

# Project on AI Recruiter – Shortlist a Suitable candidate for specific Job Role

**Team Name: Code Legion**

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## 1. Introduction

### 1.1 Overview

Our project is about how we can ease the process of recruiting by introducing artificial intelligence in the process, and to reduce menial tasks like screening resumes as it takes almost 23 hours to screen and to shortlist the candidate for interview. As a bonus, speeding up these parts of recruiting through automation reduces time-to-hire, which means you'll be less likely to lose the best talent to faster moving competitors and can also reduce cost.

### 1.2 Purpose

Our purpose is to increase the efficiency of the recruiting and reduce the time that is taken by the recruiter to minimal and speed up the parts of recruiting through automation so that the companies can find the best talent for their job and can increase the recruiting chances by 50% or more.

## 2. Literature Survey

### 2.1 Existing Problems

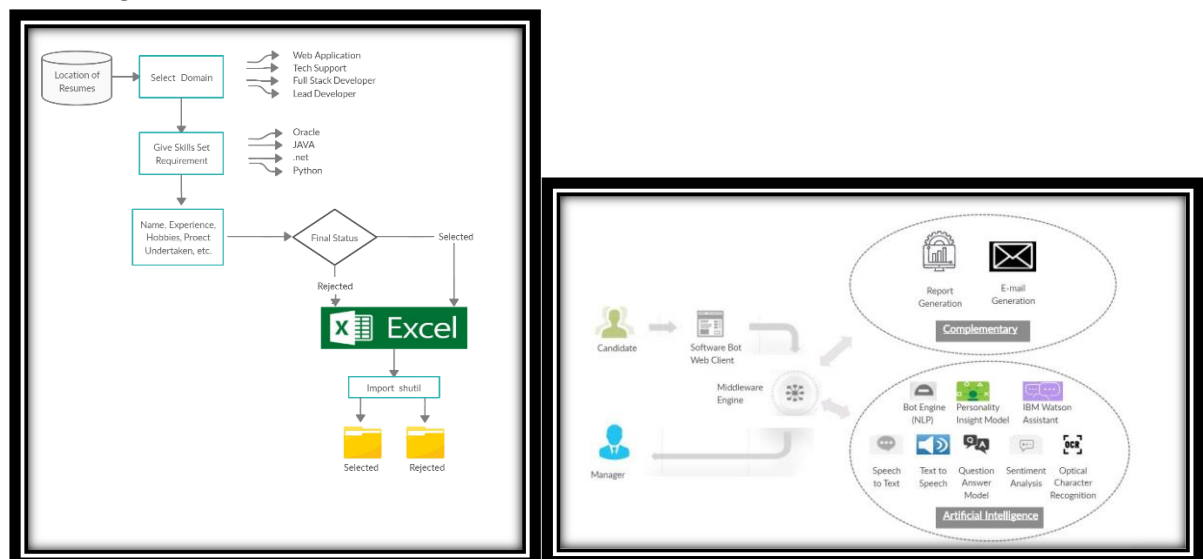
- A laborious and inefficient process to sift through a high volume of incoming resumes in order to separate out the best qualified candidates quickly.
- An inability to quickly manage candidates by skill type resulting in longer search time and the lack of ability to “mine” your own resume collection.
- Time-consuming and inconsistent communication to your candidates.
- Manual production of applicant flow. Data is frequently incomplete and/or inaccurate.

### 2.2 Proposed Solution

When the candidate will submit his/her resume, our artificial intelligence induced app bot will screen the resume and will look for the skills required for the job and if the candidate is eligible for the job the bot will ask the candidate some questions related to the company's job description and the bot will identify the skills and personality traits through conversation and will schedule interview with the HR of the company.

## 3. Theoretical Analysis

### 3.1 Block Diagram



Block diagram for sorting resume

Architectural Flow

## 3.2 Hardware/Software Design

### HTML5

<https://en.wikipedia.org/wiki/HTML>

<https://www.w3schools.com/html/>

### CSS

[https://en.wikipedia.org/wiki/Cascading\\_Style\\_Sheets](https://en.wikipedia.org/wiki/Cascading_Style_Sheets)

<https://www.w3schools.com/css/>

### Django

<https://www.djangoproject.com/>

[https://en.wikipedia.org/wiki/Django\\_\(web\\_framework\)](https://en.wikipedia.org/wiki/Django_(web_framework))

### JS

<https://www.w3schools.com/js/>

<https://en.wikipedia.org/wiki/JavaScript>

### Python

<https://www.python.org/>

[https://en.wikipedia.org/wiki/Python\\_\(programming\\_language\)](https://en.wikipedia.org/wiki/Python_(programming_language))

