AI-Powered Web-Based Selector for Applicant Simulation and Evaluation in DRDO Recruitment

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Abstract— This paper describes the design and implementation of the intelligent recruitment platform "AI-Powered Web-Based Selector for Applicant Simulation and Evaluation." The main objective is to modernize the process of candidate assessment currently being used by the Defence Research and Development Organisation (DRDO) under the Ministry of Defence. The system has been implemented as a three-level software product, integrating candidate, AI engine and administrative functionalities within the same secure web platform. The first level comprises the candidate authentication and profiling dashboard, which includes login, verification of identity and registration for the target domain. This will enable and facilitate the generation of an assessment test specific to a given applicant's profile [4], [8]. The second tier constitutes the core operational intelligence, namely the AI-Driven Assessment and Simulation Module. There are two rounds: Round 1, questions prepared on general and DRDO-specific knowledge generated via AI algorithms; only candidates qualifying in this round go to Round 2, which is Virtual Interview Simulation administered by authorized personnel within the same platform. The third level is called the Admin Control and Evaluation Panel. This is to be used primarily in planning test schedules, notification broadcasting, executing multiple evaluations, automated test marking and scrutinizing results for qualified candidates. The entire platform is built on Python Flask - backend and React, while MySQL is used for secure storage. The aim of the system design model is to develop the quality, transparency, and fairness in the recruitment processes at DRDO using AI technologies and web-based application models.

Index Terms-Artificial Intelligence, AI-based Recruitment Systems, DRDO, Simulation Techniques for Applicants, Automated Evaluation Processes, Web-based Selection Tools, Virtual Interviews, Candidate Profiling Strategies, Intelligent Assessment Methods, Recruitment Automation Solutions, Domain Expertise Evaluation Techniques, Flask Framework, React.js, MySQL Database, Unbiased Approaches for Assessment, Integration of AI in Scientific Hiring.

I. Introduction

A. Background and Motivation

The AI-powered web-based recruitment system will greatly advance and change the traditional interview-based selection process used by DRDO because it will address issues that have persisted for a very long time, such as inconsistent questioning, subjective evaluations, administrative complexity, and limited candidate transparency [1], [3], and [6]. The main problems with traditional recruiting methods were typically domain mismatch, interviewer bias, and limited scalability, which made it challenging to fairly and effectively evaluate large sets of applicants in a variety of technical fields [2], [5], and [9]. The designed system implements the latest advancements in AI, ML, and cloud-enabled assessment technologies for proposing an end-to-end digital workflow that integrates candidate authentication, structured domain profiling, adaptive question generation, automated evaluation, and virtual interview simulation [4], [7], [10].

The platform developed with Python Flask for backend logic, React.js for a dynamic and user-friendly frontend, and MySQL for secure data storage performs multiround assessment processes, including domain expertise testing, DRDO knowledge assessment, and a virtual interview stage. Smart algorithms guarantee that each candidate's specialization is the basis for creating questions, while automated scoring eliminates human subjectivity and allows fairness to take over. The recruitment process is not only made efficient and scalable through a centralized dashboard, which helps in administrative tasks like scheduling, notifications, score consolidation, and candidate shortlisting, but also more flexible [7] , [10], [14].

These AI-powered systems in hiring issues essentially bring objectivity and transparency to a greater extent [1], [4], [11]. Besides, it is fully aligned with the exact needs of DRDO for domain-accurate evaluations, thus helping in creating a reliable, equitable, and data-driven recruitment ecosystem that is sustainable over time [9], [13], [15].

