



Resume Builder Application with Automated Job Prediction

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Abstract

We all are aware that getting a job is not at all an effortless task. The job market is highly competitive. It is important for job seekers to create a professional resume. A resume is a formal document used by individuals to present their backgrounds and skill sets. A resume mainly consists of the individual's educational background, technical skills, work experience, social skills, and awards or publications(if any). This is the first document that describes the individual to an employer or a recruiter. It portrays the individual's image before the interview. Hence, it is essential that one should have an apt resume ready before applying for any company or job. We have proposed a system that will create a formal resume for the user and suggest/predict jobs for the user based on his/her skills. The prediction will help the user in applying for jobs that are aligned with his/her interests and skills. The Resume Builder Application will help users build his/her personal resume. The Resume Builder will also, based on the user's technical skills, suggest to the user jobs and companies appropriate for him/her.

Keywords — Resume, Resume Builder, Job Prediction

INTRODUCTION

A formal and genuine resume has the power to open doors. The resume describes the employee's qualifications and the information that makes one unique and stands out from the rest of the community. One needs a resume that markets the strengths and matches for the job.

A great resume grabs the employers' and recruiters' attention, sells your strongest skills and accomplishments, shows how you're a perfect match for the position or project, and most



importantly, gets you a job interview. Looking at the need for an explicit resume, we propose a system for the generation of resumes based on each user that would cater to their needs for a job. The information given by the user through the web application will be stored in the system and a well-organized resume would be generated. The proposed system, also, predicts a job for the respective user based on their skills and interests. This would help the user exceptionally. The application serves two major purposes a job seeker or a fresher who has either no knowledge or lacks information as to what to mention in the resume. Our proposed system will be valuable for everyone along with those who are preparing for placements and provide better services to them.

LITERATURE REVIEW

[1] Resume Builder Application, the authors created an android app. Functionalities being: Log in and OTP-based system, resume generated in pdf format. In [2] Resume Designing using speech recognition system: A prototype that uses the voice of the job seeker. It is a desktop application in which the application interacts with the user like an assistant and collects the data from the user using voice. In [3] Real Resume -A Web app for building resumes and portfolios. This system gives ranking to users' resumes using the concept of Knowledge base Assisted Classification, by classification features directly to category-based matching. This system has the capability to rank your resume and show where your resume stands for that job. In [4] Resume builder over rejuvenated AI features in website development: This paper addresses valuable tips and methods and takes into consideration the building of an expert site along with analyzing issues in site advancement. The project "CONTRIRESUM" will cover all the enhanced features needed for anyone to build their resume. These features will help the user to create a resume in very less time with more modernized attributes, including a presentation video. [5] Analytical Resume Builder – A web Application for creating a resume that gives the best impact in this competitive world: It is an application that improves on the errand of making a resume for people. The framework is adaptable to be utilized and decreases the need for reasoning and planning a suitable resume as indicated by capabilities. The framework is created to give a simple way to make an expert-looking resume. People simply need to top off a structure that determines inquiries from all necessary fields like individual inquiries, instructions, characteristics, interests, abilities, etc. In [6], the authors have integrated the speech-to-text module with their application. The application collects the information from the user like an assistant using voice and provides a resume to the user. In [7], the authors generated a web-based resume generator along with augmented reality features. The generated resume is embedded with a QR code and ar markers. The QR code upon scanning will direct the users to the AR scanner website. This resume will not only help the users to create their own resume but also provides a better user experience for hiring managers while reviewing resumes. In [8], the authors developed an application where on the basis of some basic



details, the resume is generated. The appropriate information by the user is collected and converted into an organized resume.

OBJECTIVES

The first step is gathering primary details of the user for resume generation. After gathering all details from the user, these details will be stored in a database, so that it can later be used to generate the resume of that user. The web app will then generate the user's CV in a pdf format.

