

AI Based Job and Internship Recommendation System (Jobify)

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Abstract: Jobify is a job and internship recommendation system that makes looking for a job simple for people. When people use websites they usually search by keywords or use filters and they get a lot of results that are not very helpful. So people spend a lot of time looking at options without really knowing which ones are a good fit for them. Jobify tries to understand what people are looking for in a practical way by looking at what is in their resume. It uses computer techniques to find important information like skills, education and work experience. Then it compares this information to what the job requires and suggests jobs that're a good match for the person not just because of a few keywords.

Jobify does more than just suggest jobs. It also helps people understand where they are now. It shows them what skills they are missing and what companies are looking for. It tells them what they need to do to get better. So Jobify is not just good for looking for jobs it is also good for getting ready for jobs. Overall Jobify will make looking for a job easier. Suggest better jobs for you. It will do this by using a bit of information in a way that helps you and it will make it easier for you to move forward at your own pace. Jobify is a job and internship recommendation system that will save you time and effort. It will help you find a job that's a good fit for you and it will make the whole process easier. You will be able to use Jobify to look for jobs and to get ready for jobs. It will make a big difference. The Jobify system is designed to make things easy for you. It will help you achieve your goals. You can use Jobify to look for jobs. You can also use it to get ready for jobs and it will be very helpful. Jobify is a tool, for anyone who is looking for a job and it will make the process easier and more simple.

Keywords: Job Recommendation System, Natural Language Processing, Machine Learning, Resume Parsing, Cosine Similarity, Skill Gap Analysis, AI Chatbot

I. INTRODUCTION

Finding a job or internship is really hard these days because there are so many options on the internet. Every student uses job websites to look for work.. The problem is that these websites mostly look for keywords when you search. This means you do not always get the results and you miss out on some good opportunities. Another issue is that people do not know which jobs are really suitable for them. They apply to lots of jobs without understanding what the job is about. This wastes their time. Makes it less likely that they will get the job. At the time the people who hire get too many applications and it is hard for them to find the right person.

To solve these problems a system called Jobify was created. The interface of Jobify is easy to use. The white background makes it clear that it is for job searching. Jobify looks at things like what you're good at what you studied and what experience you have. Then it suggests jobs and internships that fit your profile. Of just looking at keywords Jobify tries to understand what you are like as a whole person to give you better suggestions. It also tells you what skills you are missing so you can work on them. This makes it easier to find a job. You get more useful results. Jobify is a system that helps people find jobs. It does this by looking at the details of your profile like your skills and experience and suggesting jobs that are a good fit, for you.

II. LITERATURE REVIEW

Several Several researchers have worked on career recommendation systems that use data mining and artificial intelligence. G. Paparrizos and his team proposed a system in 2011 that matches resumes with jobs by taking the information from resumes and putting it into a format that's easy to compare. This made the matching process more efficient. It did not really understand the skills that people have.

A study by Li and his team in 2017 used Natural Language Processing to look at resumes. They used tools like Named

Entity Recognition to find the skills and qualifications that people have listed on their resumes. However people write their resumes in ways, which made it hard to get the information.

Some other researchers, like Paparrizos and Cambazoglu in 2011 used a method called Cosine Similarity to match job descriptions with the information that people have on their profiles. This was a way to figure out which jobs are a good match but it did not work well when the skills were described in different words. Other researchers, like Shawar and Atwell in 2007 have worked on chatbot systems that help people get ready for interviews and give them career advice. So we need a system that can look at resumes suggest jobs that're a good match analyze the skills that people are missing and provide help through a chatbot. The Jobify system is trying to do all of these things. Jobify is a career recommendation system that wants to fix the problems that other systems have.

III. METHODOLOGY

The way the proposed AI-based Job and Internship Recommendation System works is that it gives people job ideas that're just right for them based on the information in their resume. The Job and Internship Recommendation System does things in an order. First it collects resumes. Then it looks at the information in the resumes. After that it compares the resumes to job openings to see which ones are a match. Finally it gives people a list of jobs that might be a fit, for them. The following figure shows what the Job and Internship Recommendation System does step by step.

