsing capabilities which extend beyond conventional systems that require standard templates and keyword dictionaries because it evaluates resume content with contextual understanding to maintain parsing accuracy across diverse formatting and writing approaches. The AI API proceeds to evaluate the entire resume document after it finishes extracting data from the content. The assessment process examines three aspects: the document's organization, the clarity and relevance of its content, and the document's capacity to show the candidate's value to potential employers. The system provides specific, actionable feedback which includes detailed feedback that identifies missing components and suggests better methods of communication. Most students receive their first honest feedback through this process which leads to major changes in how their recruiters view their resume.

[3.2] Job Recommendation System

The job recommendation feature in IntelliHire operates through a different system which does not use algorithmic similarity scoring methods for its functionality. The system operates through a straightforward method which enables users to control the system without using advanced mathematical calculations. The platform database contains job listings which have been assigned specific skills and domains and experience level requirements. The system uses resume data to create a skills profile for students which acts as the foundation for filtering job listings according to their specific preferences which they set through the system interface. The system provides students with practical benefits because it shows them the specific reasons for job recommendations while allowing them to choose their own filtering methods to find nearby positions or upcoming roles they want to achieve. The system helps users maintain comprehension of their current situation because it provides recommendations through methods which Meta systems use to create their system outputs.

[3.3] Skill Gap Detection Modul

The Skill Gap Detection module is probably the feature that offers the most direct and immediate value to students. The way it works is simple — a student selects a job role they are interested in and the system compares the skills required for that role against the skills present in their resume. The system identifies all skills which the job requires yet the candidate lacks based on their resume information. The useful aspect of this system goes beyond its ability to find missing skills because it provides additional functions. For each missing skill the system provides guidance on how to address it which includes relevant courses and certifications and practical activities the student can pursue. The student achieves comprehensive understanding because they learn about their deficiencies and receive a complete plan for their subsequent

actions. The module becomes functional because it provides users with knowledge that they can transform into productive work.

[3.4] Quiz Module

Success in placement tests demands more than a great resume because candidates must succeed in assessment rounds which evaluate their skills and knowledge. Many students underestimate how much preparation these rounds demand until they are already in the middle of placement season which is often too late to build the kind of fluency that comes from consistent practice. The Quiz Module gives students a dedicated space within IntelliHire to work on this side of their preparation. The current system tests two areas which employers most commonly evaluate during campus recruitment. The first area involves Aptitude which tests candidates through quantitative reasoning and logical thinking and verbal ability questions which companies use during initial screening processes. The second area consists of Data Structures and Algorithms which serves as the fundamental component for technical interviews throughout the software industry and requires candidates to undergo extensive specialized training until they achieve expert performance. The three difficulty levels of each category include Easy and Medium and Hard. Students choose where to start based on where they are in their preparation. The Easy level works best for someone who wants to learn about a topic while someone preparing for placement exams should use the Hard level to test their knowledge. The ability to choose difficulty is important because students come to the platform at very different stages and a rigid one-level system would fail to serve most of them well. The Quiz Module establishes a direct connection to the Skill Gap Detection feature through its integrated functionality. The system enables students to practice their weak skills through the quiz section which they can access directly from the platform without needing to find additional resources.

[3.5] Admin Dashboard

The Admin Dashboard provides administrators with the tools they need to keep the platform current and well maintained. The interface allows admins to create and modify job listings while they control quiz questions which span different category and difficulty levels and manage user accounts. The system provides essential information which shows student platform usage patterns by displaying which skills they most frequently identify as deficiencies and which job sectors they find most appealing and their academic performance across different quiz difficulty levels. The institutions can use this type of data to track student learning needs which will help them develop better training programs for their students.

[3.6] System Workflow

A student's journey through IntelliHire follows a natural and logical progression. The platform interface allows users to start their process by creating an account and submitting their resume. The backend system first receives the file before it sends the file to the AI API for analysis. The system stores the resulting data in the database as the student's profile information. Students can use their extracted skills and personal preferences to find job recommendations which they can evaluate through position selection. Students use the

system to explore job openings based on their extracted skills and personal preferences while selecting specific positions to view their skill gap report. They can read through the resume feedback generated by the AI and make improvements before applying anywhere. The Quiz Module provides assessment practice which users select by choosing their preferred category and difficulty level before they begin answering questions. The platform provides continuous support to students throughout all stages of their learning process which they will use multiple times as they develop new skills and achieve different objectives.