EXISTING SYSTEM

The existing resume builders generate a formatted resume based on the user's details. But there are limitations and drawbacks:

1. Paid: Most of the websites that allow users to generate their resumes are paid. Even for basic templates, they charge the users. This is one of the major problems of almost all resume builders.
2. Length of the resume: Some online resume builders take the user's information and generate a resume that is either too long (not formatted correctly) or too short (all the details in a single page).

No separate section for different types of details like skills, projects, and achievements. The existing systems only provide the user with a resume but do not consist of the functionality of predicting/recommending jobs to the user based on his/her skills. If the user gets recommendations for a job based on his/her skills, then it will be easier for the user to apply for such jobs that are aligned with his/her skills. This is taken care of by the proposed system.

PROPOSED SYSTEM

The proposed system overcomes all the problems of the existing solutions. The application is kept free as currently there is no option for the user to select the template of his/her choice. So, the creation of a basic yet apt resume can be done without paying any cost. Also, there are different sections created for different types of details so that each piece of information is highlighted properly. The application can suggest various jobs to the user. It analyzes the skills of the user and predicts the appropriate jobs for which they can apply. This process is done automatically and provides the user with the fields and jobs he can work in.

METHODOLOGY

Tools:-

IDE -> Visual Studio Code



FOR REFERENCE -> Stack overflow, GITHUB, YouTube

FOR MODULE'S INSTALLATION -> Command Prompt

Technologies:-

HTML and CSS -> HTML (the Hypertext Markup Language) and CSS (Cascading Style Sheets) are two of the core technologies for building Web pages. HTML provides the structure of the page, and CSS the (visual and aural) layout.

JavaScript and React JS -> JavaScript is a text-based programming language used both on the client-side and server-side that allows you to make web pages interactive whereas React is a free and open-source front-end JavaScript library for building user interfaces or UI components.

Following are the steps which we followed for the completion of the project:

1. Installing VS Code and adding JavaScript extensions.
2. We started with the development of the user interface, which is basically, the front end. This is what the user sees and interacts with directly. Front-end and back-end trinity used: HTML, CSS, and JavaScript. Here the user will be asked questions based on his/her skills, and work experience.
3. We have developed the website using React framework, which is a JavaScript Library
4. HTML and CSS for structuring and styling our web page as required for the development of our web page.
5. Creation of the react app. The App.js file consists of the code for the working of the main page.
6. There consists of a components folder that has different .js files that are used for extracting different details from the user. Example: Education.js is used to get all the educational details of the user.
7. Similarly, we have experience, personal details, and the file required to convert the details into a pdf format.
8. We used Axios to make requests to the server. The get() and post() were used to extract and post requests to the server. This helped us display the resume in a pdf format and send it to the user.

For the job recommendation module we employ recommendation algorithms such as Content based filtering and Collaborative filtering. In Content based filtering, the user's preference is matched with the feature items. Simply put, this algorithm helps in recommending items based on the items that are similar to the items liked by the user in the past. The other recommendation algorithm used, Collaborative filtering, can be broadly classified into two types - User based collaborative filtering and Item based Collaborative



filtering. User Based Collaborative Filtering looks for users who have applied for the same jobs as the user and then uses their application history at other jobs to recommend jobs to the user. On the other hand, Item based filtering uses similarities between the application patterns of job listings. It is easier to find similar job listings than to find users with similar job interests. Our recommendation system is a four step system as shown in the figure 1 below.

