CV Insight: Resume Analyzer and Company Recommender

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Abstract — A Resume is a document used by many job seekers to showcase their skill sets and personal information. A resume is also called CV. It is primarily used for screening by recruiters or companies. Classification of resumes according to the requirements of the company is a costly phase in the recruitment process. For several years, online platforms have become prominent among jobseekers and employers because of their convenience. Various companies' recruitment advertisements direct job seekers to send their resumes via email or electronic messaging. This can be useful if there are fewer employee requirements. However, when companies have greater requirements, they go through tedious task searching through various resumes provided by different job seekers. It is important for companies to filter out students according to their needs, and no candidate with great skills should go unnoticed. We propose a system to solve these problems. This system will help employees to make structured and better resumes. Various data algorithms were used to classify various candidate resumes according to requirements.

Keywords: CV Insight, Resume Analyzer, Company Recommender

I. INTRODUCTION

The recruitment process of many corporate companies consists of a series of major stages. Resume collection, evaluation, and decision-making are the major stages of the recruitment process. Various studies have supported the use of digitized solutions in different HR Management practices. Hence, it is essential to include technologies, such as Machine Learning, to ease the process. This paper proposes the creation of an efficient digitized computer-aided system for corporate companies. It will also help freshers or job seekers with no knowledge of creating a proper structured resume, since proper and structured resumes play an important role for the job seeker to obtain a better placement of better jobs. By navigating the intersection of ML, NLP, and recruitment, we endeavor to pave the way for a more informed and nuanced understanding of resume analyzers and recommenders, ultimately fostering a more equitable and meritocratic employment ecosystem. We propose to use. Furthermore, the effectiveness of recommendation systems in the context of resume analysis depends on various factors including data quality, feature representation, and model interpretability. Ensuring the fairness and transparency of these systems is paramount because biased or opaque recommendations can perpetuate inequities in the hiring process. In addition, continuous monitoring and evaluation are essential to assess the performance and impact of recommendation algorithms, enabling iterative refinement and improvement over time. More features like fake resume detection can also be added in future for making this system more efficient.

II. WORKING

The system is designed to help both the user side to upload their resume and the admin side which are the company side which can manage huge amount of resume given to them. Then identify the potential workers as per the need of their company.

The workflow includes computer-aided evaluation of the applicants by parsing the resume files collected. For this purpose, some pre-processing steps are required to prepare the evaluation data and perform evaluations between different text similarity approaches. First of all, the resume data of different applicants are collected as PDF files having a predefined template. Then, the java libraries are used to utilize and obtain clear text information extracted from these files. Accordingly, text similarity analysis can be performed by a software program that utilizes some existing libraries or develops the aforementioned text similarity approaches on its own.

Now, let's see the stepwise working of how the user will upload his/her resume and then how HR can filter out those resumes for their needs.

1) The login page will be displayed first for the user or admin so he/she can sign in into the account if the account Is already created. If account is not created then there is option of create new account for user.
2) After logging in to the web application then for the user side there is option for user to upload his/her unstructured resume in the pdf, docx file.
3) When step (2) is successfully completed then this unstructured data is uploaded on system database various algorithms are used to analyze the resume data and get the structured data. This can be downloaded by candidate for their need.
4) After we have analyzed the several resume's by many user on the admin side they can rank resume's of the user's to get the best candidate which can match their companies need.
5) The ranking of this user's resume is done on the basis of their text similarity algorithm.
6) Then comes recommendation part, ANN algorithm is used to help user to recommend various companies on the basis of their skillset.
7) The user can then send application request to the user so company can accept or reject his/her application.
8) Hence this system consists of analyzing the resume for user, then it can rank various user resume for the companies, it will also recommend companies for the user. This platform can be proved to be an easy interface between company and user in recruitment process.

III. SYSTEM REQUIREMENTS

A. Database Requirements

The database should be MY SQL database on platform. This Database must be integrated with key constraints. This system will create database backup on periodic basis. It will execute all commands like DML, DDL and DCL.

1) Software Requirements

Technologies and tools used in Policy system project are as follows Technology used:

1) Front End
   - Internet Explorer 6.0 or above
   - Tools: Eclipse or Net Beans, Heidi SQL, JDK 1.7 or Higher
   - Programming Language: JAVA
2) Backend
   - MySql 5.1
   - Heidi Sql
3) Hardware requirements
   - Processor- Intel 4 or above
   - Memory- 2GB or above
   - Hard disk- 512Gb

B. Performance Requirements

The only way in which systems will meet their performance targets is for them to be specified clearly and unambiguously. It is a simple fact that if performance is not a stated criterion of the system requirements then the system designers will generally not consider performance issues. While loose or incorrectly defined performance specifications can lead to disputes between clients and suppliers. In many cases performance requirements are never ridged as system that does not fully meet its defined performance requirements may still be release as other consideration such as time to market.

