Assessment Building and Candidate Ranking using Web Based Application

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Abstract— Nowadays as we observe we can see that the competition is growing among the people and due to the growing competition people majorly seek jobs so due to the increasing competition among the people we are proposing a system for an online job portal. Normally people apply for a job online and then they wait for a response from the company. The basic problem with the existing system is that it is a normal job portal it is less interactive. So the basic idea of our project is that the applicant can apply for a job by giving out the details or information like name, qualifications, experience, skills, etc This job portal allows the candidate to upload their resume or CV and we according to the qualifications and experience will sort the jobs and show it to the applicant on basis of percentage of them getting selected for the job and notify him with a mail or message and we will also do the same for the company we will also notify the company that which applicant is suitable for the job according to his qualifications, experiences, and skills. This is the basic objective of our project to show the applicant the list of companies in which he might get selected rather than him selecting and apply for every job and wait for the response from the company and also we are providing a resume builder by which we would get resumes from all the applicants followed in a certain format.

I. INTRODUCTION

Resume scanning is the process to figure out whether a candidate is qualified for a required role based on their education, experience, and other information captured on their resume. In a nutshell, it's a form of pattern matching between a job's requirements and the qualifications of a candidate on the basis of their resume.

It is the process of sorting resumes to disqualify candidates using detailed examinations of the resumes. The objective is to locate the most qualified candidates for an open job.

While some of this can be done with the aid of automation and computers, there are still skills and techniques that help quickly eliminate unqualified candidates and move on further with a qualified candidates. This web-based application is designed to integrate with an ATS to automate the resume screening process. This is an example of how AI is changing the recruiter role by automating a time-consuming, repetitive task that most recruiters feel is a waste of their time and talent. Screening application that uses AI learns the job qualifications based on its description and learns what good candidates look like based on your historical hiring decision. The AI analyzes your existing resume into the database to learn which candidates moved on to become successful and unsuccessful employees based on their performance. The aim of this project is on the online job portal application. The application is very useful where an applicant can give his details or information and apply for his job. Acquiring knowledge and specific job skills have become the main objectives for students in universities. Knowledge is important to make decisions, in any situation. In today's world as the competition is growing among the people, so that's they majorly seek job so due to the increasing competition among the people we are proposing a system for online job portal. The goal of this application is: -

[1] To develop an easy and reliable application where an applicant can apply for a job which is suitable for them and same also for companies a suitable applicant will be allotted to the company.

[2] Due to this application both the side applicant and companies have better options with more probability. There are many websites and applications based on a job portal that provides a user to simply apply for the job. Due to the increasing competition, the online market is growing rapidly than the offline market so we are proposing a system which provides jobs. [3] The basic problem with the existing system is that it is a normal job portal it is less interactive.

[4] Another issue is that they have a lot of spam messages due to which the speed of applications is affected.

[5] The motive of this job portal is to allow the user to provide an interactive interface through which a user can interact easily.

[6] To restrict the time of the spam messages for short period of time so it may not affect the speed of system.

II. LITERATURE REVIEW

In a paper [1] Nikhith P proposed a method where a job portal is an application that connects employers and job seekers where employers are the source of the resources and the job seeker can find and apply for the desired jobs. The following features were implemented in his proposed system. 1. This Job Portal is providing to the online job

portal system. 2. This can be also providing information about online jobs. 3. The customer can get the online registration. 4. The Job Portal web application can be used by any employee to apply for the job and any employer is posting to the job. 5. It consists of 3 modules: Job Seeker, Employer, and Administrator. 6. It will provide fast operation and low-cost expense than the old system. 7. Job seeker's needs are to find an easy job.

In paper [2] the traditional hiring of employees starts with the processing of application forms, describes the job for each position, verify application forms, and lastly evaluates the best person for the job. In this online portal, there is a free registration. Banners for advertisement are not allowed for this portal. This system can run on windows and also can be accessed by the use of mobile phones. The project objectives include 1. To develop a user-friendly job portal. 2.To develop an online search portal for job seekers. 3. To facilitate the company with the best candidate available. 4. To build a system that acts as a link between job portal applications and other websites.

In paper [3] Sowmya Mathukumalli proposed a method where job qualified candidates. She aimed to create a system where the employer can register with the application and posts the current openings they can view the job applicants can screen them according to the experiences. Users can provide a review that can be viewed by the Employer.

After reading some more references we got a more clear idea of how the recommending system works. A survey of the state-of- the-art and possible extensions stated that CollaborativeFiltering (CF) has been widely used in many recommender systems over the past decades. Sufficient experiments with different datasets show that their methods are feasible and much more effective for cold-start problems than rating-only-based methods. A literature review and classification of recommender systems research cleared the ideaof the 210 articles that are categorized into eight application fields and eight data mining techniques.