V. Methodology

[1] .Overview

The methodology of IntelliHire is built around making placement preparation more effective because it helps students better prepare for their future job opportunities. The project needs a practical solution which uses an advanced AI API to solve its most difficult resume analysis problems while creating a reliable and expandable system to handle its remaining functions.

[2]. Data Collection and Organization

The platform relies on two main categories of data. The team gathered job postings through manual collection methods and then they assigned tags to each job entry which included skills and job domain and experience level and needed qualifications. The system uses structured tagging to enable filtering and skill gap detection functions which operate without requiring complex matching algorithms to function. The team selected quiz material from established resources that prepare students for standard placement tests. The team conducted question evaluation through topic area classification which led to three difficulty level assignments before questions were stored in the database. The team established difficulty distribution through three question levels which include Easy questions that test basic concepts and Medium questions which require students to solve problems using their knowledge of basic concepts and Hard questions which simulate actual placement exam challenges. User data which contains resume uploads and profile data and quiz results gets securely stored in MySQL through Supabase which also manages user authentication and session control.

[3] Resume Analysis

Using AI API IntelliHire uses its resume analysis process as its main technical component. The backend system reads the resume file which students upload and it sends the file content to an AI API through a structured prompt that defines the system requirements. The system needs to produce a complete view of the candidate's skills educational background work experience and projects which includes details about resume quality along with specific recommendations for improvement. The AI API processes this request and the backend system parses the structured response which it stores in the database. The use of an AI API here is a deliberate choice. Different section headings and uncommon layouts and various methods of skill description create a challenge for traditional resume parsers because resumes use different section headings and uncommon

layouts and various methods of skill description. The AI API manages this variability because it understands language contextually instead of using fixed patterns for matching. The extraction process creates results which maintain their accuracy and dependability through all the various resume formats that real students produce.

[4] Job Filtering Logic

IntelliHire generates job recommendations through a basic filtering method which does not use any matching system based on probabilities. The database contains job listings which include specific skill requirements that need to be fulfilled. The system displays job listings to students who request recommendations when their required skills match the skills which the system extracted from their profiles. Students can further refine these results by adjusting category or skill filters through the interface. The recommendation process maintains transparency because students control their viewing options, which benefits students who develop skills through their current studies and wish to discover future career possibilities..

[5]. Skill Gap Detection Process

The detection process for skill gaps uses direct comparison between different methods. The system retrieves required skills from the database when a student selects a target job role. The system compares the retrieved skills with the skills which have been extracted from the student's resume. The system presents missing skills which exist in job requirements but do not appear in the student profile through a visible interface element. The system provides users with practical solutions needed to resolve each identified gap. The solution may involve a recommended online course or a certification which the student should pursue or a specific project they need to build which demonstrates their skill. The entire process aims to provide students with immediate tasks which they can execute instead of presenting them with a list of deficiencies.

[6] Quiz Delivery and Scoring

The quiz delivery process functions in a simple manner. The system retrieves matching questions from the database when a student selects their desired category and difficulty level, which then displays the questions to the student through the quiz interface one question at a time. The system tracks student answers during the test and generates a performance summary at the test completion, which displays the total score, number of correct responses, number of incorrect responses, number of incorrect responses, and all patterns of errors made by the student. The system creates performance records which link to each student profile and continue to accumulate data from each subsequent testing session. Through their improvement history, students can monitor their progress while discovering their most challenging subjects which require additional study time.

VI. Implementation

[1]. Overview

The IntelliHire system development used a modular approach which built and tested each feature before merging it into the entire system. The system design enabled better control over complex systems while enabling early detection of problems. The following sections explain the implementation process which shows how the main components function together using application screenshots to demonstrate user interaction.

[2]. Frontend

The frontend was built using React.js with a component based structure that made it straightforward to build and maintain each section of the interface independently. The design presents content through clear elements which users can navigate without difficulty because important actions appear on screens without extra searching. The interface provides complete responsiveness which ensures reliable operation on both desktop and mobile devices .

[3]. Backend

The backend was developed in Node.js and handles all server-side processing. The system handles resume uploads while it creates and sends requests to the AI API and processes received responses and executes job filtering requests and delivers quiz materials and controls all database operations. The system presents its endpoints through organized structures which use error management to detect unsupported file types and malformed inputs and display helpful user messages.

