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Resume Analyzer Using NLP

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Abstract: Many a times employees submit their resume to a company and they get rejected. Employees often keep thinking about why they got rejected while, many a times, the resume not being up to the point is the reason for the rejection. Often employees don't know why their resume got rejected, where and how to improve etc. Our resume analyzer can be used by companies as well as employees. The current resume analyzers which are present in the market are mostly company/HR oriented. We aim to make a resume analyzer which is more focused on employees. Our resume analyzer analyzes the resumes and gives the employee a thorough feedback of the resume. It makes the employee understand the positives as well as the negatives of the resume. The resume analyzer also provides a range of tips and advices to the employee regarding the resume so that they can improve their resume.

Index Terms – Resume, analyzer, feedback, tips

I. INTRODUCTION

A resume is a crucial tool in the job application process as it provides a concise summary of one's education, skills and work experience. It serves as a first impression for potential employers, making it essential to present oneself professionally and effectively. A well-crafted resume can significantly increase the chances of securing an interview, as it highlights relevant qualifications and accomplishments that match the job requirements. It acts as a personal marketing document, showcasing one's unique strengths and demonstrating why they would be a valuable addition to the company. Moreover, a resume helps employers quickly identify suitable candidates, streamlining the hiring process. It also serves as a reference point during interviews, allowing candidates to elaborate on their experiences and achievements. Ultimately, a compelling resume is vital for job seekers to stand out in the competitive job market and take the first step towards successful career. The goal of our project is to revolutionize the whole industry. We are looking to transform the hiring process in such a way that it will be beneficial for both the employees and companies that hire them. The systems that are currently in place are partial in such a way that the benefit only the companies or employers. Our system will change this thing and also think about the employees and their careers so that they can get their dream job. Our project will provide a sort of roadmap to employees which will save their time and effort which would be utilized to find out what they should be doing in order to get their dream job. It is already clear to us how vital a resume is in order to secure a job. Our software will analyze the resume and guide them to a safe and secure future.

II. RELATED WORK

In an early project done by P. Arora, D. Virmani, A. Jain and A. Vats namely "Resume Selector" [1] they use Keyword Based Search(NLP Technology) to filter out required skills from resume. They also perform resume ranking by computing the aggregate weightage of each resume and comparing them with the requirements of the company. The important part of this project is that they use big data technologies like PySpark and Hadoop so that they can process and store large amount of resumes in real time. Another project namely "Resume Classification Using ML Techniques" [2] done by B. Surendiran, T. Paturu, H. V. Chirumamilla and M. N. R. Reddy makes use of Machine Learning Technologies. Decision Tree, Random Forest, KNN, Support Vector are some of the algorithms that they used in their project. These algorithms were compared considering their accuracies as a metric to decide which algorithm to use for classification. The main goal of the project is to classify resumes to their corresponding suitable positions. In an early work done by R. Shaikh, N. Phulkar, H. Bhute, S. K. Shaikh and P. Bhapkar namely "An Intelligent framework for E-Recruitment System Based on Text Categorization and Semantic Analysis" [3] using Natural Language Processing (NLP) an autonomous text classification system has been made that POS tags, tokenizes and lemmatizes the data. Phase Matcher is used to calculate the score of the resume. On the basis of the resume score it provides the top resume to the employers. In an early project done by B. Gunaseelan, S. Mandal and V. Rajagopalan namely "Automatic Extraction of Segments from Resumes using Machine Learning" [4] they use multi-level classification techniques. The project aims to extract information like skillset, experience and education. In an early work done by A. Sharma, S. Singhal and D. Ajudia namely "Intelligent Recruitment System Using NLP" [5] the authors use Natural Language Processing (NLP) technology to extract useful

