

Personality Prediction and CV Analysis System

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Abstract - Human personality is a key aspect when it comes to the lie of individual of an organization. One of the ways to judge human personality is by using standard questionnaires related to emotional intelligence. In traditional methods, companies shortlist their candidates CV's manually. Here, we are presenting a system that uses a Q&A session related to emotional intelligence for predicting personality. Our system will ask the candidate to fill out the details and upload the CV and at the same time the candidate will see some questions which he have to rate out of 10. And after that, the result will be published with the Keywords and required information from CV and the predicted personality of the candidate and will tell him if he's selected for the next round or not.

Key Words: Personality Prediction, questionnaire, shortlisting, Eligibility

1. INTRODUCTION

Human personality has played a vital role in the development of the organization when it comes to the recruitment of the candidate. Earlier, traditional methods were used for predicting personality such as questionnaires, surveys, etc. Thus, resulting in spending a lot of time predicting the personality. Our proposed system will be predicting the personality of the candidate based on five personality traits. Depending upon the score, the personality of the candidate will be displayed thereby decreasing the workload of the HR department and It will become easy for the recruiters to shortlist the candidates according to their requirements in a very short period of time. These five personality traits are Openness, Agreeableness, Extraversion, Neuroticism and Conscientiousness. We will have questions based on these five personality traits. On the input window, candidates will enter their name and answer the questions on the scale of 1-10 and after answering those questions the candidate will upload their resume and will click on the Submit button. After submitting, the output window will occur with the details of the candidate such as the Name, Age, E-mail, Mobile number and other details fetched from the resume which they have uploaded and lastly the predicted personality will be displayed. Based on the results, the candidates will be shortlisted according to the organization needs. The HR will be responsible to design

or alter the personality questions. This system will provide a fair CV ranking policy so the deserving candidate will get an opportunity according to their skills.

2. EXISTING SYSTEM

The existing e-recruitment system doesn't include personality prediction during accepting the CV's. So it'll make the work hectic by first accepting the CV then shortlisting candidates for checking personality. Our system will focus on checking for the main 5 personality traits viz. Openness, Agreeableness, Neuroticism, Conscientiousness, and Extroversion at the same time of accepting the CV and will produce the result etc.

3. REQUIREMENT ANALYSIS

3.1 Machine Learning Domain:

Machine learning is a methodology which allows a system to learn and improve automatically from experience without being explicitly programmed. Machine learning helps in developing such programs that can access the data and use that data to learn itself. The main goal of machine learning is to allow computers to learn automatically with no need of human training again and again.

3.2 Python Libraries:

1. **OS** : For accessing the files and data from internal storage.
2. **Pandas** : For accessing and manipulating datasheets.
3. **Numpy** : For working on arrays and other data manipulation.
4. **Tkinter** : For building the GUI.
5. **FuncTools** : Tools for Manipulating Functions. Purpose: Functions that operate on other functions.
6. **Pyresparser**: Module for extracting information from resume.

7. **Sklearn** : It features various classification, regression and clustering algorithms. We used sklearn to make the model learn on various characteristic values using logical regression

3.3 Dataset

3.4 PYTHON IDLE:

Python IDLE is an integrated development and learning platform that allows users to write python code easily for a particular project / work in development and uses 100 % python code and uses Tkinter GUI toolkit.

4. PROBLEM STATEMENT:

In today's scenario, CV's are shortlisted by using traditional means which involves investing a lot of time and also the Genuinity of the candidates are not assured. In this busy world and given the current Covid-19 circumstances, face to face interviews are not possible so shortlisting the candidate's CV's based on their personality is difficult. For recruiting, the recruiters need to sort from a large pool of candidates who match their requirements and after taking multiple interviews candidates are shortlisted. As a result, we require technology which will predict the personality of the candidate and also saves time and also reduces the workload of the HR department and makes it easier for them to select the candidates for their organization. Therefore a system has been implemented for the same problem that is Personality prediction and CV analysis.

5. Proposed System

The proposed solution will allow the HR department to shortlist the candidate based on their skillset and thereby giving a fair chance to every candidate. This system will also help to determine the genuineness of the employer. The test will help to find the personality of the employer .By answering those five personality questions it will be easier to find in which category of the personality the candidate falls in. Hence, the system will reduce the workload of the organization and will help to shortlist the employer faster.

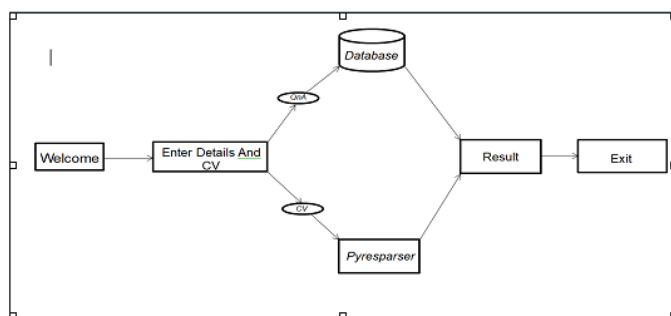


Fig 5.1.: Block diagram of proposed system

5.1 System Architecture and flow:

- As shown in the architecture of the system, first the user will be welcomed on the home page.
- Then he will arrive on the main page. Here the user will fill in the information i.e. name, age, gender, upload CV and answer the questions out of 10.
- User will click on submit. The pyresparser module from python will scan and fetch the important information from the CV.
- The dataset will compare the answers and produce the output as the predicted personality.