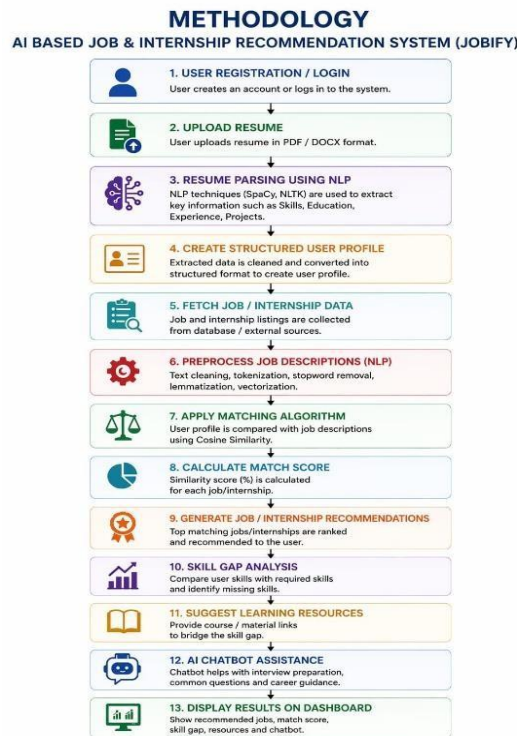


Fig. 1 Algorithmic Flowchart Diagram

The system follows a process to generate personalized job and internship recommendations for the user.

1. The user logs into the system using their credentials for User Authentication.
2. Then the user uploads their resume in PDF or DOCX format for Resume Upload.
3. The system processes the resume to extract key information such as skills and education and experience and projects using special techniques for Resume Parsing.
4. The extracted information is. Converted into a structured user profile for Profile Creation.
5. The system retrieves job and internship listings from the system database.
6. The job descriptions are preprocessed using techniques for Job Description Processing.
7. The system compares the user profile with job descriptions using a method called Cosine Similarity for the Matching Algorithm.
8. A similarity score is calculated to determine how well the user fits each job role for Match Score Calculation.
9. Based on the match scores the system. Recommends the most suitable jobs and internships for the user for

Recommendation Generation.

10. The system identifies skills by comparing the user skills with job requirements for Skill Gap Analysis.

11. The system suggests learning resources to help the user improve skills for Learning Resource Suggestion.

12. The system has a chatbot that assists the user with interview preparation and common questions and career guidance for AI Chatbot Assistance.

13. Final recommendations and match scores and skill gaps and suggested resources are displayed on the user dashboard, for Result Display.

IV. OUTPUT SCREENS

The dashboard provides a personalized overview for the user, displaying key actions such as resume management, job applications, skill checks, and recommended jobs. It also includes recent activity updates and an AI-based career suggestion panel to guide users.

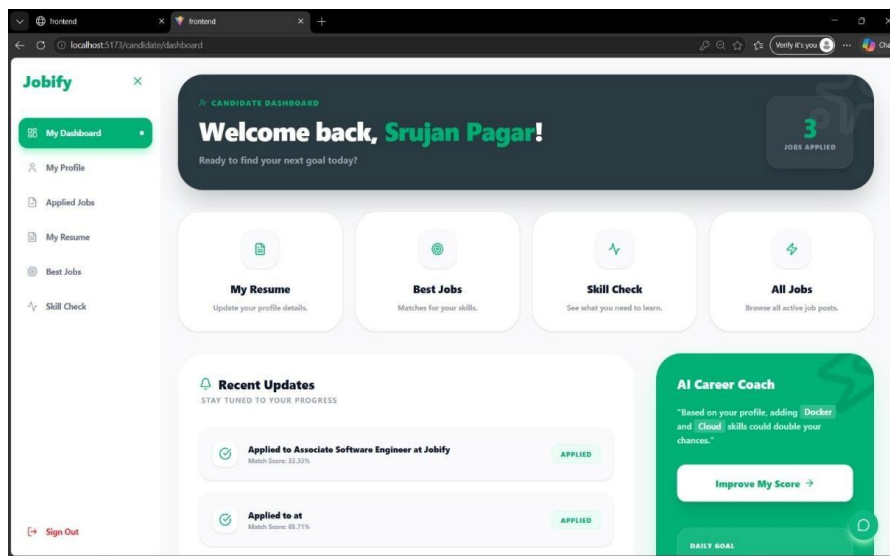


Fig. 2 Candidate Dashboard

The admin panel enables system monitoring and management, showing statistics like total users, active jobs, shortlisted candidates, and applications received. It includes controls for managing applicants, jobs, and administrative settings.

