



Smart Resume Builder and Evaluation System

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ABSTRACT

Today's fast-paced hiring environment needs effective tools for sorting and managing resumes. This project introduces the "Smart Resume Builder and Evaluation System," an automated platform that makes it easier for candidates to create and improve their resumes while helping recruiters quickly identify top candidates. Candidates can build and download professional resumes directly through the platform, which then uses rule-based Natural Language Processing (NLP) to evaluate the resume based on specific criteria. Each resume receives a score and helpful suggestions for improvement, giving candidates a way to strengthen their applications. For recruiters, the system automatically highlights the top five resumes, making it easier to find qualified candidates efficiently. Overall, this project aims to streamline the hiring process, saving time for both candidates and recruiters and helping match the right candidates to the right jobs.

Keywords: Resume Builder, Resume Evaluation Based On NLP, Resume Scoring, Candidate Selection.

1 Introduction

In today's competitive job market, job seekers are presented with a wealth of resources to create effective resumes that stand out. However, with countless applications flooding recruiters' desks, it becomes increasingly difficult for candidates to ensure their resumes make an impact. Research indicates that candidates often struggle to effectively communicate their skills and experiences in a way that resonates with hiring managers. To address this challenge, the "Smart Resume Builder and Evaluation System" offers an innovative platform designed to streamline the resume creation and evaluation process. This system allows candidates to construct professional-quality resumes while leveraging Natural Language Processing (NLP) techniques to evaluate their content against industry standards. By providing scores and actionable feedback, candidates can enhance their resumes to better align with job requirements, increasing their chances of success in the application process. Furthermore, the system simplifies the recruiter's task by automatically identifying the top five resumes from a pool of applicants, enabling faster and more accurate selection of qualified candidates. By integrating resume building and evaluation features, this system not only saves time for both candidates and employers but also enhances the overall recruitment experience. This paper discusses the methodology and benefits of the system, highlighting its potential to transform the resume-



building process in a data-driven manner.

2 Recent Works

In this study, the Smart Resume Builder and Evaluation System is designed to enhance the recruitment process by automating and streamlining resume creation, evaluation, and candidate matching. The proposed system incorporates several advanced features to address the limitations of existing systems, ensuring an efficient, user-friendly experience for both job seekers and HR personnel. Each methodology described in this section supports these goals, either by improving candidate resume quality or simplifying the recruiter's task of identifying qualified candidates.

2.1 Candidate Resume Evaluation Using NLP

Several systems have leveraged Natural Language Processing (NLP) for resume analysis, focusing on keyword extraction, section parsing, and language quality scoring. For example, Dr. D. Lakshmi Padmaja et al. [4] applied NLP to analyze and extract key information, improving ranking accuracy and accelerating recruitment workflows. In this project, a rule-based NLP approach evaluates resumes by analyzing aspects such as keyword frequency, sentence structure, and alignment with industry standards. Unlike previous methods, this system customizes its scoring to reflect overall resume quality, considering professionalism, skill matching, and grammar. Enhancements include optimized parsing for resume sections (e.g., education, work experience) and language adjustments tailored to the job market, which offers candidates actionable improvement suggestions.

2.2 Resume Scoring System

Earlier studies have shown the effectiveness of rule-based scoring models, which apply static weights to predefined resume sections to assess candidate suitability based on keyword density and section presence [5]. In this project, our scoring system modifies this approach by assigning dynamic weights to different resume sections, based on their relevance to specific job types. By integrating a flexible scoring rubric, this model enables recruiters to evaluate resumes in a way that reflects diverse role requirements. Additionally, this system ranks the top five resumes to improve recruiter efficiency by streamlining candidate selection.

2.3 Resume Builder Functionality

Resume builders in previous studies generally offered templates with basic formatting capabilities, which allowed limited customization. For instance, Jianping Du and Dongping Ma [2] developed a retrieval-based system to simplify resume creation, while Nikson PJ et al. [1] provided an intelligent analyzer that enhances resume quality and structure. Our project introduces an interactive builder with professional templates optimized for Applicant Tracking System (ATS) compatibility and layout clarity. This builder enables candidates to customize their resumes while ensuring that essential sections are included. Modifications include a responsive design that adjusts content to fit within a single page, ensuring that the final output



is concise, visually appealing, and meets ATS standards [3].

3 Proposed Work Explanation

The Smart Resume Builder and Evaluation System aims to improve both the resume creation process for job seekers and the resume screening process for recruiters. The system leverages rule-based NLP, dynamic scoring, and responsive templates to enhance user experience and recruitment efficiency. This section describes the core features and functionalities of the proposed system.

