

# Resume Sorting using Artificial Intelligence

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**Abstract:** Nowadays, we have seen the technology reaching new heights than ever before. Hence a lot of good chances of employment have been created for a lot of people. But each and every organization has a different way of working. For this different way of working they need people who have a specific skill set. These recruitments are done on the basis of seeing the skill set mentioned in the person's resume who is applying. Now we see that there are a lot of people who apply for a job. Going through the resumes of these people manually is extremely time consuming and less efficient as there are chances of human intervention error. Hence we have proposed a project which will sort all the resumes according to the requirement of the company and forwards it to the respective HR for further recruitment process. In this project we are going to use the technology of Artificial Intelligence. We are going to train the system for recognizing the words by coding in Python language. We are going to use a database of resumes. The system will be trained in such a way that when a resume is to be scanned it will search only for the words or the special skills according to the requirement by the company and sort it accordingly. The required resume is shortlisted and the rest are rejected. This will give high efficiency compared to the manual sorting and give produce good results. This process is also not time consuming.

**Keywords:** resume sorting, artificial intelligence

## 1. Introduction

The evolving technology is creating many chances of employment for many. Nowadays to apply for any job the most essential document is a resume. Resume tells a lot about the person's achievements and the skill sets in all walks of life. The person applying for the job highlights his strong points and skill sets required for the companies. The multinational organizations receive thousands of mails from such people who send their resumes for them to apply for a certain post. Now the real challenge is to know which resume is to be sorted and shortlisted according to the constraints. One method is to manually check and sort the resume. Now this method is the most time consuming and also can lead to a lot of errors because of human interventions. Also humans cannot keep on working continuously. Hence there is a problem of less efficiency as well.

Thus we have proposed a system which will easily find the required skill set by scanning the document or the resume and sort according to the skill sets which is a specified constraint of the organization. We are going to use the concept of Artificial Intelligence (AI). AI for recruiting is an emerging category of HR technology designed to reduce or even remove time-

consuming activities like manually screening resumes.

## 2. Background

Day by day there are so many new researches that are being carried out by so many organizations in many fields. Right from the IT sector to the Medical fields there are so many researches as well as progresses made in day to day life. These progresses in these fields are creating new employment opportunities all over the world. Now we know that the hiring process across the world is the same. That is the candidate has to make the resume first and as most of the recruitment process is based on the candidates' resume. Now most of the organizations tell the candidates to send the resume via e-mails. Now after they receive the email the next job is to sort them according to the requirement. Now usually they sort these manually but this process is time consuming. Also there may be so many errors due to that. The efficiency of such sorting is extremely low. This may result in giving a chance to a candidate whose credentials are not up to the mark for the organization or this may also make the manual sorting miss the candidate who is extremely good for the organization. Hence a system which is intelligent enough to sort all these documents without any error and within time is needed which is exactly our aim. AI for recruiting is the application of artificial intelligence, such as the learning or problem-solving that a computer can do, to the recruitment function. This new technology is designed to streamline or automate some part of the recruiting workflow, especially repetitive, high-volume tasks. For example, software that applies machine learning to resumes to auto-screen candidates or software that conducts sentiment analysis on job descriptions to identify potentially biased language.

## 3. Project structure

Following is the block diagram of the project. It shows the process from selection of resumes according to the domain and the skill sets. Further it segregates the resumes as selected or rejected and stores them in the form of excel sheets. Lastly it forms different folders which stores data regarding selected and rejected resumes each. Nowadays due to such advancements and development in the technology, the employment rate has increased to a greater extent. A lot of skillful people are needed in the industry for working with these technologies. Hence a lot of companies are holding mass recruitment drives to hire more people. Now the company needs to know how exactly the

person is that is whether he/she is fit for their company in all aspects or not. The best way to know about all of this at one single glance is the Resume. We all are aware as to what a resume is. The1. resume contains all the basic information about the applicant’s qualification, academics and all the other extracurricular skills. This helps the interviewee to judge the person who has applied. But the major issue is the number of applications or resumes that are received. There are thousands of applications that are received. Now it is not possible for the HR to go through each and every resume personally. Hence we have created system that solves this problem efficiently. We have proposed system that can solve this in no time we have a dataset of some resumes in a format. what are system2. does is it takes the path at which the resumes are stored. Now the company creates the job for a particular designation these designations need a particular skill sets. These are also given by the company. So our system scans the document optically and searches for particular keywords that have been prescribed. Then it goes on for the names, age, experience, etc. and scans the whole document. Then according to the guidelines the resumes are sorted. There are separate excel sheet created where all the selected and rejected candidates' names and their lacking skills (only in case of the rejected list) are displayed separately. Then there are separate folders of selected and rejected resumes where all the resumes are stored accordingly. This helps the recruiter to get to interview people who are apparently fit for the post. Hence in this way the process is hassle free and also time saving. And in this way the organization can also hire good and trustable candidates.

