

# Career Navigation and Resume Evaluation with Automation Using Deep Learning

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**Abstract** - Selecting a profession and crafting resumes is a crucial and challenging undertaking. Many job seekers do not get adequate advice on choosing the right career paths and find it difficult to create resumes that represent them effectively. This paper introduces Career Navigation and Resume Assessment with Automation to address this problem, assisting job seekers in crafting professional resumes, evaluating their resumes, and offering suggestions for appropriate career paths. To achieve this, essential information is gathered from job seekers, including education, skills, projects, and experience, via organized inputs. Automation is utilized to conduct analysis on resumes to verify their compatibility with job positions. As a result, job roles and career guidance are offered to job seekers to inform them of their abilities and constraints. This initiative is a crucial resource for those seeking employment, as it would streamline the process of choosing careers and enhance the attractiveness of job seekers to prospective employers.

## 1. INTRODUCTION

In these days of intense competition in the work environment, choosing a right and effective career and preparing an ideal resume is the key to a smooth and prosperous career in a respective field. Unfortunately, students and newly recruited individuals face an issue in finding related careers, whereas resumes also majorly lack industry requirements and thus face the chances of rejection. The Career Navigation and Resume Evaluation with Automation system will help in overcoming these issues through an automated platform for resume generation, analysis, and career guidance. The proposed system will assist in structuring a resume, evaluating their profile, and providing appropriate suggestions for a career or job role.

### 1.1 Resume Analysis and Navigator

In this phase, the resume, which is created or uploaded, is analysed. The necessary parameters, such as skills, level of education, and experience, are determined. The system matches the created profile and job roles, giving the user career suggestions. Recommendations for skill and resume enhancement are made.

### 1.2 Resume Builder Module

The Resume Builder module enables the gathering of information for users, such as their personal information, education, skills, certifications, projects, and experiences. Using pre-designed templates, the system generates a neat and clean resume format.

### 1.3 Objectives

- To help students and individuals looking for employment in selecting a career according to their skills and qualifications.
- To automate the process for creation and assessment of resumes through structured inputs.
- Analysing resumes in order identifying key characteristics such as skills, education, and experience.
- To apply the user profiles to suitable vacancies.
- To offer career guidance and recommendations on enhancing resumes.
- Facilitate reduced manpower effort for career guidance and screening of resumes.

### 1.4 Existing System

Presently, the system in place for career guidance and resume screening is mostly manual, relying on career advisors, job portals, and simple resume templates. Job seekers usually write resumes without any rigorous screening for layout, key terms, and matching resumes with corresponding job roles. Presently, most systems are essentially for job searching, not for resume quality and appropriateness for a career.

While virtual platforms make it easy to get exposure to various types of job offers, they lack adept resume analysis capabilities and do not make available in-depth career counselling support. Hence, there are instances where applicants continue to apply for inappropriate jobs or for resumes that do not match industry standards.

Examples of existing systems are LinkedIn, Naukri, Indeed and Monster, which are primarily offering job search

facilities but are not offering complete automation for resume analysis and guiding for a career.

### 1.5 Drawbacks of Existing System

- Resume screening is highly manual and time-consuming.
- The website does not have personalized career guidance based on the user's skills.
- Job portals basically work on the posting of jobs rather than the quality of the resume.
- Users get no or very little response to improve the resume.
- Difficult for freshers to identify suitable job roles.
- Inconsistent scoring because of human subjectivity and differences in standards.

### 1.6 Proposed System

The proposed system for Career Navigation and Resume Evaluation with Automation offers an automated method for resume evaluation and career solutions. The proposed system requires user information in terms of education, skills, projects, and experience from the user through a user interface. The uploaded or generated resume is assessed for extraction of key data.

The resume evaluation module evaluates the resume on quality and completeness. On the basis of extracted features, the job matching module recommends possible job roles or paths. The resume builder module produces a formatted resume in PDF form.

The design provides for scalability and adaptability. The above-mentioned system assists users in taking proper career-related decisions and enhancing their employability.