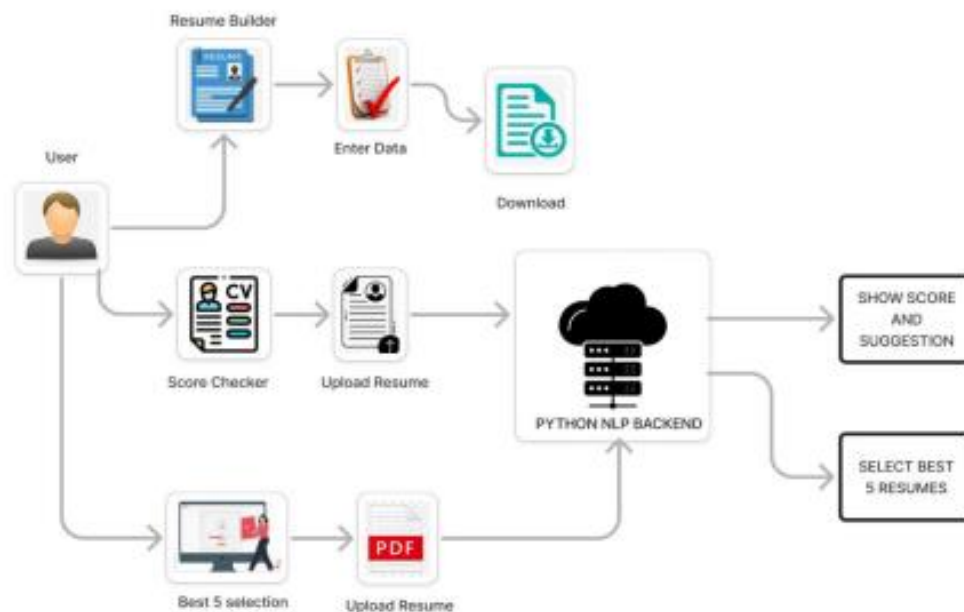


Figure 1: *Proposed Block Diagram*

3.1 User Authentication

User authentication is fundamental to secure access and protects user data. The proposed system will employ robust encryption methods to ensure that user credentials are securely managed during login and throughout their session. This theoretical approach is grounded in best practices for secure authentication, aiming to foster user trust and data integrity.

3.2 Resume Builder

The resume builder will serve as the core of the application, providing an interactive interface for users to craft their resumes. Leveraging principles of user-centered design, the builder will feature dynamic templates and real-time previews, allowing candidates to create professional-looking resumes. This section emphasizes the importance of user experience (UX) in facilitating effective resume creation.

3.3 Resume Scoring System

Utilizing Natural Language Processing (NLP) techniques, the scoring system will analyze resumes based on keyword density, section relevance, and overall structure. The theoretical



basis for this approach lies in the application of text analytics to derive meaningful Insights from resume content. The scoring mechanism will assign values dynamically, reflecting the specific job requirements and candidate qualifications.

3.4 Best 5 Selection

To optimize the recruitment workflow, the system will include a feature to filter and rank resumes, identifying the top five based on content analysis and keyword scoring. This development is grounded in existing literature on automated resume screening, demonstrating the practical application of NLP in enhancing recruitment efficiency.

3.5 Suggestion Provider

The suggestion provider module will utilize NLP to parse resumes and deliver tailored feedback on areas requiring improvement. This theoretical approach emphasizes the role of actionable insights in facilitating candidate development and aligning their applications with industry standards. By focusing on critical resume sections, the module aims to enhance the overall quality of job applications.

4 Result and Discussion

The results of the Smart Resume Builder and Evaluation System project designed for job seekers are comprehensive and illustrate its significant influence on the recruitment process. The system yields a range of positive outcomes, including enhanced resume creation, improved evaluation accuracy, and an efficient selection process for employers. By leveraging technology to streamline the resume building and evaluation, the project has the potential to make a lasting impact on job seekers and hiring practices, ensuring that qualified candidates are effectively identified and matched with opportunities.

The App Flow

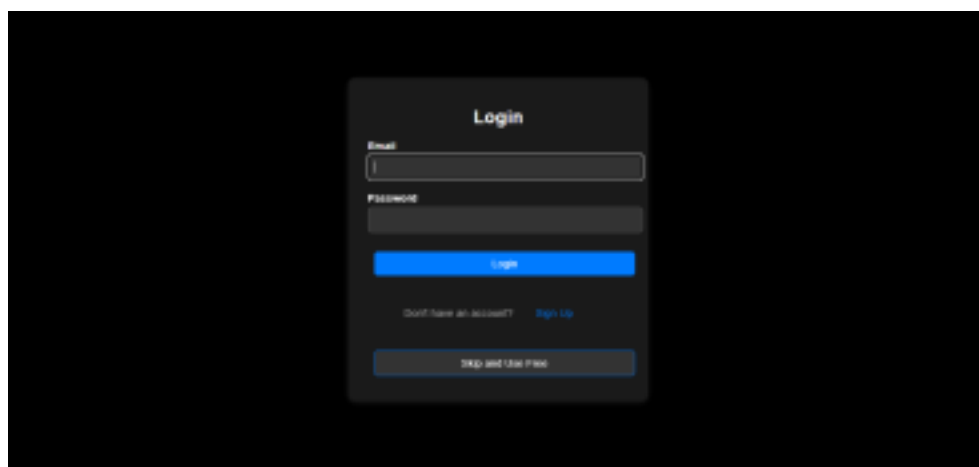


Figure 2: Login Page

Initially, the user will be prompted to either log in if they already have an account or sign up



