

IMPLEMENTATION OF PERSONALITY PREDICTION VIA CV ANALYSIS

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ABSTRACT

In personality prediction, we look at how well social measures can predict personality. One of the factors that influences people's willingness to trust and their relationships with others is their personality. With the exception of each essential individual, it includes all of your traits and rates that define you. The Big Five personality important factors are Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, then provide the foundation for a person's personality. It takes a look that can be used to assess a person's most important personality traits and places them in environments that are appropriate for them. This model aids you in admitting persons whose personality types match the places where you are retaining a lot of options to attain your association in the reclamation system. Fortunately, advancements in ultramodern information systems, digital technologies, and universal access to electronic technology and the internet have steered the global Human Resource Management system in the right direction and made it more applicable. We propose a series of methods in this design to make the entire process more effective and efficient. The association is currently taking a greater interest in a seeker's personality qualities in order to better investigate and comprehend the seeker's response to similar circumstances. As a result, the system runs a personality test to evaluate the seeker's personality attributes. Finally, it shows the campaigners' outcomes to the novice, who evaluates the top campaigners and narrows down the seeker's options.

Keywords: Personality Prediction, Big Five Personality, CV Extraction, HR Helper, Natural Language Processor.

I. INTRODUCTION

Choosing the best candidate for the achievement method might be challenging when it comes to employment. Traditional and technical methods include conducting personality and technical eligibility analysis tests, interviews, cluster discussions, and aptitude testing followed by an interview. These are methods of achievement that have been around for a long time. These historical rituals are time-consuming and overwhelming, and they may lead to candidates being unfairly judged. The selection of the right individual could be a time-consuming task for the HR department. When a web choice approach is used instead of the traditional achievement method, a good candidate selection can be made. The first and most significant factor that reflects a constantly changing public is personality. We've imposed a strategy to identify the personality because grappling with them could be a lengthy chore. The proposed system is an organization-oriented system that might be a web application. Using CV analysis and psychological science analysis, the system can forecast a candidate's personality. Natural Language Processing (NLP) is a technique that allows a machine to mimic the manner of a human, bridging the gap between the two. The proposed system will function similarly to how the admin posts the job title, description, and transfers the candidate's CV/Resumes. Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism natural reaction type queries are among the five categories of queries included in the test. Candidates' ranks will be updated based on their personality, talents, hobbies, and professional credentials once they have completed the check. Along with psychological science analysis and CV analysis, the system may provide a holistic image of the candidate, simplifying the time unit department task.

II. LITERATURE SURVEY

Kalghatgietal. [3] Presented a Neural Network Approach predicated on the Big Five Test to predict the personality of individualities depending on tweets published on Twitter by lodging meta-attributes from tweets. Which are used to assay one's social behavior. The authors followed a four- step process which is Data Collection from tweets, Pre-processing, Transformation and Bracket. Although neural networks are used to predict personality there are limitations analogous as fighting fake information, automatic analysis of tweets

and counting on just Twitter is not enough to predict someone’s personality but only stoner behavior and trends.

Allan Robey et al [4] proposed a system to reduce the weight on the Human Resource department of companies by having two sides association and candidate acquainted. The authors claim that the proposed system will be more effective to shortlist CVs from a large pool making sure that the ranking is fair and legal. The main difference between the being system and the proposed system is that rather of just surveying the CVs, the authors propose to conduct an aptitude test and a personality test for personality prophecy.

Juneja Afzal AyubZubeda et al [5] worked on a design to rank CVs using Natural Language Processing and Machine Learning. The system ranks CVs in any format according to the company’s criteria. The authors propose to consider seeker’s Git mecca and LinkedIn profile as well to get a better understanding making it easier for the company to find a suitable match grounded on skill sets, capability and most importantly, personality.

In 2014 an Integrated E-Recruitment System for Automated Personality Mining and Applicant Ranking was proposed by Faliagkaetal. An automated seeker ranking was enforced by this system. It was grounded on objective criteria that the seeker’s details would be uprooted from the seeker’s LinkedIn profile. The campaigners’ personality traits were automatically uprooted from their social presence using verbal analysis. The seeker’s rank was deduced from individual selection criteria using Analytical Hierarchy Process (AHP), while their weight was controlled by the beginner (admin). The limitations of the system were that elderly positions that needed moxie and certain qualifications were screened inconsistently [6].

Liden et al. Published the General Factor of Personality The interrelations among the Big Five personality factors (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) were analyzed in this paper to test for the actuality of a GFP. The meta- analysis provides substantiation for a GFP at the loftiest hierarchal position and that the GFP had a substantial element as it's related to administrator-rated job performance were concluded by this paper. Still, it's also realized that it's important to note that the actuality of a GFP didn't mean that other personality factors that were lower in the scale lost their applicability [7].

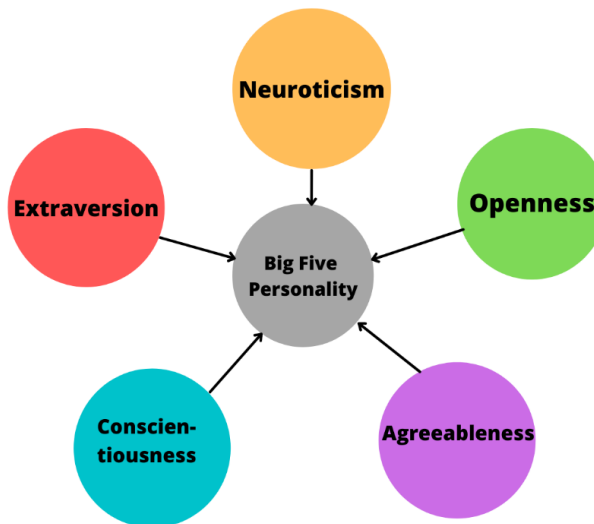


Figure 1: Personality related to Big Five Traits.

