Dayalbagh Educational Institute, Agra

Proposal (Major Project-608)

Resume Screening Using Machine Learning Algorithms

Presented to -
Dr. A Charan Kumari

Group Members –
Ayushi Tripathi (1806082) - Leader
Shreya Sharma (1806115)
Sonal Priya (1806117)

I. Introduction

Writing a resume is not a trivial task, especially when it comes to the right selection of keywords. People spend hours writing and formatting the perfect resume hoping it to be read by a talent acquisition professional and, eventually, help them land a job interview. Unfortunately, around 75% of resumes submitted are never seen by a human eye.
Due to the high number of applicants and resumes submissions to job postings, manual resumes screening processes become tedious, ineffective and time consuming for talent acquisition professionals. Therefore, standardized automated screening methods are necessary to categorize qualified from unqualified candidates based on their background, education and professional experience faster, with more efficiency and more accurate results to streamline hiring processes.

II. Purpose

Hiring the right talent is a challenge for all businesses. This challenge is magnified by the high volume of applicants if the business is labour-intensive, growing, and facing high attrition rates.

An example of such a business is that IT departments are short of employees in growing markets. In a typical service organization, professionals with a variety of technical skills and business domain expertise are hired and assigned to projects to resolve customer issues. It is a time-consuming task of selecting the best talent among many candidates manually. So, to speed up the process of hiring candidates for such industries, machine learning algorithms can be used for the Resume Screening task.

III. Problem Statement

Today the major problem being faced across the industry is how to acquire the right talent, using minimal resources over the internet and in minimal time. There are three major challenges that are required to be overcome, to bring efficiencies to the complete process, which are:

- Separating the right candidates from the bulk
- Making sense of candidate's Resume
- Knowing that candidates can do before company the job hires them

IV. Solution

The intend of this project is to provide a solution to the above-mentioned challenges by automating the process. The solution would help to find the right Resume from the large dumps of Resume; would be agnostic to the format in which Resume has been created and would give with the list of Resume which are the best match to the job description provided by the recruiter. The proposed solution involves supervised learning to classify the resumes into various categories corresponding to the various domains of expertise of the candidates.

V. Literature Review

In the present system the candidate has to fill each and every information regarding there resume in a manual form which takes large amount of time and then also the candidates, are not satisfied by the job which the present system prefers according to their skills. Let us tell you a ratio of 5:1 means, If 5 people are getting job than out of that 5, only a single guy will be satisfied by his/her job. Let us tell you an example : If someone is a good python developer and particular company hired him/her and they

are making him/her work on Java so, his/her python skills are pretty useless. And on the other hand, if there is vacant place in a company so according to owner of the company he/she will prefer a best possible candidate for that vacancy. So our system will act as a handshake between these two entities. The company who prefer the best possible candidate and the candidate who prefers the best possible job according to his or her skills and the ability.

VI. Challenge

Training Set for standard ranking algorithm – Many algorithms are involved to solve the ranking problem. Most of the ranking algorithms fall under the class of "Supervised Learning" which would need a training set consisting of resumes graded by an expert. As we saw earlier, this task is quite difficult as the grade will not only depend on the candidate profile but also on the job requirements. Moreover, we can't afford the luxury of a human expert training the algorithm for every job opening. We have to use data that is easily available without additional efforts. We do have some data from every job opening as hiring managers screen resumes and select people for interviews.