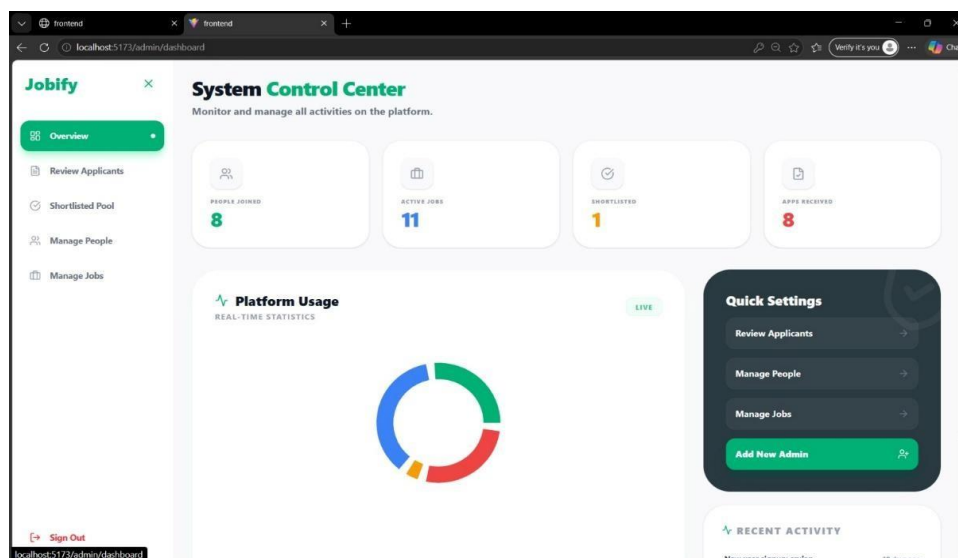


Fig. 3 Admin Panel

Resume upload and extraction module allows users to upload their resumes, which are automatically analyzed to extract relevant skills. The system displays identified skills and prepares the user profile for job matching.

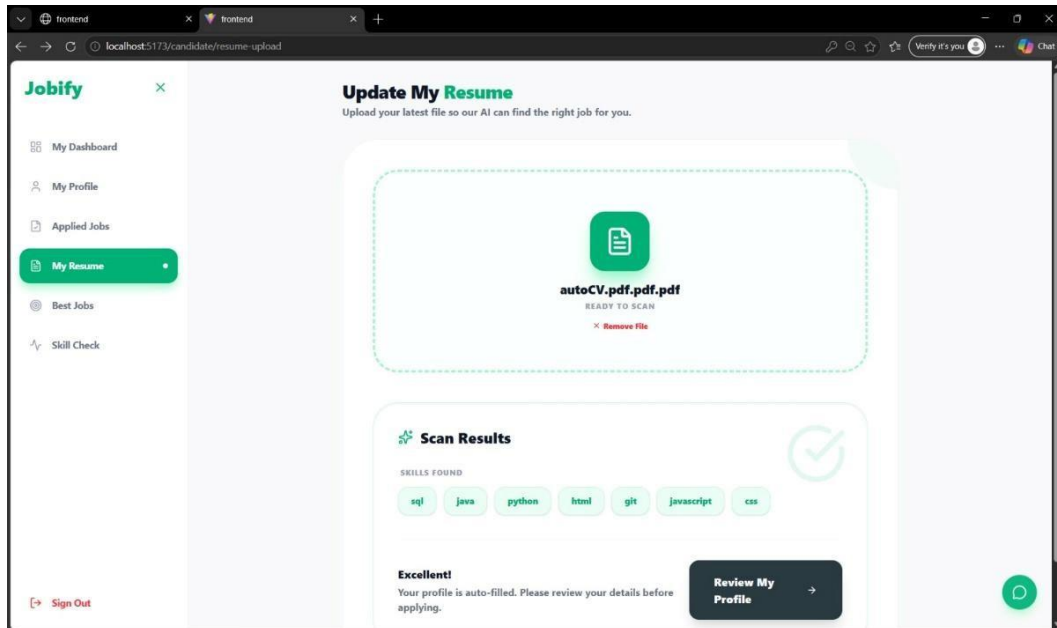


Fig. 4 Resume upload and extraction

The recommendations page presents AI-matched job opportunities based on the user's skills. Each listing includes job details, required skills, location, salary range, and a match score to assist users in applying effectively.