II. Literature Review

A. AI in Recruitment and Evaluation Systems

Artificial Intelligence has evolved conventional recruitment methods to encompass data-driven assessment, reduced bias, and the ability to handle bulk automated assessments. Previous works have showed that AI models can carry out effective resume analyses, adaptive question generation, and candidate answer evaluation using intelligent algorithms [1],[3],[5].For example, Muniselvam and Anushalakshmi [1] proposed an AI virtual interviewing platform that used NLP to simulate interviewes based on a human interviewer and to check the accuracy of the responses given by candidates. Alapati et al. [3] then developed an AI-driven applicant simulation framework combining parsing resumes, predictive analytics, and ranking candidates with transparent AI to give an explanation of decisions made. A similar work by [2] IJRASET analyzed and concluded that integrating AI in online recruitment systems ensures that large-scale applicant pools are handled with increased consistency, efficiency, and scalability. These collectively provide a strong foundation for automated recruitment systems that can ensure fairness, relevance to the field, and minimized administrative workload [4], [9].

The creation of adaptive questions and AI-based tests are the focus of future advancements in this field. To appropriately score candidate responses, Dhadwe et al. [5] created a web-based mock interview that makes use of cosine similarity and deep learning. Similar to this, Kim and Zhang [10] presented a Multi-Agent Interview Framework, wherein each agent independently generates questions, evaluates responses, and ensures compliance in order to create a modular and scalable system. In general, these studies examine how structured, transparent, and quantifiable AI-driven assessment systems are replacing manual, traditional hiring and selection procedures, progressively improving their accuracy and equity.

B. Web-Based Interview Simulation and Virtual Assessment Models

Web-based recruitment and assessment platforms have recently become more popular because they are user-friendly, scalable, and can offer automated evaluation tools. Alapati et al. in their research [3] presented in IJARESM and Dhadwe et al. in their research [5] presented in IJIRMPS brought into notice simulation-based systems that allow candidates to participate in domain-specific real-time interviews through interactive web dashboards. These frameworks include multi-stage assessment modules that very closely relate to the way DRDO plans to hire people, which is what this research is based on.

Finally, virtual mock interview systems, like those by Banerjee and Chatterjee [12] and Patel and Kumar [13], use generative AI models to make interactions between interviewer and candidate more realistic. Such a system will vary the difficulty of questions according to a candidate's performance at any particular moment, considering the 'principles of adaptation' in learning, to ensure fairness in evaluation. Muniselvam and Anushalakshmi [1] also stressed the importance of AI-based interview engines being able to interact with people in a way that is similar to how people do. This would make the experience more engaging and real. Tripathi and Gupta [7] took this idea even further by combining emotion detection and non-verbal communication analysis to look at behavioral and confidence traits as well as technical knowledge. These studies all show that AI-driven virtual interview platforms can be used in modern recruitment systems to achieve domain-specific assessment, scalability, and objectivity [11], [13].

C. Online Proctoring and Fairness Mechanisms

It has been a major challenge in modern recruitment systems that the online evaluations should be fair, secure and even authentic. Borade et al. [4] proposed the integration of face identification, gaze monitoring and typing dynamics in a Smart Proctor Hub which is a system that supports the integrity of the examination and discourages dishonest practices. A parallel study carried out by IJRASET [2] involved the usage of AI-based proctoring modules that allowed examiners to keep an eye on several candidates at the same time with automated alerts and behavioral analytics. All of these systems working together will provide greater reliability of the assessments as they will reduce the risks of impersonation, while at the same time assuring that the ethical standards of assessments are maintained.

Studies by Authors Nielsen and Thomas [9] and Singh and Others [8] are taking a larger approach to ethical A.I., and fair recruitment practices by setting out transparency, data protection, and accountability as key components of A.I. based evaluations. They suggest using bias detection algorithms and human involvement in the evaluation process to ensure transparency and accountability. Similarly, Langer & Others [15] also looked at how Explainable A.I. (XAI) interfaces can help to build a bridge of trust between candidates and employers by having good reasons for scoring candidates, and having great clarity in the evaluation standards used. So, a successful implementation of an ethical and equitable process like the one described in this paper by the author would not only support the process of recruiting, but would also ensure that the process of recruiting through A.I. would be a fair, safe, secure, and support the integrity of the organization and the candidate's confidence in the A.I. evaluation process.