Deep learning. It is said that Deep learning is an AI function that mimics the workings of the human brain in processing data for use in detecting objects, recognizing speech, translating languages, and making decisions. Cross-media analysis and reasoning: advances and directions is a paper that stated Cross- media analysis and reasoning is an active research area in computer science and a promising direction for artificial intelligence. However, to the best of our knowledge, none of the existing work has summarized the state-of-the-art methods for cross-media analysis and reasoning or presented advances, challenges, and future directions for the field.

Deep Neural Networks for YouTube Recommendations was much helpful because it provided information such as a deep neural network (DNN) is an artificial neural network (ANN) with multiple layers between the input and output layers. There are different types of neural networks but they always consist of the same components like neurons, synapses, weights, biases, and functions.

A literature review and classification of recommender systems research states that a recommender system, or a recommendation system, is a subclass of information filtering system that seeks to predict the "rating" or "preference" a user would give to an item.

Lastly, the Journal of Computer Research & Development is a quarterly international journal that publishes high-quality research and survey papers from the Software Engineering & Systems area and its adjacent disciplines, with the inclusion of embedded systems, mobile systems, information systems, etc.

III. PROPOSED SYSTEM

There are many websites and applications based on a job portal that provides a user to simply apply for the job. Due to the increasing competition, the online market is growing rapidly than the offline market so we are proposing a system which provides jobs. The basic idea of our project to show the applicant the list of companies in which he might get selected rather than him selecting and apply for every job and wait for the response from the company and also we are providing a resume builder by which we would get resumes from all the applicants followed in a certain format.

[1] Increasing the content value with accessibility, reusability, and durability.
[2] We will understand the concepts and will know.
[3] Improve speed

The recommendation system created by us provided on our website is an advanced way to recommend jobs which will display the most to least probability of the list of companies hiring the candidate. This will help the user to identify the jobs he/she can get after applying due to the probability shown on our website. We will also be having a resume builder which will reduce the work for candidates and companies too will have a proper format of resumes provided by candidates. Our website will surely reduce the time and strain used by the candidates to get a job. The candidates must mandatory give the test series related to their skills. This will be the key point to recommend jobs. It will provide genuine candidates for the job profile applied. Also, the company will be satisfied with test scores and can judge the candidates before interviewing. The test series conducted will have a lot of choices on the subject. The highest scores to the lowest will decide the probability of the jobs to be hired in. This will not only boost the work on

an individual's skills but also the companies indulging in the hiring process will faith in the website. The main aim of the project is to develop a Job portal website whose purpose is to automate the job Requirement process and help students to find better jobs for themselves and to help companies to find eligible Candidates for themselves. The objective of this application is to make it more reliable than the existing web application. To develop such a web application to complete web support need to be provided.[2]A complete and efficient web application that can provide An online shopping experience is the basic objective of this Project. The motive of this job portal is to allow the user to provide an interactive interface through which a user can interact easily To restrict the period of the spam messages for a short period so it may not affect the speed of the system.

- System Architecture
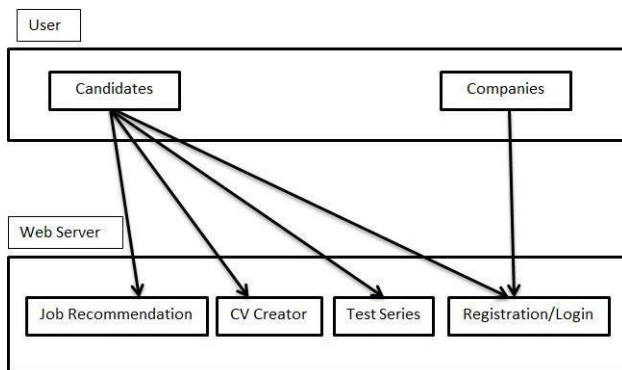
A. Job Recommender

This component matches the skills of the student with the skills requirements in job posts from a company. When lots of jobs are posted by different companies, it sometimes becomes tedious and difficult for the students to go through all the jobs posted. Also, not all jobs are suited to every student. Thus, here comes the role of the recommendation system, it saves time and also makes the task of students easier to find the best-suited job for them. It is displayed on the home page of the student. The skillset of each student is first split into a set of individual skills and the job posts that include these skills are then recommended to that particular student.

B. CV creator

This component is useful for students to create their CV which later on can be viewed by companies to select perfect candidates for the job. Students can fill in their basic information, education details, projects worked on to date, skills possessed, experience gained through an internship or part-time job, certification received through an online course, or any other means and languages one knows. Students can also update, add, and delete their information

whenever required. It is better if students regularly update their CV. This increases their chance of finding good jobs. Along with creating their CV, students can download their CV in PDF format to use it outside the system. Several attractive templates have been provided with this component to generate decent looking CVs. Companies can also download the CV of students which they find important for themselves. One standard template has been provided for companies to download CV in PDF form.