### Photoshop

<https://www.photoshop.com/>

[https://en.wikipedia.org/wiki/Adobe\\_Photoshop](https://en.wikipedia.org/wiki/Adobe_Photoshop)

### Cloudant

<https://cloud.ibm.com/docs/Cloudant?topic=Cloudant-getting-started-with-cloudant>

<https://en.wikipedia.org/wiki/Cloudant>

<https://cloud.ibm.com/catalog/services/cloudant>

### Watson assistant

<https://cloud.ibm.com/apidocs/assistant/assistant-v1>

<https://cloud.ibm.com/catalog/services/watson-assistant>

### node red

<https://nodered.org/docs/>

<https://github.com/IBM/node-red-app>

### text to speech (IBM)

<https://cloud.ibm.com/apidocs/text-to-speech?code=python>

<https://cloud.ibm.com/catalog/services/text-to-speech>

### Personality insights (IBM)

<https://cloud.ibm.com/apidocs/personality-insights?code=python>

<https://cloud.ibm.com/catalog/services/personality-insights>

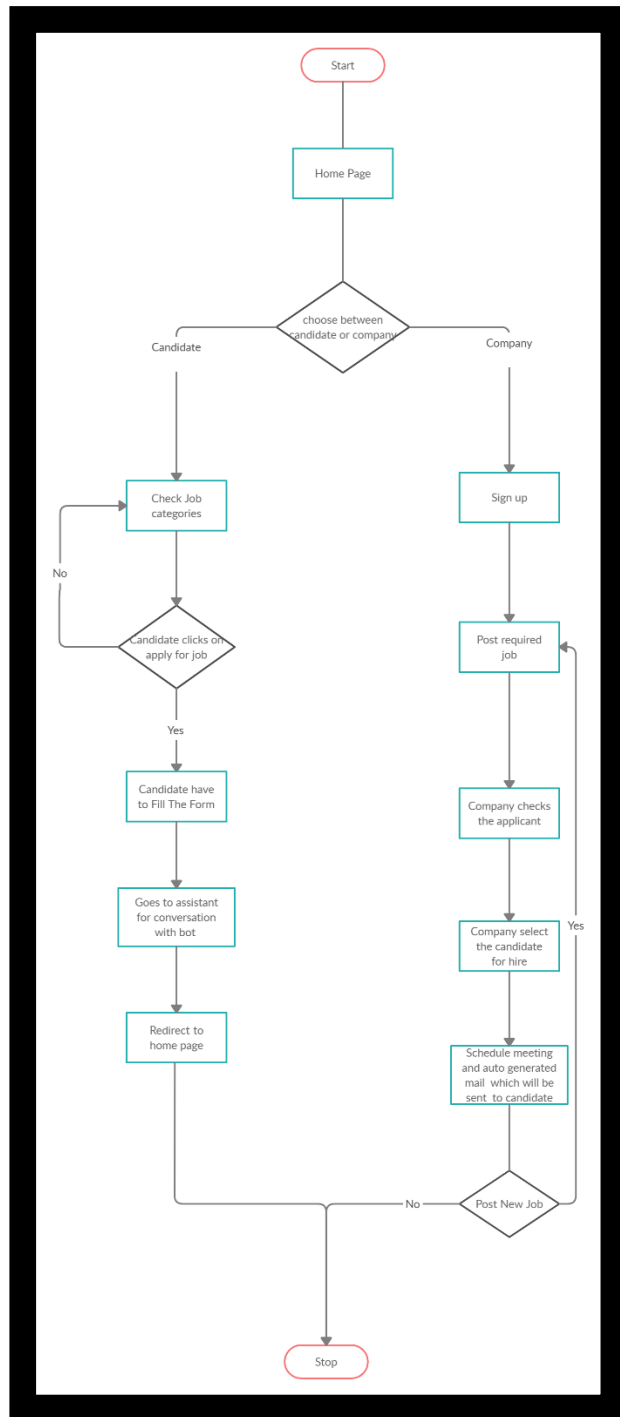
#### 4. Experimental Investigations

We came to know that how huge companies do their recruitment process and how they manage to do that without the help of an AI recruiting chatbot.

And came to know, how much time does the company take while taking the decision to recruit a candidate and to check if the candidate is best suited for the company and if it can profit the company.

We also came to know that how our project can save an ample amount of time compared to the offline recruiting and also save money by using an AI recruiting chatbot.