In order to assess the performance of a system the following must be clearly specified:

- Response Time
- Workload
- Scalability
- Platform

C. Communication Interface

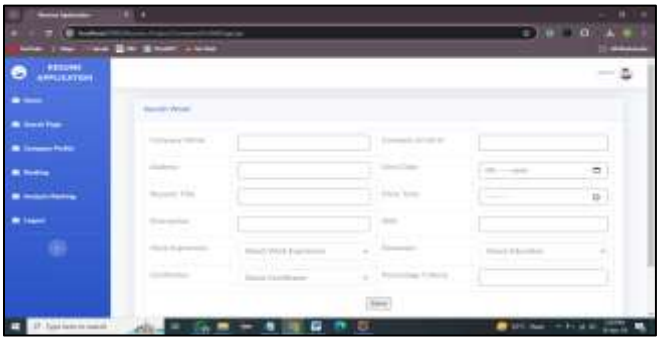
All the program's features are available offline. You only need an Internet connection to download the application, update it and to get some target images for your personal profile. HTTP protocol is used here. HTTP (Hypertext Transfer protocol) is an application protocol for distributed, collaborative and hypermedia information systems. HTTP is the foundation of data communication around the world.

IV. RESULTS AND OUTPUT

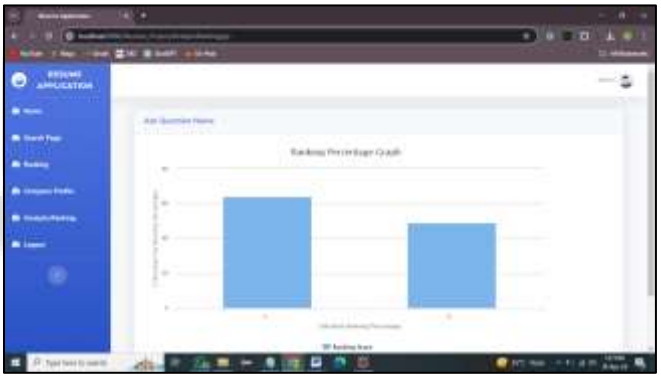
There are several function included in our system, hence multiple pages indicates the various features provided by our system.

A. Login Page

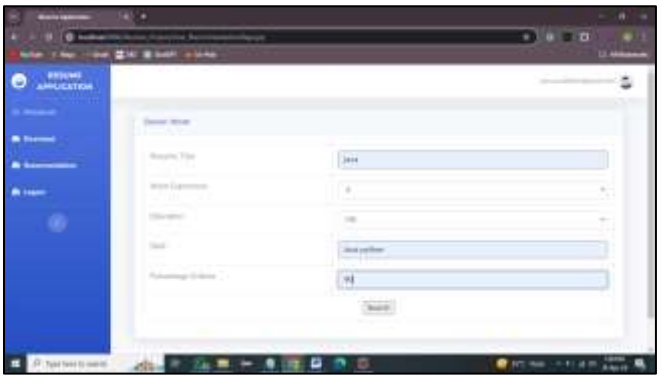
B. Company Profile



C. Ranking Page



D. Recommendation



V. CONCLUSION AND FUTURE SCOPE

In conclusion the structured resume provide the better presentation for the recruiters and easy for them to categorize the huge amount of resume's according to their needs. Structured resumes follow a standardized format, making it easier for automated systems to parse and analyze them. Unstructured resumes, on the other hand, lack a consistent

format and present challenges for automated analysis. Despite the challenges posed by unstructured resumes, advancements in natural language processing (NLP) and machine learning have enabled the development of resume analyzers capable of extracting key information and assessing candidates' suitability for job roles. The effectiveness of resume analyzers depends on the quality of data available. Structured resumes provide more reliable data, whereas unstructured resumes require more sophisticated parsing techniques and may still contain ambiguities or errors. It can be said that there are certain limitations to this system. Resume analyzers can significantly improve recruiter efficiency by automating the initial screening process, allowing recruiters to focus their time and resources on evaluating the most promising candidates. As we see, there are certain limitations in using this system like it's not easy for maintaining the data quality which is difficult for the users who make their resumes.

This opens the gate for various technologies to play a role in solving this problems. Continued advancements in natural language processing will further enhance the capabilities of resume analyzers, enabling them to extract more nuanced information from unstructured resumes and improve accuracy. Future developments may focus on improving the semantic understanding of resumes, enabling analyzers to interpret context, identify synonyms, and understand the subtleties of language more effectively. Integration of resume analyzers with AI assistants or chatbots could offer real-time feedback to job seekers, helping them optimize their resumes for specific job applications and improve their chances of success.

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