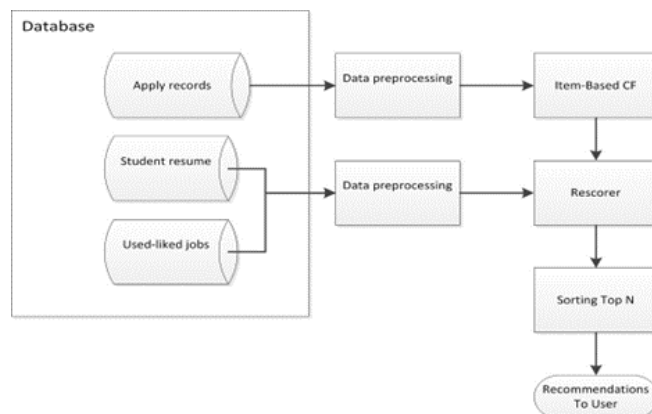


Figure 1: Flow of the Recommendation System

- Data Preprocessing: useless data such as inactive users and expired job listings are filtered out from the raw data and prepare the data for item based collaborative filtering.
- A recommendation system is built to help users get recommendations based on the similarities in job listings and application records of the user. The recommendation system takes the input, in this case the input being the user application history, and gives out recommendations based on their past applications
- Rescorer: evaluates the candidates' items and grades it based on the likelihood of users preference
- Sorts all candidate items and gives out the output based on the likelihood of the user accepting the job recommendations.

RESULTS AND DISCUSSIONS

An ordinary resume builder application is just useful for providing a platform to build and format a resume. This does not solve the problem of not being aware of the right opportunities available to the user.

The proposed system is a reliable combination of a good old resume builder as well as a job recommendation system. The system is ready to be used by working professionals and freshers in the industry, who are looking for a job suitable to their career. An output of a sample resume we generated is as follows:

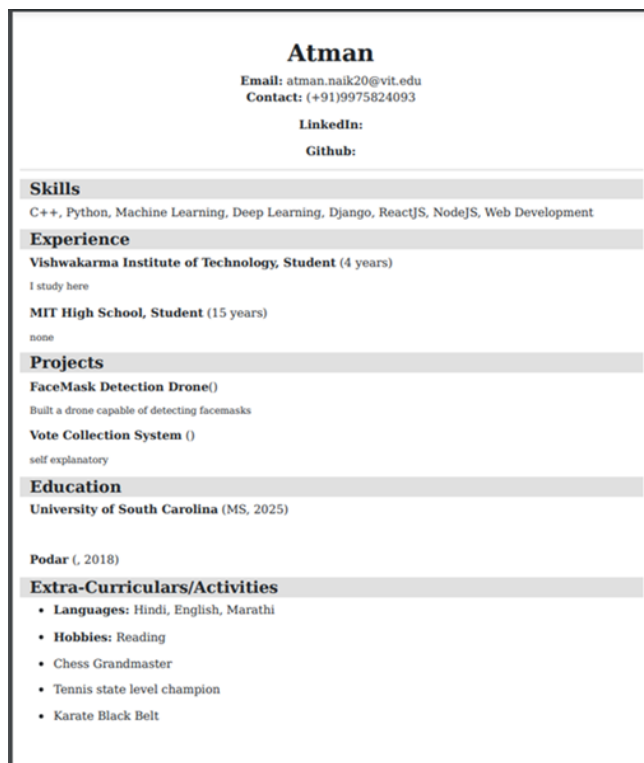


Figure 2: Format of the Resume generated by the system

As seen from figure 2, different skills have been sorted and mentioned in an organized manner.

LIMITATIONS

Although the web app covers most of the issues of the existing systems, there are drawbacks. The web app does not allow users to edit their resumes. Once the information is filled in, the resume will be auto-generated in a pdf format on clicking the submit button. The user does not have a choice to select the template of his/her choice. Currently, only a standard template is used for the generation of resumes.

FUTURE SCOPE

There is tremendous scope in resume generation and such web applications. Different templates can be provided so that the user can generate resumes based on their design. We can provide the functionality of editing and viewing the resume before it is converted to pdf format. The web app can be made to allow subscriptions for different packages of templates. Subscriptions might include recommendations based on the user's skills and preferences. The website can show some of the best resumes that got selected in top MNCs so that the users get an idea as to how and what type of information to fill in.

CONCLUSION

The resume Builder Application is really an interesting & new topic that can be used by fresher or experienced persons to create a resume. The proposed system brings different approaches to job seeking together and creates a perfect match for users seeking employment. The job suggestion algorithm takes into account a number of significant application characteristics that are essential for recruitment. The system takes into account various problems and gives one combined solution.

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