[4]. AI API Integration

The implementation process reached its most difficult stage when developers had to integrate the AI API into the system. The backend system extracts text content from uploaded resumes to create a prompt which informs the AI about its required extraction tasks and assessment duties. The prompt underwent multiple testing cycles to achieve its final form which produced structured and accurate outputs that maintained their value across different resume formats and styles. The backend system interprets the API response which then gets stored in the database while serving as the basis for creating the student's profile throughout the entire platform.

[5]. Database

The system utilized MySQL to keep all organized data which included job listings and quiz questions and skill sets and user records. Supabase was built on top of the system to deliver authentication services and real-time functions and REST API capabilities. The database schema was designed with future growth in mind tables are normalized appropriately, and the structure allows for new job categories, quiz topics, and skill entries to be added without requiring changes to the core schema.

[6] Quiz Module

The platform includes a complete Quiz Module which operates as an independent section. The database system stores questions in organized categories which allow the quiz engine to select questions according to student needs. The system shows users one question at a time through a structured interface which tracks their answers and produces a summary of results after they finish the session. Students can access their performance records through their profile which allows them to monitor their preparation progress.

VII. Results

[1] Overview

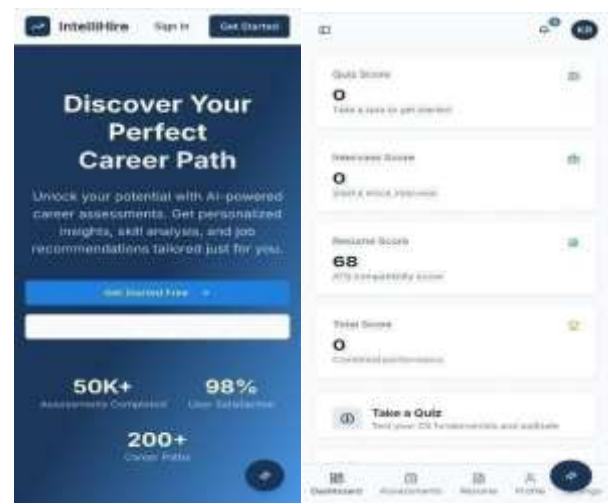


Fig 2: Main page

Fig 3: User Dashboard

The researchers examined IntelliHire's performance as a placement preparation system by testing the software with actual resumes to measure five essential aspects which included resume parsing accuracy and job recommendation relevance and skill gap detection accuracy and quiz functionality and overall user experience. The platform evaluation involved student participation who conducted their testing under actual operational circumstances while they evaluated the performance of each platform component and assessed its overall value to them. The results showed positive outcomes in all tested areas, but the findings also revealed specific points which need further system development work. The section presents evaluation results from different assessment categories which reveal their significance for assessing IntelliHire's accomplishment of its main objectives.

[2]Resume Parsing Accuracy

The system required accurate implementation of resume parsing because all platform functions depend on extracted data from uploaded resumes. The testing process involved uploading actual resumes which had different formats and lengths and layouts and writing styles to test the AI API's ability to extract necessary information from these documents. The results showed strong performance across all areas. The AI API succeeded in identifying and extracting main resume components which included skills and educational qualifications and work experience and projects

and certifications in most cases. The system successfully handled different section heading formats and unconventional document layouts because AI API technology proved better than traditional rule-based parsing methods for this project requirement. The system extracted data from resumes with standard layouts at better than 90 percent precision while it faced difficulty extracting data from resumes which contained unique design elements and extensive table and graphic use and limited textual information. The results showed that AI API technology works well but its output quality depends on how well users structure their input documents. The system requires students with poorly formatted resumes to clean their documents before analysis because this process functions as a valuable feedback mechanism.

[3]. Job Recommendation Relevance

The job recommendation feature was evaluated by asking students to upload their resumes and review the system's recommendations and rate the recommendations based on their actual skills and career interests. The feedback here was generally positive. The majority of students believed that the displayed job opportunities matched their abilities and the filtering system provided them sufficient control to adjust the results according to their needs. Students appreciated the recommendation method because it allowed them to see which skills influenced their job suggestions, which helped them comprehend how the system functioned beyond receiving unexplainable job recommendations. Some students observed that the recommendations tended to be too wide-ranging because many job categories required applicants who possessed only general abilities. The platform needs advanced matching systems to replace its current filtering method because this method creates inherent boundaries that restrict its capabilities.