### 1.7 Advantages of Proposed System

- **Automated Resume Evaluation:** Reduces manual effort and improves accuracy.
- **Career Guidance:** Suggests suitable job roles based on user profiles.
- **Resume Builder:** Generates professional and structured resumes.
- **Time Efficient:** Speeds up resume screening and career analysis.
- **User Friendly:** Simple interface for students and freshers.
- **Scalable Architecture:** Allows future enhancements and data expansion.
- **Skill Gap Identification:** Highlights missing skills for career growth.

## 2. SYSTEM ARCHITECTURE - CANDIDATE PORTAL

The proposed Career Navigation and Resume Evaluation with Automation system have a modular design. Each module in the proposed system has been designed to accomplish a single task and functions together in automating the resume generation and evaluation process.

The system consists of the following components:

- User Interface**
- Resume Builder**
- Resume Parsing and Feature Extraction**
- Resume Evaluation Engine**
- Job Matching and Career Recommendation Module**

Each of the components works in tandem with the others in order to automate the process of resume assessment and career guidance.

Further, the system has a modular structure that makes it easy to maintain as well as develop in the future. This is due to the ability to introduce any new job types, skill categories, or assessment rules without interfering with the pre-existing modules. This will increase the malleability of the system.

Table -1: System Components Description

Module	Description
Resume Builder	Generates structured and professional resumes
Resume Evaluation	Analyzes resume quality and completeness
Job Matching	Matches user skills with suitable job roles
Career Guidance	Suggests appropriate career paths

### 2.1 User Interface

The user interface is used for the entry of personal information such as education, skills, projects, and experience. The interface also allows the user to upload an existing resume or create a new resume using the resume builder module. The interface is designed to facilitate easy interaction between the user and the system.

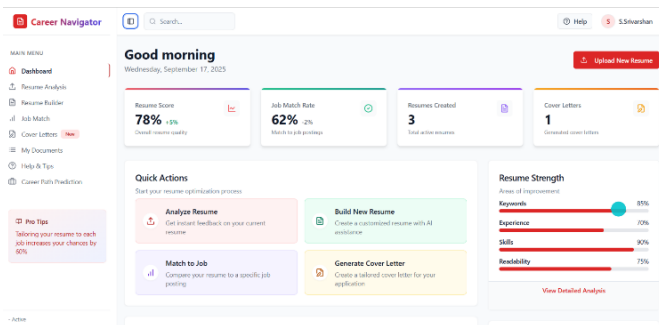


Fig -1: Career Navigator Dashboard

## 2.2 Resume Parsing and Evaluation Module

This module processes the uploaded or generated resume by extracting key information such as skills, education, certifications, and experience. The extracted data is analysed to evaluate the completeness and relevance of the resume content. The evaluation helps identify strengths and missing components in the resume.

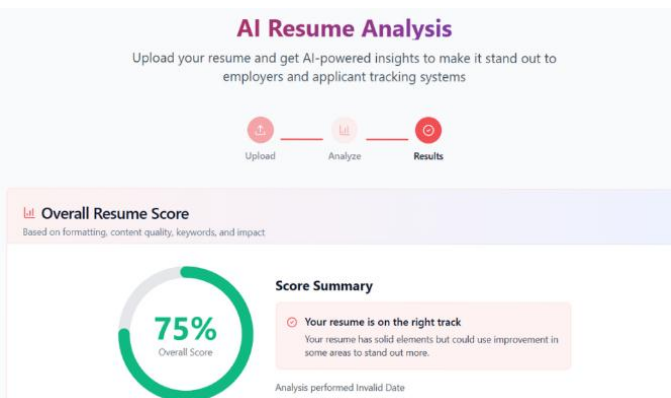


Fig -2: Result of Resume Evaluation

## 2.3 Feature Extraction Module

The extracted resume data is converted into structured features. Important attributes like technical skills, experience level, and educational background are identified and organized for further processing. This step enables accurate comparison with job role requirements.

