

# Personality Assessment Tool using Artificial Intelligence: A Review

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**Abstract:** - This will enable a more effective way to short list submitted candidate CVs from a large number of applicants providing a consistent and fair CV ranking policy, which can be legally justified. System will rank the experience and key skills required for a particular position. Then the system will rank the CV's based on the resume details, hobbies, strength, weakness or system conduct 15 to 16 questions for personality prediction purpose, experience and other key skills which are required for a particular job profile. This system will help the HR department to easily shortlist the candidate based on the CV ranking policy. This system will focus not only in qualification and experience but also focuses on other important aspects which are required for a particular position. This system will help the human resource department to select the right candidate for a particular profile which in turn provides an expert workforce for the organization.

**Key Words—** *Personality Prediction, AI, HR, OCEAN Model, Decision Tree.*

## I. INTRODUCTION

Characteristics Model into HR system to search for a new model of efficient operation on Human Resource Management in the Internet Age. Today there is a growing interest in the personality traits of a candidate by the organization to better examine and understand the candidate's response to similar circumstances and in this system HR adds some criteria like personality required, roles and responsibilities etc. and system is examining automatically if candidates are fit to all those criteria or not, for this the system conducts a personality prediction test to determine the personality traits of the candidate. Finally, it presents the results of the candidates to the recruiter who evaluates the top candidates and shortlisted the candidate. In this project, we will register him/her with all resume details, hobbies, strengths, weakness and 15 to 16 questions for personality prediction in that HR analyzed the Candidates Openness(O), Conscientiousness(C), Extraversion(E) Agreeableness (A) means is one of the five personality traits of the Big Five personality theory. A person with a high level of agreeableness in a personality test is usually warm, friendly, and tactful. They generally have an optimistic view of human nature and get along well with others. Neuroticism (N) Means is one of the Big Five higher-order personality traits in the study of psychology. Individuals who score high on neuroticism are more likely than average to be moody and to experience such feelings as anxiety, worry, fear, anger,

frustration, envy, jealousy, guilt, depressed mood, and loneliness, which will be further, used by the system to shortlist their CV or candidates. After completing the top 10 or above shortlisted candidates, auto mail is sent. We present a set of techniques that makes the whole recruitment process more effective and efficient also. We have implemented a system that ranks the top employee based on work feedback policy as well as suggestions. This system will focus not only in qualification and in experience but also focuses on other important aspects, which are required for a particular job position. This system will help the human resource department to select the right candidate for a particular job profile, which in turn provides an expert workforce for the organization. For all this process we use Artificial Intelligence (AI). It refers to technology used to do a task that requires some level of intelligence to accomplish. AI technologies offer significant opportunities to improve HR functions to Finding the right information, with lower costs, in less time and in a secure manner helps to build momentum step by step, beginning with the recruitment process.

## II. PERSONALITY ASSESSMENT THEORY

Electronic technology and internet led to the inclination of the global Smart tools is apparently supported by and provided with more opportunities by the development of Characteristics Model (CM) which in turn is based on the concept of modern job design. Fortunately, the development

in modern information systems, digital technologies, the universal access Human Resource Management development make the system more applicable. Following the trend, the proposed system tries to design a plan to integrate the Job Characteristics Model into the HR system to search for a new model of efficient operation on Human Resource Management in the Internet Age.

Openness (O)	From cautious/consistent to curious/inventive intellectual, polished, creative, independent, open-minded, imaginative, creative, curious, tolerant
Conscientiousness (C)	From careless/easy-going to organized/efficient, reliable, consistent, self-disciplined, organized, hardworking, has long-term goals, planner
Extraversion (E)	From solitary/reserved to outgoing/energetic, express positive emotions, excited, satisfied, friendly, seeks stimulation in the company of others, talkative
Agreeableness (A)	From cold/unkind to friendly/compassionate kind, concerned, truthful, good natured, trustful, cooperative, helpful, nurturing, optimistic
Neuroticism (N)	From secure/calm to unconfident/nervous angry, anxious, neurotic, upset, depressed, sensitive, moody

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### III. MATHEMATICAL MODEL

Let S is the system;

$S = \{I, O, F, DD, NDD, Success, Failure\}$

I = Input to the system

$I = \{username, password, add candidate, add HR associate, add HR, add title, add details, apply for job(contest), view interview question, candidate cv\}$

O = Output of the system

$O = \{successful registration, apply for job(contest), give the questions answer, candidate result, view top 10 candidate, shortlisted candidate, send auto mail to candidate\}$

F = Functions in system

$F = \{adminreg(), adminlogin(), registration(), login(), addJobTitle(), addJobDetail(), applyForJob(), enterCandidate\}$

Detail(),solveQuestion(),resultOfCandidate(),viewTop10Candidate(), candidateShortlist(), sendAutoMail() }

DD = Deterministic data  
DD = {Null}

NDD = Non-Deterministic data  
NDD = {I, O}

Success:

In this project, we have implemented an organization-oriented recruitment system that would assist the human resource department in short listing the right candidate for a specific job profile and also shortlist the employee of the year. The system would be used in many business sectors that will require expert candidates, thus reducing the workload of the human resource department.

Failure: Network Fail.

#### IV. RESULTS AND DISCUSSION

Our proposed system works as follows; Admin: firstly, admin can add, update, delete HR associate, HR, also add manager and view complaint/feedback/suggestion and also view the top employee of the firm. HR Associate: Main role of HR associate is, he will add job title (vacancy) with required personality, roles and responsibilities. They will view the top 10 employees of their firm. HR: HR will view top 10 shortlisted candidates who will qualify the HR round and eligible for the required job or post and send auto mail to shortlisted candidates. HR will also view the top employees of their firm. Candidate: candidate can view the job title of the firm which is posted by HR associates. Candidate can apply for a job which is suitable for him and enter his hobbies, strengths, and weaknesses and also answer the 15 to 16 questions.

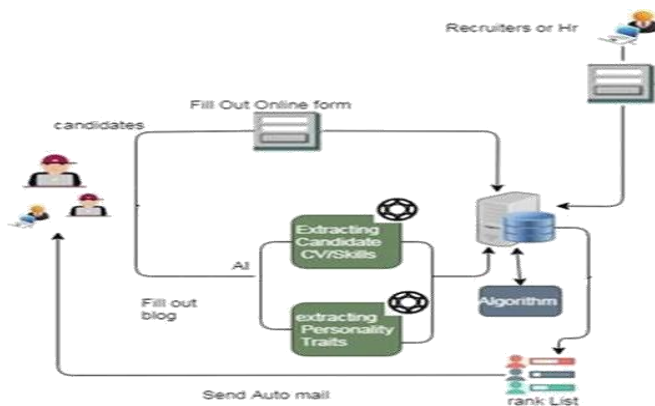


Fig.1. System Architecture of Personality Assessment Tool

The proposed system produces ranking decisions that were relatively highly consistent with those of the human experts. This system will enable a more effective way to short list submitted candidate CVs from a large number of applicants providing a consistent and fair CV ranking policy. The presented system automates the processes of requirements specification and applicant's ranking. This system can be used in many business sectors that may require expert candidates and also reduce workload of the human resource department.

#### V. CONCLUSION

In the proposed system, we have implemented an organization-oriented system that would assist the human resource department in short listing the right candidate for a specific profile. The system could be used in many business sectors that will require expert candidates, thus reducing the workload of the human resource department.

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