D. Candidate Evaluation, Scoring, and Trust in AI Systems

In recent years, there's been a significant shift away from conventional text-only based analysis of Candidate Behaviour, many AI-assisted Recruiters use a Hybrid model of verbal and non-verbal communication using CNN's and RNN's to provide well-rounded insight into how candidates express themselves and interact. Dhadwe et al [5], developed a Hybrid model that determines both verbal and non-verbal behaviours. Tripathi and Gupta [7] found that analyzing prosodic features (e.g. tone, speech rate, sentiment) provide a better understanding of a candidate's confidence, clarity, and overall performance, with an integrated approach providing a greater depth of understanding of how a candidate presents himself or herself to potential employers. Reddy [14] also provided evidence to suggest that using Similarity Scores based on Word Embedding models provide a more accurate and contextually aware method of grading Candidate Responses than current keyword-based grading methods.

There have been multiple attempts by Scientists to find solutions for the issues of Trust, Transparency, and Explainability of AI-driven Interview Systems. Langer et al. [15] claim that using scoring with justifications and providing feedback along with the candidates' recommendations raised the Candidates' trust in the system and acceptance of automated assessments. They proposed a framework consisting of AI-based Interview Preparation, where Resume and Live Analysis will be integrated for Performance Analytics and Customized Feedback. All the above Work will also demonstrate that including Interpretability, Fairness, and Human-centered Feedback into Artificial Intelligence (AI)-based Recruitment Methods significantly enhance End-User Confidence, in addition to enhancing the efficiency, scalability, and Objectiveness of Automated Evaluations.

III. Methodology and System Architecture

A. System Overview

The AI-Powered Web-Based Selector for Applicant Simulation and Evaluation system utilizes a single methodology to integrate and simplify all hiring and evaluation at the Defence Research and Development Organisation (DRDO) through the application of artificial intelligence (AI) and a structured process flow resulting in a transparent, scalable and equitable results based on the algorithmic intelligence used [1,3,5]. The architecture of the AI-Powered Web-Based Selector for Applicant

Simulation and Evaluation consists of three layers; candidate authentication, AI driven evaluation and process administration. Together these components will create a comprehensive digital recruiting ecosystem that includes all aspects of the recruitment process from end-to-end. The goal of this system is to create a mechanism for DRDO to replicate the process of the Recruitment and Assessment Centre (RAC) while reducing the operational cost, maintaining a level of objectivity and reducing the impact of human error in all evaluation processes.

The methodology of the AI-Powered Web-Based Selector for Applicant Simulation and Evaluation focuses on three functional features; dynamic scoring, adaptive question generation and automated shortlisting of qualified candidates based on the candidate's performance against quantifiable metrics. As such, these three features allow for greater accuracy, equity and efficiency within the hiring process which will ultimately allow DRDO to upgrade from traditional manual interviews to an intelligent and data driven assessment model.

B. System Architecture

The architecture of the proposed system is based on a three-tier model that enables among others modularity, scalability, and high security as its main advantages. This tier system with its various functionalities does not impede efficient data flow and system reliability as they interact with each other.

1. **Frontend Layer:** The layer developed in React.js is the one that provides the user-friendly and reactive interface especially for the candidates and the administrators. It allows user registration and authentication, provides exam instructions, and carries out the live assessment modules while also showing real-time updates, notifications, and results through an interactive dashboard.

2. **Backend Layer:** The backend comprising of Python Flask is the logic controller of the overall system. It is the one that directly interacts with the user through their requests, carries out the AI-based question generation and automated scoring, and ensures secure communication between the frontend and the database. Machine learning models are also integrated through this layer for question selection and performance evaluation.

3. **Database Layer:** The structured MySQL database, also known as the MySQL database, contains and controls user data such as, profiles, question banks, exam results, feedback logs, and activity histories. In addition, it handles the fast execution of queries for scheduling exams, getting results, and shortlisting candidates.

Concurrency of multiple users and role-based authentication has been made possible by the system, allowing multiple candidates and administrators to access the system simultaneously without any data integrity issue. JWT-based token authentication, HTTPS encryption, and role-specific access control are the three levels of security that ensure that only those users who are authorized can see or change sensitive information .