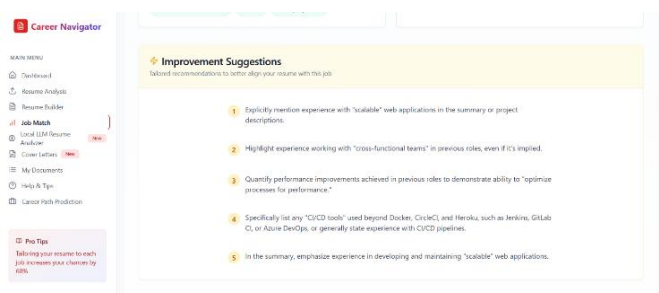


Fig -3: Improvements Suggestions figure

## 2.4 Job Matching Module

The job matching module compares the user's profile features with predefined job role descriptions stored in the system. Based on similarity and relevance, suitable job roles are identified and ranked. This helps users understand which career options best match their profiles.

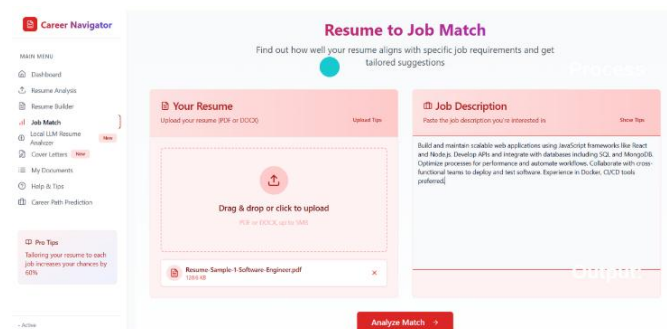


Fig -4: Job Match Analysis

## 2.5 Resume Builder Module

The resume builder module generates a professional and standardized resume format using user-provided details. It ensures proper structure, readability, and consistency. Users can download the generated resume for job application.

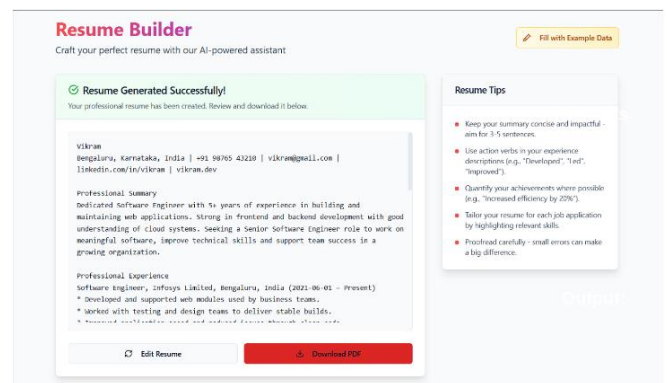


Fig -5: Resume Builder

## 2.6 Career Recommendation Module

Based on resume evaluation and job matching results, this module provides career guidance and recommendations. It suggests suitable career paths and highlights skill improvements required to achieve desired roles.