C. Test Series

The candidates should be genuinely capable to apply for a job if he/she possess the skills required. So to verify the skills and to check the capability of the candidate, test series is implemented. The test to be given is compulsory for the candidate else he/she cannot apply for the job on this portal. The tests can be given on many languages and subjects which the candidate is interested in regarding the job profiles they want to apply. The test series marks will be displayed on their profile and will be considered by the companies too.

D. Company Portal

The Company Side Portal is used for the Login and Registration of new Companies. It Allows the Companies to set requirements for the needed Job Profile. On the Company Side Portal the Notifications Regarding the Candidates who applied for that Specific Job Profile is displayed. If the Company wants to reply a certain Candidate, the Company can see his/her Profile as well as Resume and as soon as he reply an email will be sent to that particular Candidate else the Company can delete the Request Notification. As soon as the required designation filled the registered Account of Company can be deleted

IV. RESULTS

The job recommendation namely Jobify displays the jobs with more accuracy, sensitivity, and specificity compared to the existing such as Monster, LinkedIn, and Naukri.com.

Accuracy:
Accuracy can be defined using the reliability, truthfulness, and correctness of the content and we have calculated the accuracy based on these 3 parameters. Formula for Accuracy = (correctly predicted class / total testing class) × 100%
Accuracy of Monster India: (3/3)*100% = 100% Accuracy ofLinkedIn: (3/3)*100% = 100% Accuracy of Naukri: (3/3)*100% = 100% Accuracy of Jobify: (3/3)*100% = 100% Providing job profiles according to the candidate's skills and also displaying the accurate company information, unlike other systems that also provide spam profiles.

Sensitivity:
Sensitivity is based on true positive and false negative values

A true positive is an outcome where the model correctly predicts the positive class and A false positive is an outcome where the model incorrectly predicts the positive class. I have visited this website and based on some true and false outcomes have calculated this. The formula for Sensitivity = TP /

TP + FN

Sensitivity of Monster India: 280/(280+30) = 0.90*100=90% Sensitivity of LinkedIn: 300/(300+15) = 0.95*100=95% Sensitivity of Naukri: 280/(280+30) = 0.90*100=90% Sensitivity of Jobify: 300/(300+15) = 0.95*100=95%

The new system reacts towards the stimulation efficiently than the existing systems due to the test series, resume builder, probability towards the job profile, etc.

Specificity:

The specificity of a test is defined in a variety of ways, typically such as specificity being the ability of a screening test to detect a true negative, it is based on the true negative rate, correctly identifying people who do not have a condition. The truenegative is an outcome where the model correctly predicts the negative class and a false positive is an outcome where themodel wrongly predicts the positive class. I have visited this website and based on some true and false outcomes havecalculated this. Formula for Specificity = TN / TN + FP Specificity of Monster India:

675/(675+75) = 0.90*100=90% Specificity of LinkedIn: 675/(675+75) = 0.90*100=90%Specificity of Naukri: 675/(675+75) = 0.90*100=90% Specificity of Jobify: 700/(700+20) = 0.97*100=97% (Likely100%)

Specifying the correct guidance towards the job application by testing the candidate's every skill and helping them by recommending accurate jobs according to their eligibility rather than just displaying all the jobs regardless of the eligibility.
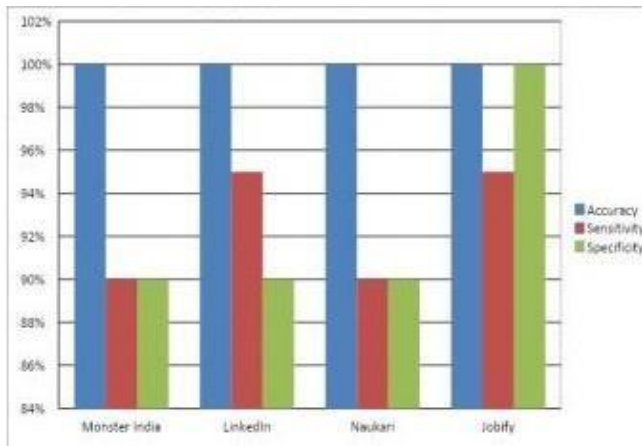
V. CONCLUSION AND FUTURE WORK.

The portal of the candidate side has been completed with the resume builder which can build a resume in various patterns and can also be downloaded in a pdf format. Also, the test series with a variety of languages and streams are available. The sorting and searching for jobs with the probability is displayed on the candidate's end.

Future Work :

The further process of recommending a job using algorithms on both skills and job profile will be done. The algorithm needs to be brought into use on both candidates' and companies' side. The marks scored by the candidates will be used in the algorithm and also be displayed on their profile.

VI. REFERENCES

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