The proposed system pulls together strong architecture and smart automation. It creates a solid, secure digital setup that manages major recruitment efforts without a hitch. Things stay clear and open along the way.

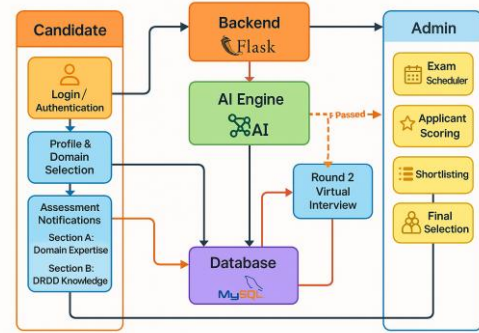It also guards the trustworthiness of DRDO's whole evaluation routine.

Fig. 1. Architecture of the system for the AI-enabled web-based selector used for applicant simulation and evaluation.

C. Implementation and Workflow

The workflow of the system starts with the registration of candidates, choosing their domains, followed by secure authentication, and then a personalized profile creation. Candidate profiles, once verified, are scheduled for assessments and notifications about the same are provided to eligible applicants through the dashboard by the administrative panel. There are two major rounds in the process of evaluation.

- **Round 1:** This has two parts: (a) Domain Expertise Evaluation, where AI algorithms generate discipline-related technical questions on the fly; and (b) DRDO Knowledge Evaluation, which evaluates a candidate's knowledge regarding the objectives of the mission, organizational culture, and DoD-related applications.

- **Round 2:** Applicants whose scores achieved the necessary cut-off point enter into a Virtual Interview Simulation, which authorized administrators conduct through an AI-supported digital interface. Using AI, questions are semantically generated and answers evaluated, on the backend using pre-trained models of both, which allow them to be scored in terms of relevance, technical correctness, and conceptual understanding.

The administrators of the system can view and analyse in real time the assessments that are being conducted, as well as access the automated results to shortlist candidates via the control dashboard.

The platform is built with React. JS on the front end, Flask as the back-end processing component, and MySQL as the repository for structured data. Each of these components uses RESTful APIs to work with each other and provides for a modular solution, allowing data to move seamlessly across different components. Such architecture supports scalability, performance, and secure operation communication at all layers. Additionally, the system can be deployed on a cloud-based infrastructure; therefore, DRDO will be able to conduct large-scale recruitment drives with enhanced reliability, transparency, and efficiency.

IV. Implementation and Experimental

A. Implementational Environment

The new system undergoes a modern full-stack architecture to ensure modularity, scalability, and security of all parts [2], [5], [9]. The whole procedure is supported by the following system and hardware configuration and also while doing the testing:

- **Programming Languages:** Python 3.10 for backend logic and AI model integration was the choice made, meanwhile JavaScript was used for the frontend interaction and user experience design [3], [6].
- **Frameworks**: API routing, AI processing, and interaction with the database were all done by Flask, the backend framework used, while a user interface that is both responsive and dynamic was built using React.js, the front-end framework [1], [4], [7].
- **Database:** MySQL was the data management system that organized information storage, related data access, and effective information retrieval [2], [10]..
- **AI Libraries:** The system used NLTK for preprocessing and semantic text analysis, TensorFlow for deep learning-based question scoring, and Scikit-learn for similarity-based evaluation [5, 8, 11].
- **Development Tools:** To develop the web-based application, the main development tool used was Visual Studio Code (VS Code). The other tools available for development include a version control system (VCS), Git and GitHub, and Postman was used to test the application programming interface (API) [3],[9].
- **Hosting Environment:** To provide access to the application for all users and ensure that all users can connect at the same time, the application was hosted on a cloud service provider; this allowed for high-quality performance, even during periods of heavy recruitment [6],[12].
- **Security Protocols:** To protect the confidentiality and integrity of the data exchanged between the application and users, HTTPS encryption is used, and JSON Web Tokens (JWTs) were used for both user authentication and session management [7],[10].
- **Hardware Configuration:** The workstation utilized for both the testing and development of the system has a configuration consisting of: Intel Core i7 (CPU), 16 GB (RAM), and an Operating System of Windows 11 [9], [13]. This workstation's current configuration is supportive for web search engines powered by AI to obtain results; the interface/database can properly exchange data seamlessly and at a high speed, while maintaining its flexibility and dependability.