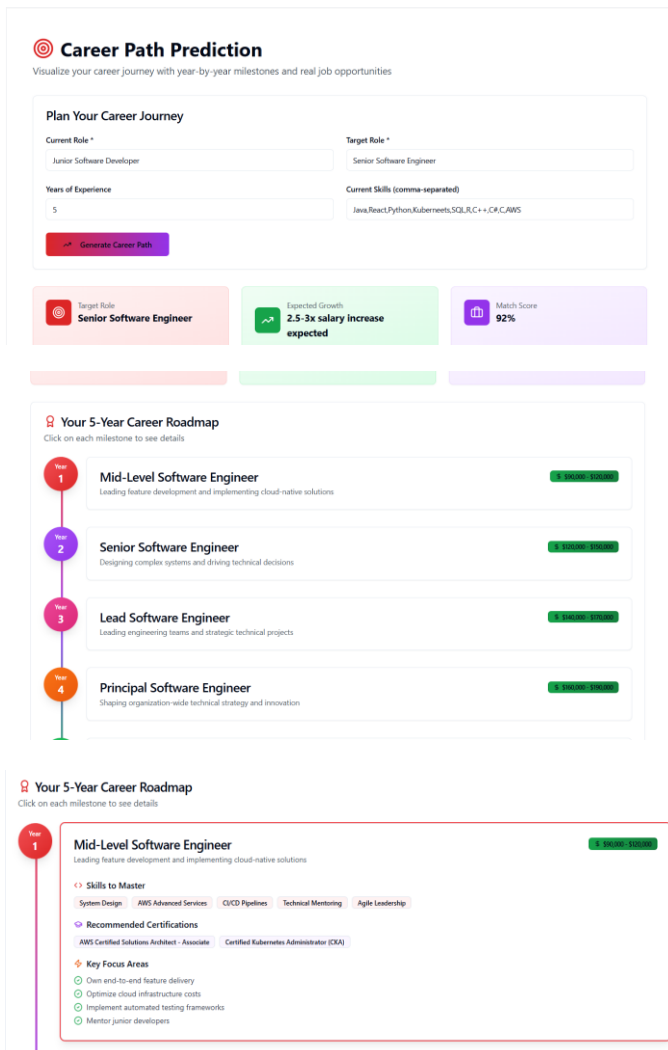


Fig-6: Career Path Prediction

### 2.7 Cover Letter Module

The Cover Letter module allows users to create personalized cover letters for job applications based on the extracted resume information and chosen job roles. The module provides three different modes of generation depending on the application scenario:

- **Professional Mode:** This mode helps to create a formal and traditional cover letter that can be used for corporate and technical job roles.
- **Modern Mode:** This mode assists in creating a contemporary and concise cover letter with a balanced professional tone.
- **Creative Mode:** This mode helps to create an expressive and engaging cover letter that can be used for creative or non-traditional job roles.

The users can choose a resume file, pick the desired template type, and create a personalized cover letter accordingly.

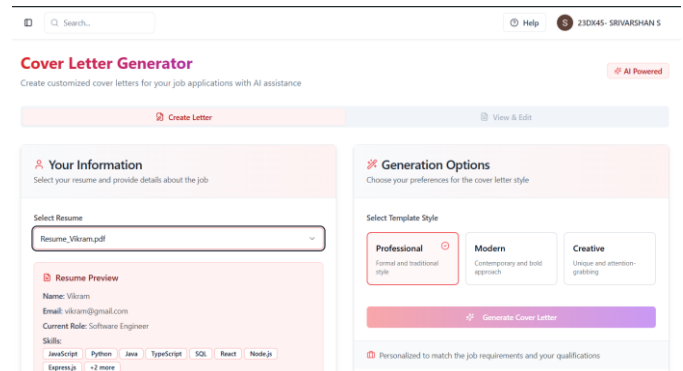


Fig-7: Cover Letter Generation Interface

### 2.8 Application Tracker Module

The Application Tracker module enables candidates to track and manage all their applications for various jobs in one location. The module gives candidates an overview of their application status, including the total number of applications, jobs applied for, stages of interviews, and offers received.

Candidates can create new applications, change the status of applications, and track the progress of applications using list view, calendar view, or statistics view.

The Application Tracker module enables candidates to plan their job search effectively and prevents them from missing critical recruitment stages.

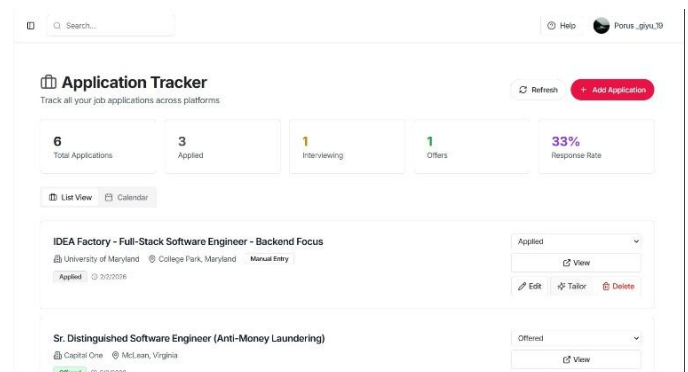


Fig -8: Application Tracker Dashboard

### 2.9 AI Mock Interview Module

The AI Mock Interview module is a platform that offers candidates an interactive environment to practice their interviews. The module enables candidates to select the type of interview they want to conduct to enhance their skills.

The Practice Mode provides immediate feedback and suggestions for improvement to enable candidates to know

their areas of strength and weakness. The Real Interview Mode provides a real-life interview setting where candidates receive no hints or corrections.

The module enables candidates to enhance their communication skills and prepare for job interviews.