5.2 Algorithm

- Step 1) Start.
- Step 2) Open the main window.
- Step 3) Enter your details.
- Step 4) Upload CV (only .pdf &.docx).
- Step 5) Answer the questions.
- Step 6) Submit.
- Step 7) Pyresparser will scan the CV and fetch the important key details.
- Step 8) Dataset will analyze the answers fed and predict the personality.
- Step 9) Result page will show everything in a summarized manner i.e. user info, CV info, predicted personality.
- Step 10)End

6. OBJECTIVES

The proposed system's aim is to replace the standard process of recruitment of candidates in companies and firms. This system helps shortlist the candidates to reduce the workload of taking numerous interviews of undeserving candidates. This system consists of a CV parser and a basic questionnaire regarding the five personality traits i.e.(Openness, consciousness, extroversion, agreeableness and neuroticism)

According to answers given by the candidates the dataset will produce the final personality.

The pyresparser will scan the CV and fetch the important key information.

This system is also useful in situations like pandemic where interviewing numerous candidates face to face

could be an issue. Hence shortlisting candidates can make it possible as only few candidates will have to go through face to face interviews.

1. To shortlist the right candidate according to their skills and experience.
2. To eliminate the manual traditional recruitment process.
3. To reduce workload of the recruitment process of the organization.
4. To shortlist the CV's from a large pool of candidates CV's.
5. Saves time for the HR department.
6. The system will be a great alternative for analyzing the candidates personality based on Five Personality traits.

7. Future Scope

We can modify the existing system and attach it to a questionnaire so the personality score and the aptitude score will be calculated at the same time thereby reducing the workload even more.

8. System UI

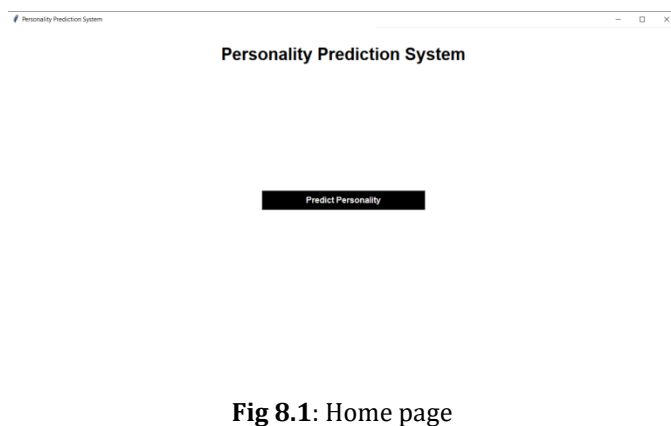


Fig 8.1: Home page

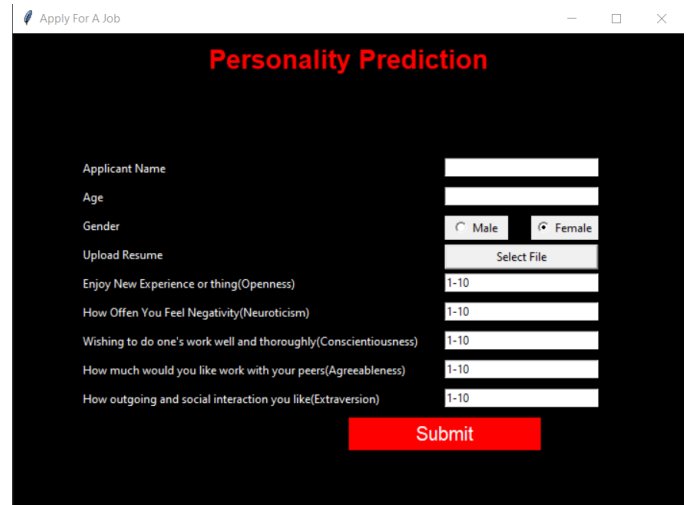


Fig 8.2: Main Page

9. RESULT



Fig 9.1: Result 1



Fig 9.2: Result 2

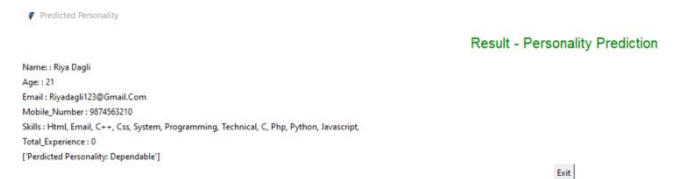


Fig 9.3: Result 3

As shown in above pictures, we can see how our system analyzed the CV, fetched the important points, predicted the personality and showed it as a result. Our system uses the main five personality traits viz. Openness, Conscientiousness, Extroversion, Agreeableness and Neuroticism. And we predict the personality according to answers feed by the user resulting into a short and crisp summarized view of candidate to the recruiter thereby saving time.

10. CONCLUSION

In this project, we have presented the prediction of human personality by using standard questionnaires that is provided by the HR Department according to the job selection criteria. Thus, we have developed a system that allows recruiting companies in short listing the right candidate for a specific job profile. The system would be used in many business sectors that will require expert candidate, thus reducing the work load on the human resource department and saving time.

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