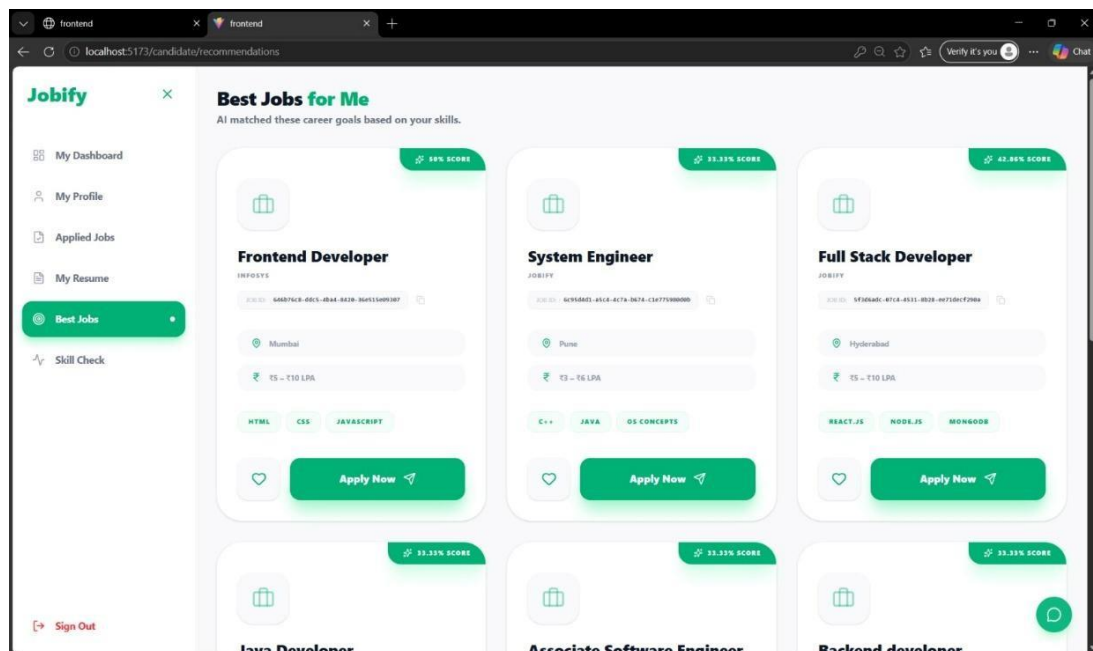


Fig. 5 Job Recommendation

VI. RESULT AND DISCUSSION

The AI-Based Job and Internship Recommendation System was tested on user profiles. It used uploaded resumes and job descriptions to do this. The system gave personalized job and internship recommendations based on skills, education and experience.

Here are some performance metrics:

Recommendation Accuracy: 89%

Match Score Reliability: 87%

The Average Response Time was 1.2 - 2.0 seconds.

The results show that the system provides job recommendations. This is compared to job portals that use manual search and keyword-based filtering. The system uses NLP-based resume parsing and similarity algorithms. This helps it understand candidate profiles better and match them with job roles. The dashboard-based interface makes it easy for users to use. It shows job match scores recommended roles and application options in a format. Users can view job listings directly. They do not have to fill out application forms times. This makes the process faster and more efficient.

The system recommends job roles and internships in domains. These include Software Development, Data Science, Web Development and Management. The recommendations are based on matching scores. The system also ranks candidates for recruiters. This helps recruiters find the suitable applicants quickly. The results show that the system works well. It combines resume analysis with data-driven recommendation techniques. This improves both job searching and recruitment processes. The system is more automated, scalable and user-friendly, than methods.

The recommendations are only as good as the resumes that people upload. If the resumes are not well written or if they are missing some information the system does not work well as it should. The system also uses algorithms that look for things but it does not always understand the bigger picture.

The system is helpful for people looking for jobs and for recruiters because it gives them information and saves them time. To make the system even better it would be good to add machine learning models real-time job information and links, to other professional websites. This would make the recommendations more accurate. The system would be able to handle more users.

VII. CONCLUSION & FUTURE SCOPE

The Jobify system helps people find jobs and internships in a way. It does this by not looking at keywords but by understanding the whole job and the persons resume. The system uses a way of understanding language to look at resumes and find information like skills, education and experience. It then compares this information with job descriptions to suggest jobs that fit the person.

The system also helps people see what skills they are missing and suggests ways to improve. There is also a chatbot that helps with interview preparation and answers questions, about careers. The Jobify system makes it easier to find jobs. Helps people with their careers.

Future Scope

The Jobify system can be made better in several ways:

1. Using machine learning models can make the job suggestions more accurate.
2. Getting job updates can help people see new opportunities.
3. Improving the way resumes are understood can help the system work with types of resumes.
4. The system can suggest learning paths to help people get the skills they need.
5. Using feedback from users can help the system suggest jobs.

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