with essential details like Username, Email, and Password. Once the user signs in, authentication takes place, and all user data will be securely stored using local storage for future access. After successful login, the user is navigated to the Home Page of the application. On the Home Page, an app drawer is displayed, allowing the user to navigate through different sections of the application, such as: Build Resume, Evaluate Resume, and View Resume History



Figure 3: Home Page

If the user selects "Build Resume," they are guided through a step-by-step process to input personal, educational, professional, and project details. The user can add multiple entries for education, experience, and projects. The user can also add social links such as LinkedIn and GitHub. Once all sections are filled, the user previews the resume in a professional format and clicks "Finish" to download the resume as a PDF.

Figure 4: Resume Builder

The user can upload an existing resume for evaluation. The system reads the resume and extracts its content. The system evaluates the resume using rule-based NLP techniques, checking for structure, keyword relevance, and content quality. The resume is scored based on



predefined criteria such as job relevance, language clarity, keyword optimization, and overall presentation. Suggestions for improvements are provided to the user, including areas where the resume can be enhanced.



Figure 5: Resume Score

Once all resumes are evaluated, the system selects the top 5 resumes based on the score. These resumes are ranked and displayed for HR personnel on a separate admin panel. HR Personnel can view, download, or share the top 5 resumes to proceed with further recruitment steps.

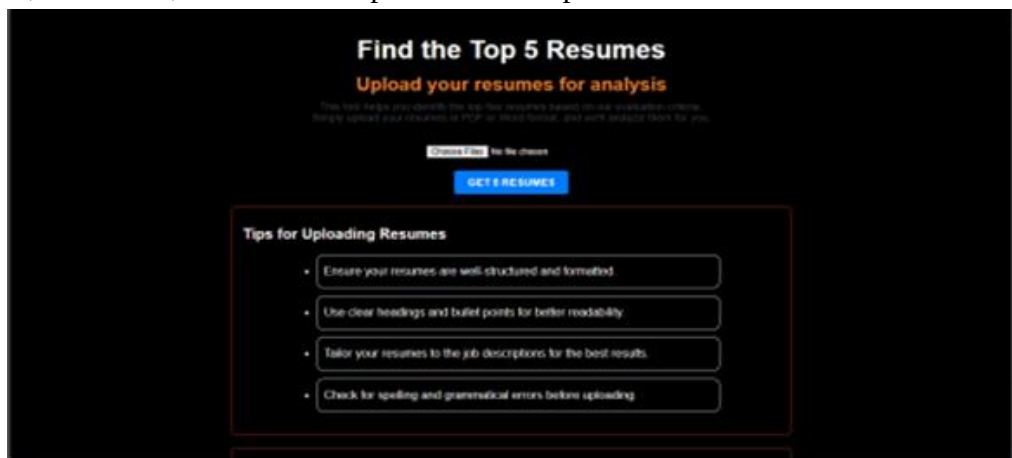


Figure 6: Top 5 Resume

If the user selects Logout, the system logs the user out and returns them to the login page. The user must log in again to access the application. After logging out, if the user tries to access the app again, they must log in using their registered email and password to continue using the platform.

5 Conclusion

The Smart Resume Builder and Evaluation System offers a transformative solution to the challenges job seekers face in today's competitive job market. As candidates strive to present themselves effectively, this system facilitates the creation of professional, visually appealing resumes that enhance the overall quality of applications. With its user-centric design, it simplifies the registration and login process and uses local storage for data management, which ensures privacy and accessibility. This approach enables candidates to create, edit, and access



their resumes anytime, fostering a secure environment that allows users to focus solely on crafting standout applications.

Harnessing the power of rule-based Natural Language Processing (NLP), the system evaluates resumes based on predefined industry standards, offering valuable feedback on formatting, content relevance, and keyword optimization. This feature empowers users to refine their resumes continually, aligning them with employer expectations. By guiding users through the Enhancement process, the system ultimately boosts candidates' visibility to hiring managers. Serving as more than just a resume builder, this comprehensive platform not only improves individual job prospects but also aims to streamline the recruitment process, bridging the gap between job seekers and employers in an evolving employment landscape.

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