Table 1: OCEAN Score and Personality type.

Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism	Personality
6	4	7	5	4	Extraverted
4	6	4	4	7	Serious
5	6	4	7	4	Lively
7	4	5	4	5	Dependable
5	7	6	6	3	Responsible

III. IMPLEMENTATION

This project's system uses gender, age, openness, conscientiousness, extraversion, agreeableness, neuroticism, and experience to predict people's personalities. It parses all of the information from the CV/resume and displays it on the result page. This system employs logistic regression to train the model, as well as the resumeparse module to parse the data from a resume created with the nltk and spaCy Python modules.

Methods and System Flow are described as follows:

1. train model class: This class has two methods for training the model and predicting the outcome using various variables.

a. train method: It reads a csv file containing the dataset for training the model and generates a model using Logistic Regression. It trains the model with seven different values.

b. test method: It predicts a person's personality by passing an array of values that includes gender, age, and five additional personality traits.

2. main method: We begin by creating an object of the train model class and then train the model using the class's train method. Then, using labels and buttons, we create the system's landing page by initializing a variable with a Tk object.

3. The predict person method removes the root tkinter window and replaces it with a new top-level window that has its size and characteristics set. The window's heading is labelled, and other labels and their entries are labelled after that. The user must push the Select file button to select a resume file, which then invokes the Openfile method, which takes the button as an input. Various entries are taken for personality prediction in the predict person approach. All of the values are passed to the prediction result when you press the Submit button.

4. OpenFile method: Unless the file is not selected, it attempts to open the directory with the default address name and file types. Following the try except block, the method replaces the name of the choose file button in the predict person method with the base name of the file so that the user is aware of the file being selected.

The prediction result method is used to calculate the outcome of a prediction. The previous tkinter window that was used to collect data from the user is closed first using this method. It then invokes the model object's test method and saves the result. Following that, it parses all of the information from the resume and saves it in a variable, followed by a try except block that tries to remove the name and validate the cell phone number from the received resume data. The console then displays all of the data entered by the user.

Following that, the method displays a full-screen window with all of the parsed data and predicted personality on the GUI window, as well as the definitions of each personality feature.

6. The check type method is used to determine the type of a given object. It converts strings and numbers into the specified format, as well as lists and tuples into strings.

The link between job success and the five personality qualities is more of a social component of the work environment than a measure of capability. The five characteristics are all unmistakably linked to interacting with others and, as a result, to gaining a thorough understanding of the job, both of which are important components of long-term professional success. To predict worker performance, the OCEAN model will be utilized. For recruiters looking for high-quality employees, personality is a major consideration. Individual personality does play a role in performance, but only to a certain extent. One of the characteristics that predicts achievement across all types of jobs is conscientiousness. For jobs with a high demand, different combinations of personality traits among the five are required. Combined use personality and psychological feature ability tests for worker choice offers high performance.

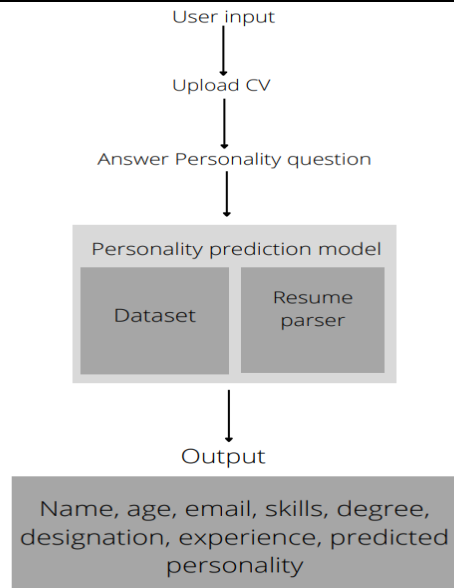


Figure 2: Dataflow diagram.

Table 2: Ocean Keywords.

Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Insightful	Thoughtful	Cheerful	Trustworthy	Calm
Curious	Goal-oriented	Sociable	Altruism	Strong hearted
Creative	Ambitious	Talkative	Kind	Collected
Outspoken	Organized	Assertive	Affectionate	Balanced
Straightforward	Mindful	Outgoing	Cooperative	Peaceful
Direct	Vigilant	Energetic	Empathetic	Tranquil
Receptive	Controlled	Extroverted	Sympathetic	Strong-willed
Adventurous	Disciplined	Friendly	Modest	Emotionally stabled
Open-minded	Reliable	Enthusiastic	Compliant	Serene
Imaginative	Responsible	Outspoken	Tender-mindedness	Resilient

IV. RESULT

We created an organization-oriented recruitment system in this project to aid the human resource department in shortlisting the best candidate for a position. A precise job description the system would be useful in a variety of situations. There are a number of company areas that will demand experienced candidates, therefore lowering the amount of work that the human resources department has to do.

V. CONCLUSION

The association between job performance and therefore the five traits is Associate in an estimation of the social components of the work setting than of capability. The five traits are all the additional unambiguously connected with associating with others and therefore the work understanding, which are key components of long run job accomplishment. The OCEAN model will be used to predict worker performance. Personality is a most significant respect for recruiters are seeking for quality workers. Personality of an individual will contribute to performance however solely at some level. Conscientiousness is one in every of the attribute that predicts performance among all the work varieties. Various combinations of personality traits among the 5

traits are required for jobs that have distinctive demand. Combined use personality and psychological feature ability tests for worker choice offers high performance.

VI. REFERENCES

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