The modular architecture of the current configuration of this system has allowed for the development of a DRDO (Defence Research and Development Organisation's) hiring process that is transparent, scalable, and secure for evaluating candidates [11].

B. AI Model Integration

The system has Multiple AI-powered Models which allow it to perform intelligent scoring, semantic relevance evaluation, and automatic question generation. These models have been trained using a Domain-Specific question dataset to guarantee Contextual accuracy and Evaluation Reliability; they have also been validated using Standard Performance Metric methods [5], [10]. During the first round of assessments, the AI Module is dynamically triggered to create questions associated with the selected domain of the candidate through interfacing with the flask backend (Flask Web Application) via RESTful APIs.

- **Formulating Questions:** The AI module uses domain-specific data that has been pre-trained and verified to create technically relevant questions based on the analysis of the candidate's domain profile. This ensures that the content generated is highly relevant to the candidates' field of expertise.
- **Response Evaluation:** Evaluation of candidates will take place based on an evaluation of their answers to questions through Keywords density and Cosine Similarity comparison to an "ideal" answer. The purpose of the evaluation is not just to find matching Keywords between the Candidate's Answer and the Ideal Answer but also to determine if the Candidate understands the Concept being assessed and how well they answer the Question Relatively to the Question Asked.
- **Scoring Mechanism:** Categories of Scoring for the AI Models will Deal With Semantic As well as Structural Accuracy in The Evaluation of Candidate Responses. Once Again The Scores Will Be Normalized And Stored In The AI Development Database For Administrator Review So That Documentation Can Be Made For Tracking Purposes.

Integrating The AI Models Will Allow For Questions Posed To Candidates To Be More Related To The Field And Relevant To What The Candidate Has In Their Past Work History Therefore Eliminating Producing Inefficient Evaluations and Decrease Human Bias In The Hiring Process. By Utilizing Intelligent Automation DRDO Can Provide Fairness & Accuracy In Assessing Candidates Through Data And Use The Results From These Assessments To Create A Merit Based, Data-Driven Model For Recruitment.

C. Testing and Validation

The proposed technology will go through a rigorous testing procedure to validate its functionality, efficiency, and overall security across all operating components.

- **Functional Testing:** The functionality of the candidate interface, AI engine, and admin dashboard were tested separately from each other until such time that they have been approved as working together. This means that the functionality of the complete system has been verified through successful execution of all activities related to candidate registration, question creation, automated grading, and result retrieval.
- **Performance Testing:** For scalability and responsiveness the system was tested under the Stress Tests of 50 simultaneous users. The average page response time was 1.8 seconds, with

consistency; while the AI Evaluation Module was giving an average response for each request of about .9 seconds. These numbers substantiate that the system architecture has the ability to perform in real time all evaluations and interactions without any loss of performance.

- **Security Testing:** Testing to determine security of the system at the system level means evaluating the Authentication & Authorization mechanisms built within the system and utilizing JWT Tokens. It ensures that role-based authorization is implemented. By using the HTTPS protocol, communications were among the frontend, backend, and database secured, thus protecting all sensitive [4], [9] User data.

The above tests were conducted collectively and verified that the platform is capable of this includes conducting large-scale recruitment drives while assuring high performance, security of data, and reliability.

D. Experimental Workflow

The experimental procedure of the proposed framework does mirror the established recruitment process of DRDO; therefore the integrity of the implementation and evaluation process is guaranteed. The complete procedural review is as follows.