can rank these candidates based on your hiring pattern. So, shortlisting of candidates happen right away. With more time available, recruiter can spend their time in talking to most promising candidates and increase their chance of finding right talent faster.

*Engage Best Candidates:* Recruiters process resumes in the order they receive it or find it. Many a times they either receive applications that are not relevant to the job or when they search for candidates on job boards, they are often misled by error-prone keyword matching techniques. e.g. when recruiters are searching for Oracle developers they end up finding many Java developers because both kind of candidates have mentioned pl-sql on their resume. Similarly, it happens for Financial Analyst vs. Data Analyst or Company Secretary Vs Personal Secretary. The examples are countless. Basically, recruiter may end up spending lot of time in engaging non relevant candidates. When you have already spent days in engaging not so good candidates, you may tend to believe that good candidates are difficult to find and then You start thinking about compromises. Use of AI for resume screening eliminates such noise from your resume screening process. Therefore, chances of you interviewing most suitable candidates are significantly higher.

*AI for Resume Screening Can Reduce Unconscious Bias:* Believe it or not but we tend to have unconscious bias towards many things. Recruitment is no exception. Many a times a hiring manager or a recruiter makes a decision by just reading the name of a candidate. Candidate demographics such as gender, race, religion or region can fuel such unconscious bias. Use of AI for resume screening can eliminate such biases. Influential factors such as demographic details can be completely ignored while screening candidates. Diversity is an important factor in an organization’s success. Hence it is important to address such unconscious biases that may restrict diversity at your organization.

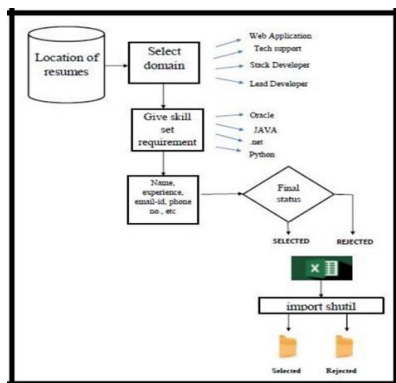


Fig. 1. Basic block diagram

#### 4. Advantages

Recruiters that are using AI for resume screening are clearly at an advantage over recruiters who are either doing it manually or using traditional Applicant Tracking System (ATS) methods for resume screening. Let’s look at some of these advantages.

*Freeing Up Recruiters Time:* On an average, every job post receives about 250 candidate applications. If a recruiter spends about 2 minutes for screening a resume, it is 500 minutes a day. A Resume screening software can do that in 2 seconds. Yes! in 2 seconds. In addition to that, using AI for resume screening

#### 5. Conclusion

AI for recruiting is the application of artificial intelligence to the recruitment function that is designed to streamline or automate some part of the recruiting workflow, especially repetitive high-volume tasks. The main benefits of using AI include saving recruiters’ time by automating high-volume tasks and improving quality of hire through standardized job matching. The major challenges of using AI for recruiting include requiring a lot of data, the potential to learn human biases, and skepticism of new technology by HR professionals. The innovations in AI for recruiting are intelligent screening software that automates resume screening, recruiter chatbots that engage candidates in real-time, and digitized interviews that help assess a candidate’s fit. AI will change the recruiter role through augmented intelligence which will allow recruiters to become more proactive in their hiring, help determine a candidate’s culture fit, and improve their relationships with hiring managers by using data to measure KPIs such as quality of hire.

### Acknowledgement

We are extremely grateful to our professors Prof. R. U. Shekokar, Prof. Varsha Kshirsagar and Prof. Sayali Begampure for their valuable support from the very beginning. We are also thankful to our Principal Dr. V. V. Dixit for his correct guidance for the flow of the project.

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