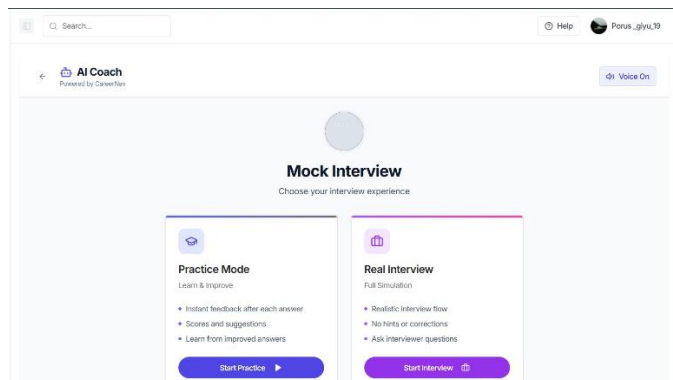


Fig -9: AI Mock Interview Interface

### 3. SYSTEM ARCHITECTURE - RECRUITER PORTAL

The Recruiter Portal is intended to assist recruiters in posting job vacancies, searching appropriate candidates, assessing job applications, and analyzing recruitment performance. The Recruiter Portal is integrated with the Candidate Portal to facilitate an efficient and automated recruitment process.

The Recruiter Portal is built using a modular design, in which each module is intended to handle a specific recruitment task. This design enhances scalability and enables new recruitment policies, job types, or assessment criteria to be incorporated without impacting the other modules.

The system consists of the following components:

- Recruiter Dashboard
- Job Posting and Management Module
- Application and Candidate Search Module
- Candidate Evaluation and Ranking Module
- Recruitment Analytics Module

Each component works together to simplify recruitment operations and improve hiring accuracy.

Table -2: Recruiter Portal Components Description

Module	Description
Recruiter Dashboard	Displays job and application overview
Job Posting	Creates and manages job listings

Candidate Search	Searches and filters candidate resumes
Candidate Evaluation	Ranks candidates based on job relevance
Recruitment Analytics	Provides hiring performance insights

### 3.1 Recruiter Dashboard

The Recruiter Dashboard is a system feature that gives a recruitment activity summary. The system shows important information like the number of active jobs, total applications, pending reviews, and total job views. The recruiter can easily monitor recent applications and job posting updates using the dashboard.

The Recruiter Dashboard allows recruiters to monitor recruitment progress and act accordingly.

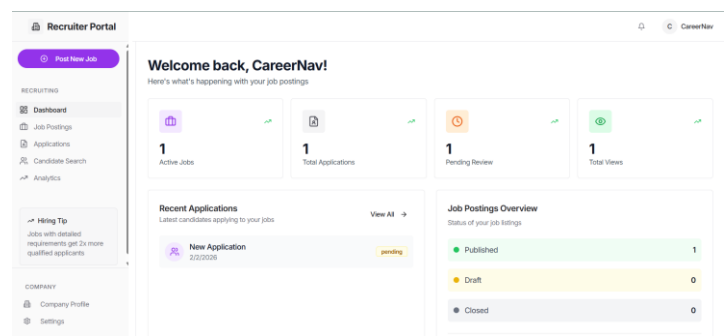


Fig -10: Recruiter Dashboard

### 3.2 Job Posting and Management Module

This module enables recruiters to create, publish, edit, and manage job postings. Recruiters can specify job title, location, employment type, and experience level. The module also displays applicant count and job view statistics for each posting.

This module assists recruiters to manage multiple job roles and track application flow effectively.

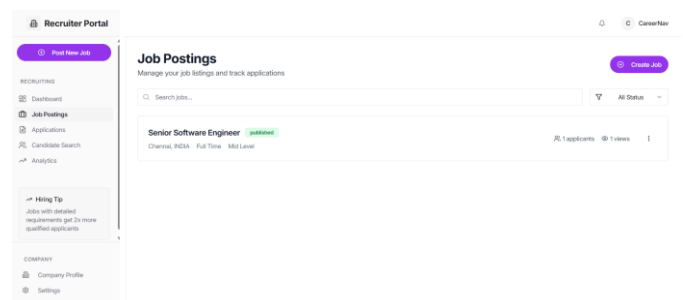


Fig -11: Job Postings Management Screen

### 3.3 Candidate Search Module

The Candidate Search module enables recruiters to search candidate resumes using semantic intent search and skill-based filters. Recruiters can enter job requirements or keywords to identify suitable candidates. The system supports advanced filtering to improve search accuracy.

