INTERNET TECHNOLOGY AND APPLICATIONS

PROJECT REPORT

PERSONALITY PREDICTION SYSTEM THROUGH CV ANALYSIS

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INTRODUCTION

The system enables an effective and efficient way to short list submitted candidate CVs by a large number of applicants providing a consistent and fair CV ranking policy, which can be legally justified. The system will rank the experience and key skills required for a particular job position. This system will help the human resource (HR) department to easily shortlist the right candidate for the particular job profile based on the CV ranking policy and ensure expert workforce for the organization. Here, the candidate will register him/herself with all the required details and will upload his/her own CV into the system, which will be further used by the system to shortlist the CV. Candidate can also give an online test, which will be conducted on personality questions as well as aptitude questions. After completing the online test, candidates can view their own test results.

LITERATURE SURVEY

The prior research done on the related fields include:

- **A novel approach to evaluate and rank candidates in a recruitment process by estimating emotional intelligence through social media data (2017):** Implemented as a web application, the system lets employers post new job openings, and recruit by estimating their emotional intelligence through social media data. The system proposed in the paper processes the technical eligibility criteria based on the entries made by the users in their online resumes and the applicants' emotional aptitude by leveraging their presence in the social media, and by using linguistic analysis. In our proposed system, we focus mainly on the technical aspect, and calculate the eligibility based on the various technical criteria like the University score, the GPA score, programming score, word count, degree and other factors.
- **Neural network approach to personality prediction based on big-five model(2014):** The social media data provides information about human behavior and social interactions, making it possible to understand who the users are, where their interests lie and what they require. In the Big Five Model, personality is partitioned into five categories (or dimensions) namely Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. We have used this paper for understanding the concept of neural networking.
- **Application of Machine Learning Algorithms to Online Recruitment System (2012):** The system proposed in the paper extracts a set of objective criteria from the applicants' LinkedIn profile, and infers their personality characteristics using linguistic analysis on their blog posts. In our proposed system, we take this approach to a more technical level, and calculate the score based on their performance in the technical field, namely, in their school and college.

DESIGN

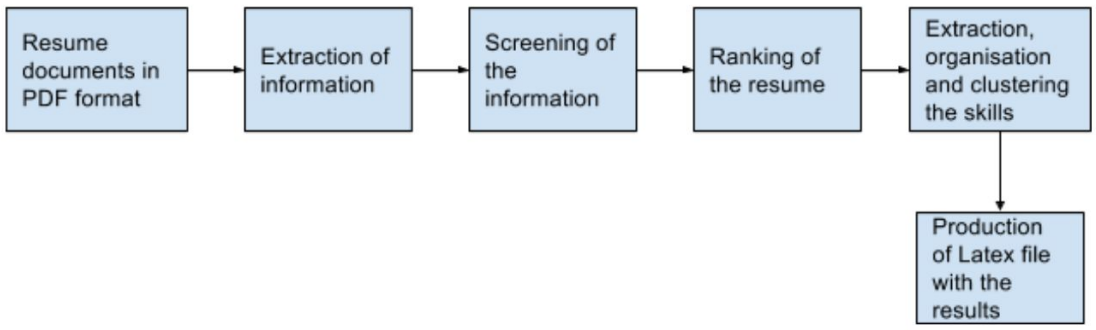
Proposed system:

The proposed system will extract information from the resumes. The extracted information is used to analyse the candidates according to the skill sets and based on the job description of the company. The system analyzes, scores and ranks a collection of PDF resumes using machine learning.

Distinctiveness from existing systems:

Given a set of resumes, the recruiters will be able to judge about the best suited job category for a provided resume with the assistance of this system.

BLOCK DIAGRAM



IMPLEMENTATION DETAILS

Using neural fuzzy logic. The system will assign weightage for each requirement (research done, projects done, internships done, job experience etc.). System will assign weightage for each requirement. Resume will be shortlisted based on overall weightage.

The parsing of multiple CVs to rank them based on their final scores.:

1. No of Programming languages : 27
2. Software Catogories: 31
3. CGPA : 10
4. Engineering Score : 31
5. Finance Score : 28
6. Management Score : 29
7. Arts Score : 28

No of Permutations of skills possible : 27*31*31*28*29*28*10 = 589930992 = n
Our project aims at a computerized approach to find the most suitable CV out of the 'n' possible CV's.

WORK DONE SO FAR

1. Installed the prerequisites: text maker, Pdfwrapper.

2. Created a dataset of resumes.

3. Created a resume parser, to analyse the given resume(from the dataset)

4. The parser returns the resume which matches the requirements list the most.

WORK YET TO BE DONE

1. **Front end:** Django- The front end forms a framework for users to enter their details, and the back end parser gives a rank of the resumes.

2. **Further improvisation on the back end:** The parsing of multiple CVs to rank them based on their final scores, making it easier and fairer to choose the CVs. We will change the constants taken for calculation of scores to dynamic variables that will be assigned according to the company's requirement, so as to make the system more efficient.