#### 5. Flowchart



## 6. Advantages and Disadvantages

### Advantages:

- As the recruiting can take up to 23 hours for screening and scheduling for the interview by the HR, AI induced recruiting app bot can screen and schedule the interview without consuming hefty amount of time.
- The advanced chatbots that use NLP (Natural Language Processing) to communicate to the candidate which can analyse them better.
- The recruiting chat bot can screen the resume and select the candidates based on their skill without needing the human to check it.
- Using AI for recruiting can reduce the cost of screening and turn over up to 75% and 35% respectively.

### Disadvantages:

- The chat bot cannot answer any complex questions as it is only programmed to answer certain questions.
- AI can seem impersonal, which can negatively affect company perception and the employment brand.
- AI can take a lot of time to set up properly, especially when trying to get it right and minimize the downsides.
- Even good AI-based screening systems have difficulty evaluating soft skills, which are crucial to many jobs.

## 7. Application

- One of the latest applications of AI in recruitment, chatbots are used for automating communication usually through advanced textual methods. They are becoming increasingly popular because they boost the overall candidate experience instantly.
- Digitized video interviews can come in handy for facilitating a face-to-face interaction with remote as well as non-remote candidates. Another benefit of video interview is that they allow both recruiters and potential job candidates to save a great deal of time. By conducting AI-powered digitized video interviews, recruiters can effortlessly assess the mood, facial expressions and behavioral traits of candidates.
- Due to the recent developments in AI for recruitment, it has now become possible for recruiters to automate talent sourcing and strengthen their existing pipeline of candidates. With the most advanced AI-powered recruitment solutions, you can browse through the large pool of candidates' social profiles online to find the best fit for the job without putting in many endeavors.
- here is absolutely no denying the fact that talent rediscovery is of utmost importance for most hiring managers. Especially in today's candidate-driven job market, reaching out to the best talent in less time is not a piece of cake in the least bit. Owing to the tough competition for the best talent, a large number of companies around the world are struggling to find highly qualified candidates for open job vacancies despite their best efforts. Hence, recruiters can make use of Artificial Intelligence (AI) to instantly scrutinize job descriptions and rediscover candidates by searching through the existing ATS database.
- One of the newest applications of AI in recruitment, sentiment analysis tools are used by multitudes of recruiters around the world to improve the candidate experience by collecting feedback from candidates in their preferred social surroundings rather than via traditional feedback forms that take a lot of time to complete. Artificial Intelligence (AI) can easily analyze the sentiments of candidates in a better way than human beings.

## 8. Result

Using our website, the company can save an ample amount of money and time, which they have to give from screening the resume to scheduling the candidate by giving them service 24x7. The company can post as many jobs as they want and candidates can apply for any job they want. We also give an overview of all the applicants that applied for the job in the company's dashboard and arrange all the applicants in order so that the best talent is visible on top of the company's dashboard. Applicants who applied for the job can also have a look at their dashboard and check out how they did in their test. When the company selects the candidate, an email is directly sent to the selected candidate.

## 9. Conclusion

So, we can conclude that the chatbot can screen the resume and analyze the personality traits through conversation using NLP and shortlist the candidate for the interview.

## 10. Future Scope:

The AI recruiting chatbot is going to have huge scope in future, as the number of people increases so does the requirement of jobs and to handle people applying for the job in huge companies, a human cannot consult everyone and check the skill of the applicant in a short time, so using the AI recruiting chatbot can remove the menial tasks done by the human by screening the resumes to scheduling the interview with the company's HR and the AI recruiting chatbot can also analyze the personality traits, making it easier for the company to recruit the best talent for their company any reduce cost and turnover of the company.

## 11. Bibliography

AI. **"AI For Recruiting: A Definitive Guide For HR Professionals."** *Ideal*. Retrieved on July 12, 2020 from <https://ideal.com/ai-recruiting/>.

Upadhyay, Abhishek. (October 11, 2019) "AI in Recruitment – Benefits and Challenges." *TecHR Series*. Retrieved on July 12, 2020 from <https://techrseries.com/primer/ai-in-recruitment-benefits-and-challenges/?cn-reloaded=1>.

Naukri RMS. (December 24, 2019) "5 New Applications of AI in Recruitment." *Naukri RMS*. Retrieved on July 13, 2020 from <https://www.naukrirms.com/blog/5-new-applications-of-ai-in-recruitment/>.

Helios. (March 26, 2014) "Biggest Problems of Manually Tracking Applicants." *Helios HR*. Retrieved on July 13, 2020 from <https://www.helioshr.com/blog/2014/03/biggest-problems-of-manually-tracking-applicants-2>.

## Appendix

### A. Source Code

<https://github.com/SmartPracticeschool/SBSPS-Challenge-1423-AI-Recruiter-Shortlist-a-Suitable-candidate-for-specific-Job-Role>