[4] Skill Gap Detection Accuracy

The testing showed that skill gap detection feature received positive feedback from all users who tested it. The students found the system simple to operate because they could choose their desired job position and immediately receive a detailed list of their required competencies which most students considered helpful and surprising. The gap detection system's accuracy depended on how well the resume parsing functioned. The gap comparison showed accurate results when AI API successfully extracted student skills because the comparison became complete and valid. The students confirmed that system missing skills they needed to develop were actual skills which they had not yet mastered. The students found system gaps which system displayed to them helped them understand their upcoming study needs more effectively. The users responded positively to the practical suggestions that came with each gap identification. The students received specific instructions to help them bridge their knowledge gaps which they found more valuable than simple gap explanations. The feature showed its value to users because it functioned as a preparation tool which helped users prepare for upcoming work.

[5]. Quiz Functionality

The testing of the Quiz Module occurred in both Aptitude and DSA categories using three different difficulty levels. The

main objectives of this study were to assess question suitability for different difficulty levels and to evaluate interface usability and to determine if practice sessions helped students prepare for their exams. The results confirmed all three evaluation points which were investigated. The students considered the difficulty progression to be effective because they could handle Easy questions which were designed for beginner students and they could tackle Medium questions which created appropriate difficulties and they could manage Hard questions which contained the typical challenges found in placement tests. The students reported that the interface functioned properly because they found it easy to navigate and they experienced better preparation through the quiz system which operated on the same platform that they used for their resume and job search activities. The testing showed that students who experienced the Skill Gap Detection feature first used the quiz more effectively because they understood their strengths and weaknesses and they could select specific quiz categories instead of needing to practice all content areas.

The two modules showed value through their integration which demonstrated that making the link between them more obvious through interface design changes would enhance student satisfaction. Students had to evaluate their complete experience with the platform because it required them to assess three specific areas: navigation difficulties, overall system value, and their intended usage during placement preparation. The responses were largely positive. Students appreciated that the platform brought several important preparation tools together in one place — resume analysis, job discovery, skill gap identification, and assessment practice — without requiring them to jump between different websites and resources. The interface provided a straightforward design which users found easy to navigate. Users found the AI-generated resume feedback to be more valuable than standard career website advice because it delivered customized recommendations which matched their needs. Students showed interest in future job listings when they asked for more positions to be included on the platform. Students wanted to see two specific functions implemented: application tracking and alerts for new job openings that matched their profile. These are reasonable suggestions that point toward natural directions for future development.

[6] Discussion

The evaluation results demonstrate that IntelliHire achieves its primary goal which offers students an organized and customized placement preparation program. The implementation of an AI API for resume parsing demonstrated successful results because it provided correct and context-based resume data extraction from different real-world resume types which confirmed that the system design should use this function instead of building a unique NLP system. The detection of skill gaps together with job recommendation functionality operated efficiently because students identified these features as valuable tools which assisted them in their study process through practical use. The Quiz Module created a crucial new function for the platform because it supplied assessment preparation features which most similar tools do not support. The evaluation process discovered multiple system strengths while showing specific areas which need improvement. The job recommendation

system requires advanced matching and filtering capabilities because of its growing listing database. The resume parsing system performs well under normal conditions but it encounters difficulties when handling documents with non-standard formatting. The platform would achieve greater usefulness through its expanded job listing database which needs regular updates from companies. The existing limitations do not constitute essential flaws because they function as initial points which lead to further development work. IntelliHire builds a solid foundation which receives positive validation from student testers during testing because the platform needs additional development work to reach its objective of changing student learning methods.

VIII. Conclusion

Students face their most difficult and unpredictable challenge during the placement process which they experience throughout their entire academic career. Students approach placement season with insufficient preparation because they lack understanding of how recruiters perceive their resumes and which jobs suit their qualifications and they have not developed a plan to bridge their current skills with necessary skills. IntelliHire was built as a direct response to this problem. This research work introduced IntelliHire which functions as an AI-powered web-based platform that provides placement and career support to students.

The system includes multiple elements which function together as one unified system that helps students through all aspects of their placement process from initial preparation to final placement. The core contribution of this work lies in how these features are connected and oriented. The IntelliHire system empowers students through automated recruitment tools which provide them with accurate resume evaluations and information about employer requirements and identification of their skill gaps and practice opportunities for placement assessment preparation. Each feature was built with the intention of being not just informative but actionable, because knowing what the problem is and knowing what to do about it are two very different things. The AI API implementation for resume parsing emerged as a fundamental technical choice which significantly influenced project outcomes. The system could process real-world data because of its ability to manage natural variations in different scenarios.