and important information from the resume to the employers saving their time and effort. In an early project done by P. Swami and V. Pratap namely “Resume Classifier and Summarizer” [6] advanced machine learning technologies such as Logistic Regression and Support Vector Machine were used for predicting the category of the resume to the employer. It also provides a summarized version of the resume to the employer. In a early work done by G. C. Babu, S. Bharadwaj, P. S. Aditya, N. Macherla and R. Varun namely “Resume Screening using NLP and LSTM”. [7] the project aims to categorize resumes to their respective job openings. This project helps job seekers for evaluating the positions they are qualified for on the basis of their resuems. In 2023 R.Bhardwaj, D.Mahajan, M. Bharsakle, K. Meshram and H. Pujari created a project namely “Resume Analysis Using NLP” [8]. In their project/work as the title of their project suggests they used Natural Language Processing (NLP) to extract useful information form the resume. The main goal of their work was to check whether the skills of the candidate that are listed in the resume are inline with the company’s requirements and perform validation on the basis of the same. This project also ranks the resume by assigning each resume a resume score.

III. METHODOLOGY

In our project, there are two interfaces, one for the admin and other for the employee. The employee uploads the resume on our website. In our website using Pyresparser, the important information is extracted from the resume. This information includes:

- Name
- Email
- Skills

Considering the data collected from the resume of the employee thorough analysis of the data is given to the employee including feedback on where and how the employee can improvise his resume so that the chances of the resume getting selected increases significantly.

Things that the employee can see:

Basic Info:

- Name
- Email
- Contact

Experience Level

Current Skills

Recommended Skills

Recommended Certifications and Courses

Resume Tips (In Text Format)