This module reduces manual resume screening and speeds up candidate discovery.

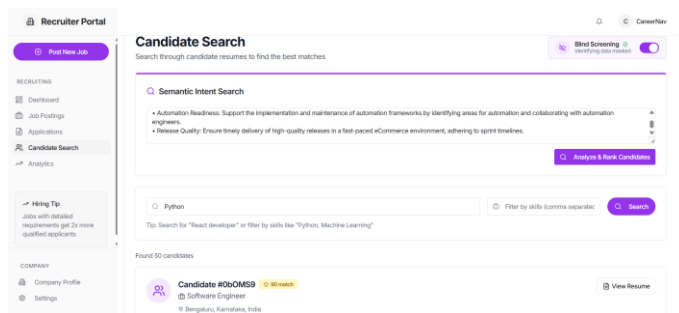


Fig -12: Candidate Search and Resume Matching

### 3.4 Applications Management Module

This module enables recruiters to review and manage applications submitted by candidates for various job postings. It displays applicant details such as candidate name, applied job role, and application status.

Recruiters can view the candidate’s resume and perform actions such as shortlisting or rejecting applications based on job suitability. This module simplifies application handling and supports efficient recruitment decisions.

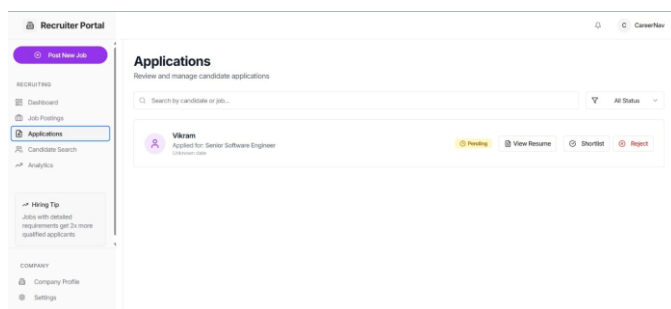


Fig -13: Applications Management Interface

### 3.5 Recruitment Analytics Module

The recruitment analytics module provides insights into hiring performance, including total applications, candidates hired, and average applications per job. It also displays application trends over time to help recruiters analyse recruitment effectiveness.

These insights assist recruiters in optimizing hiring strategies and improving job posting performance.

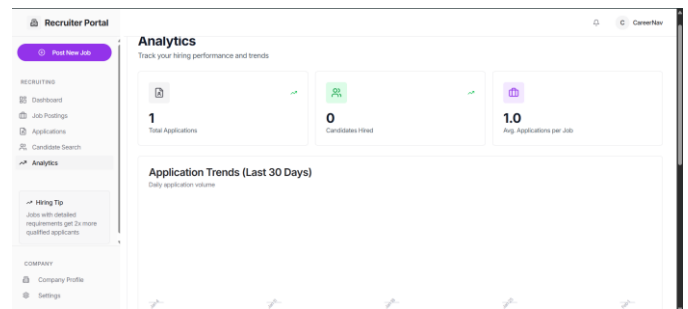


Fig -14: Recruitment Analytics Dashboard

## 4. SYSTEM WORKFLOW



Fig -15: System Workflow Diagram

Figure 15 above explains the complete working of Career Navigation and Resume Evaluation with Automation in terms of steps. It begins when the individual inserts his or her personal information or resumes through the user interface. A parsing procedure is used to pull out vital information from resumes like skills, experiences, and educational background. A resume evaluation module is used to determine whether it is an ideal resume or not. Jobs are selected accordingly through job matching and career recommendation modules. A final procedure includes

generating an optimized resume in PDF form using Resume Builder.

## 5. CONCLUSION

The system for **Career Navigation and Resume Evaluation with Automation** offers a very useful solution for supporting the process of assisting students and job-seekers in the process of career navigation. Through automation of the task of generating and evaluating resumes, the system helps the user discover the strengths of the user as well as identify appropriate job positions. The idea will decrease the burden of assisting in the process of career navigation. Future improvements may include the use of larger datasets for the task of recommending jobs.

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