The evaluation conducted with student users confirmed that the platform works well in practice across its core features. The platform delivered accurate resume parsing results which supported numerous real resume formats while skill gap identification proved to be both accurate and useful for practical application. The platform provided job recommendations which showed relevant results and clear explanation to users. The quiz content showed appropriate level of difficulty for assessment purposes while users found the platform to be structured and simple to navigate and it provided effective support for their placement test preparation. Students found that having all these tools available in one location helped them prepare for exams by providing them with better focus than when they needed to use different unconnected resources.

The work establishes IntelliHire as the first version of a system which has potential to become a greater operational

platform. The job recommendation feature currently works through category and skill-based filtering which is effective yet needs semantic matching and personalized ranking logic to achieve better accuracy. The resume parsing system performs well overall but it has difficulty handling documents which contain highly unusual formatting. The platform will expand its useful features when the job listing database grows to include more actual market positions which students will encounter in their upcoming job searches.

The platform offers multiple ways to expand its functionality through different development paths. The platform will deliver better job recommendation results through transformer-based semantic matching which will enhance both match quality and result customization to user needs. The platform will become more usable through its new capability to handle multiple languages in student resumes. The system will create an adaptive dimension through its feedback loop which uses student interactions to enhance system recommendations over time.

IX. Future Scope

The current version of IntelliHire provides a dependable base for development yet shows significant potential for future improvements. The two specific directions that show most potential need further investigation.

[1] Semantic Job Matching

The job recommendation system currently functions through filtering based on skills and categories yet its accuracy needs improvement through better precision methods. The system will gain better understanding of student profiles through the implementation of semantic matching with transformer-based models that use Sentence BERT whereas the system now matches student profiles through keyword-based matching which results in generic recommendations.

[2]. Personalized Learning Paths

The system will direct students to their missing skills through its skill gap detection module yet it will not provide them with exact instructions for structured skill development. The platform will transform into a complete development roadmap when it connects to Coursera and Udemy learning resources while creating personalized learning paths that address each identified skill deficit.

[3] Adaptive Quiz System

The quiz module currently covers Aptitude and DSA at three fixed difficulty levels. The implementation of an adaptive difficulty system will improve practice sessions through its real-time adjustment of question difficulty according to student performance which creates an authentic testing experience. The expansion of the question bank to include more subjects such as verbal reasoning computer science fundamentals and system design will provide essential resources for students who need to prepare for various types of companies.

X. REFERENCES

- [1]. Harsh Koshti , Prathamesh Gosavi , Roshan Pagar ,Prathamesh Khairnar and Sopan Talekar ,AI-Powered Interview Preparation System: Integrating Resume Analysis, HR Simulation, and Technical Skill Assessment ,Journal of Engineering Research and Reports ,ISSN: 2582-2926,2025.
- [2].Vernika Khatri, Vikas Kumar, Kapil Thakur, Vikash Kumar, Tanisha, Vani, Rishav Yadav ,AI-Powered Automated Resume Screening and Job Matching System Using NLP and Machine Learning, International Journal of Research in Engineering, Science and Management , Issue 10, October 2025.
- [3]. Mehul Patel, Savio Rodricks, Samuel Emmatty, Aaron Pereira ,Resume Screening using Machine Learning, International Journal of Scientific Research in Engineering and Management, ISSN: 2582-3930 , Issue: 08 | August - 2023 .
- [4]. X. Li and X. Shen, “Resume ranking and classification based on SBERT,” in Proc. Int. Conf. Comput., Inf. Telecommun. Syst. (CITS), 2021.
- [5]. J. Liu, R. Zhang, W. Yang, and R. Guan, “A semantic similarity-based resume screening system,” J. Intell. Fuzzy Syst., vol. 40, no. 1, pp. 787 797, 2021.
- [6].Y. Kang and J. Lee, “Resume analysis for job matchmaking using word embedding and ranking algorithm,” in Proc. Int. Conf. Artif. Intell. Inf. Commun. (ICAIC), 2020.
- [7].V.V Dixit, Trisha Patel, Nidhi Deshpande, Kamini Sonawane, “Resume Sorting using Artificial Intelligence”. International Journal of Research in Engineering Science and Management , Issue-4, April 2019 .



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