Resume Score

Videos related to improving Resume

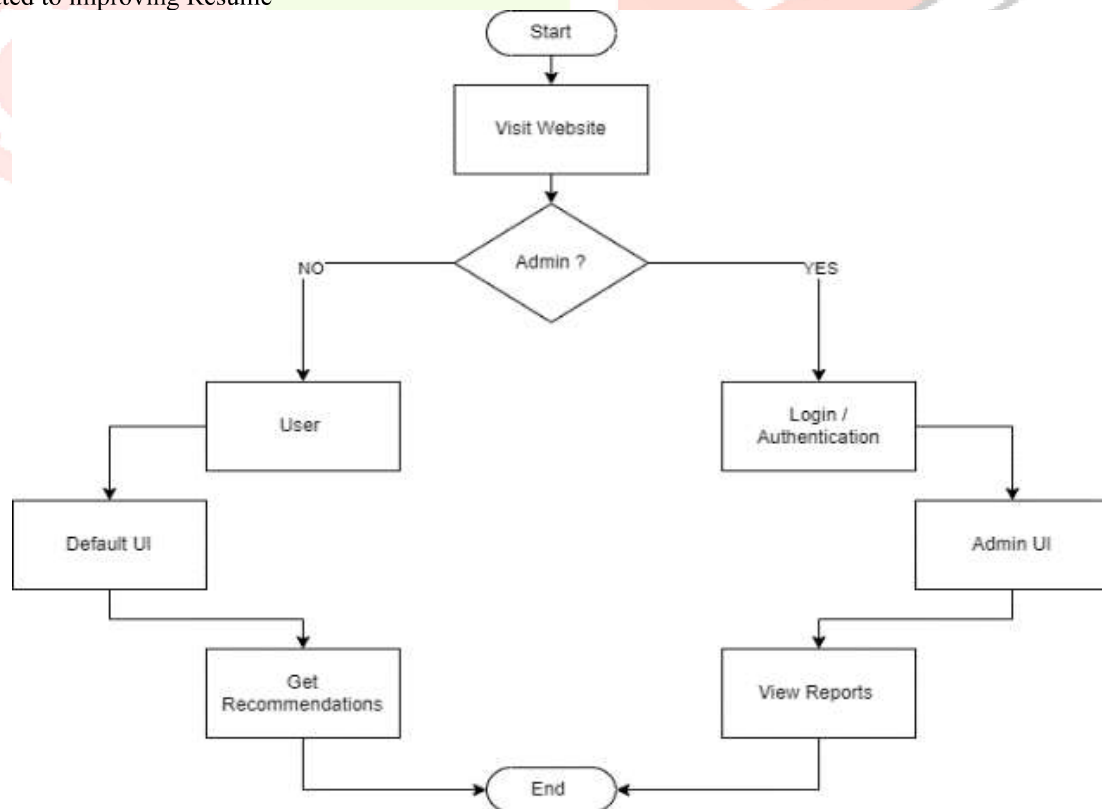


Figure 1

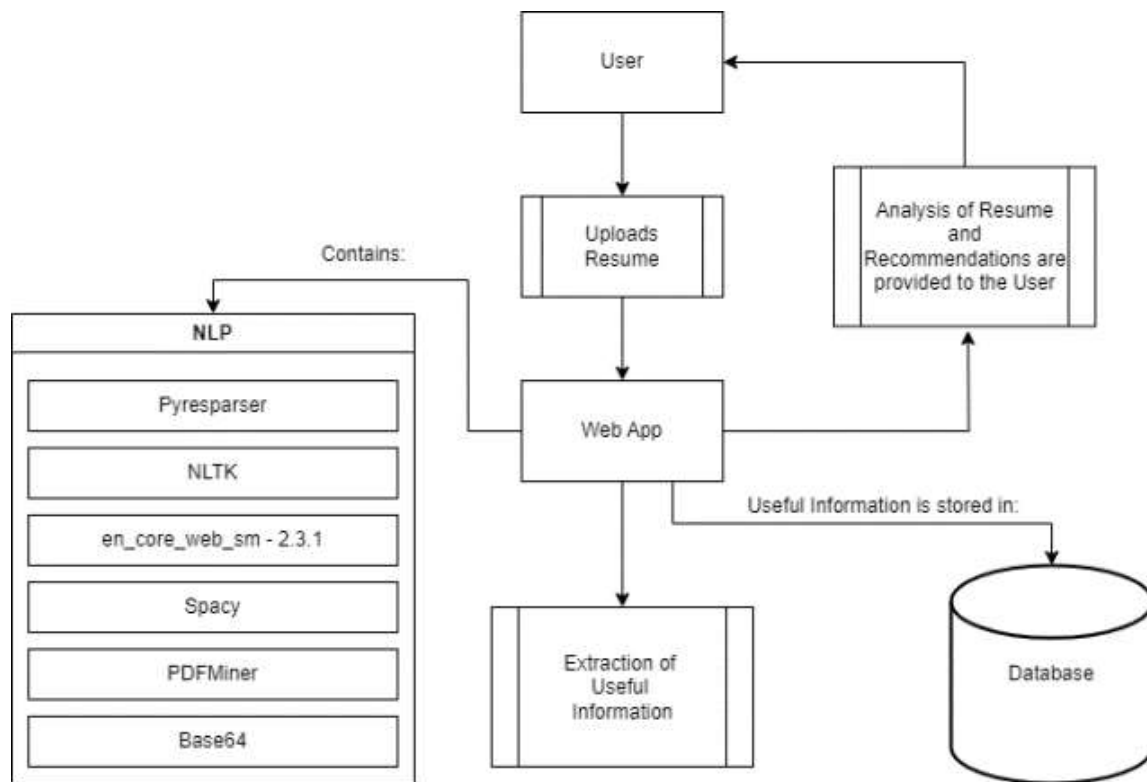


Figure 2

All of the information that the employee can see is stored in the database for future use. As we can see in Figure 1 it is necessary for the admin to go through the authentication process as the admin has access to sensitive information. The admin can view all the data of the users. The admin can also download the excel file of the same. This excel file will contain details of all the users and all the data that is displayed on the user's website. The admin can also view the visual representation of the data on his side of the website.

IV. CONCLUSION

A revolutionary Resume Analyzer was made using NLP technology which provides personalized recommendations to the user.

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