Personality Prediction tool for Candidate Assessment

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Abstract — This tool will provide a more effective way to shortlist submitted candidate CVs from a large pool of applicants, offering a consistent and fair CV ranking policy that can be legally justified [4]. It is an AI-powered platform where users can upload their resumes or CVs, answer AI-generated questions, and receive a detailed report based on their performance and confidence level [3]. The platform will use facial expression recognition and the ChatGPT API to facilitate a sophisticated evaluation process. The system will rank the CVs based on resume details, AI-generated question-and-answer responses, and the candidate's confidence level [4]. This system will help the HR department easily shortlist candidates according to the CV ranking policy. It will focus not only on qualifications and experience but also on other important aspects required for a particular job position. Ultimately, this system will assist the HR department in selecting the right candidates for specific job profiles, ensuring an expert workforce for the organization [2].

Keywords: Personality Prediction, AI, HR, Candidate

I. INTRODUCTION

In the dynamic and competitive landscape of today's workforce, organizations face the critical challenge of selecting the most suitable candidates for their open positions. Traditional hiring practices, often reliant on human-based assessments, can be time-consuming, subjective, and potentially biased, leading to suboptimal selection decisions [1]. The AI HR system is designed to streamline and enhance the recruitment process by leveraging advanced ai technologies. The system analyse candidates resumes, assess their responses and confidence levels through facial expression recognition, and generate comprehensive report to assist HR professionals in making informed hiring decisions [3].

II. LITERATURE SURVEY

A. *Existing System*

The Conventional method of recruiting the candidates involves manual short listing of job seekers resumes, then the first round consisting of written tests for testing the candidate's intelligent quotient [4]. The second and third rounds consist of technical test and the last round is HR round. Every company has their own way and number of rounds according to their business requirements and according to the requirement of the company [5]. A system that automates the task of segregating candidates based on eligibility criteria and personality evaluation is not common. Also, the systems that exist does not provide accurate results and accuracy is medium [6].

B. *Proposed System*

In manual job hiring, the HR has to go through each job seeker's resume, which is time-consuming and hectic. Every time a job opportunity arises, a large number of job seekers apply for the position [6]. To reduce HR's efforts and create a faster, more efficient hiring process, we have proposed a system where candidates can register on the platform, create their profiles, upload their resumes, and engage in an AI-generated question-and-answer test [1]. Using Python OpenCV, the AI can predict the candidates' personalities and analyse their confidence. Based on all of this, the final result for each candidate is generated [4].

III. DEVELOPMENT TOOLS

In our Personality Prediction Tool, we used various principles to make our system more dynamic. Here are the principles which we used in our system.

A. *Front end technology used:*

- HTML: Provides the basic structure of a webpage. It is the standard language used to create and design the structure of web pages. It provides the basic building blocks for web content and is essential for developing websites and web applications.
- CSS: It is used to control the visual presentation and layout of web pages. CSS is responsible for its design and styling.
- JAVASCRIPT: JavaScript is a versatile and widely-used programming language that plays a crucial role in modern web development. It enables dynamic and interactive features on websites and web applications.

B. *Backend technology used:*

- Python flask: Flask is a popular web framework for Python that's known for its simplicity and flexibility. It allows you to build web applications quickly and with minimal code. It is lightweight and flexible framework for rapid development and scalability.
- Python OpenCV: It is a huge open-source library for computer vision, machine learning, and image processing. OpenCV supports a wide variety of programming languages like Python, C++, Java, etc. It can process images and videos to identify objects, faces, or even the handwriting of a human.
- ChatGPT API: The ChatGPT API is a powerful tool that enables developers to include advanced AI capabilities in their applications. It facilitates real-time communication with the ChatGPT, which can understand and respond to text in a human-like manner.

C. *Database used:*

- JSON: JSON as a database is a lightweight and flexible way to store data, especially for simple applications or prototypes. In Python, you can easily work with JSON files for this purpose.

IV. SYSTEM ARCHITECTURE

The system architecture represents a Personality Prediction Tool for Candidate Assessment designed to assist HR in evaluating candidates.

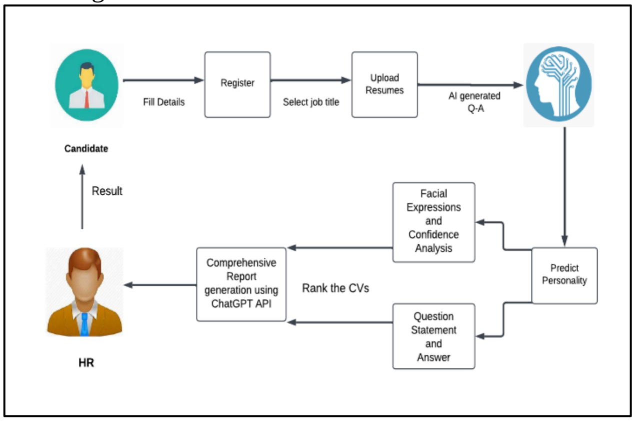

Fig. 4.1: Architectural Diagram

V. FUTURE SCOPE

The future of this personality prediction tool for hiring looks very promising. It can be improved to provide deeper insights into candidates' personalities, emotional intelligence, and leadership skills, making the hiring process more effective [4]. The system could also analyse voice patterns and provide more detailed feedback in real time. It might integrate with other hiring platforms to make the process faster and more efficient. The platform could expand to support multiple languages and be used globally, making it ideal for international hiring [6].

VI. CONCLUSION

In conclusion, the personality prediction tool for candidate assessment is an organization-oriented system designed to assist the human resource department in shortlisting the right candidates for specific job profiles. By analyzing resumes, AI-generated question-and-answer responses, and assessing personality traits such as confidence and emotional intelligence, the system provides a comprehensive evaluation of candidates [4]. This tool can be used across various business sectors, especially those requiring expert-level candidates, to streamline the hiring process and reduce the workload of HR teams [2].

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