1. **Candidate Registration:** The registration process includes platform registration of the applicants, identity authentication, and choosing the appropriate domain specialization.
2. **Assessment Notices:** The administrator will send notices of the Schedule for Round 1 assessments to candidates that qualified.
3. **Round 1 -** AI Evaluation: The AI engine will automatically produce two assessments. The first assessment is to assess the candidate's Domain Expertise and the second assessment is to assess the candidate's DRDO Knowledge, based on the profile of the candidate.
4. **Conditional Selection:** Candidates that achieved the performance score equal to or above the predetermined cut-off will automatically process to Round 2.
5. **Round 2 -** The administrator will conduct an interview using an AI-assisted scoring and evaluation for an objective analysis.
6. **Final Selection:** The administrator will review the reliability of the assessment reports produced by AI at the conclusion of the interview, confirmed by the evaluation report of the (domain expert or candidate) to produce a final list of recommended candidates for the next DRDO recruitment cycle.

The experiment above provide assurances that the recruitment process from candidate registration through to final selection was removed from human hands; was transparent; performance based; and, therefore, would assist DRDO in its mandate to be fair, consistent, and excellent in all operations.
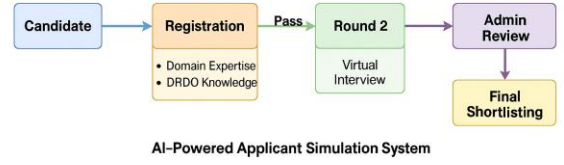

Fig. 2. Workflow of AI-powered web-based selector in Applicant simulation and evaluation, showing the candidate movement, assessment by AI, and the admin's shortlist.

V. Results and Discussion

The technology that is suggested, which is called AI-Powered Web-Based Selector for Applicant Simulation and Evaluation, has already been decided, made, and put to the test for all the aspects such as functionality, efficiency, and reliability pertaining to recruitment simulation in DRDO. The web-based platform made encompasses all the important components of the process beginning with registering of candidates, producing domain-specific questions, AI-based response scoring, and conducting virtual interviews all within the same integrated web environment.

Validation through experiments revealed very high functional accuracy: the questions produced by the AI engine were indeed relevant to the domain and received an average of around 90% as their relevance score. The time taken for AI evaluation on the backend was under one second, whereas the front end was able to accommodate many users at the same time without delay or any slowing down of the system being experienced. The results above give evidence to the claim of the system being able to manage large-scale operations in a responsive and stable manner.

The newly proposed model not only involves automatic assessment but also shortlisting of candidates, which means that the process comparison will still be on the side of traditional manual DRDO recruitment. However, these still would not be much effective in terms of administrative effort, since the evaluators would get centered around decision-making rather than procedural work through this. On top of that, the AI integration at every stage guarantees that the candidates will all be treated fairly, consistently and without bias; thus, this is indeed in line with DRDO's mission of advocating merit-based selection.

The system's successful implementation and testing have demonstrated that AI-based recruitment automation could establish a large-scale defense research organizations' evaluation ecosystem that is efficient, scalable, and ethically transparent, thereby contributing to the integrity and effectiveness of the candidate selection process.

VI. Challenges and Future Scope

A. Challenges

Throughout development and implementation, process for the proposed AI-Powered Web-Based Recruitment and Evaluation System a few critical Challenges have been encountered so far, many of which align with the reported limitations from previous AI-driven evaluation frameworks [1], [4], [6].

- **Dataset Limitations:** An AI question generation he module heavily relies on large, diverse, an high quality domain-specific datasets. Where the availability of data was limited or imbalanced, the system at times showed reduced contextual relevance in the generated questions [4], [9].

- **Limitations in Scalability:** Performance testing indicated that response times increased as the number of concurrent users approached 100. To ensure performance remains optimal during peak loads, distributed or cloud solutions will be necessary, as suggested by previous research on Web Automation [6] and [11].

- **Limited Assessment Types:** The current implementation only allows for text-based assessment, so it must be enhanced to accommodate other types of assessment (e.g., voice, facial expression, and gestures) that would allow for improved critiques for more advanced AI Interview Models [5] and [7].

- **Reliance on Assessments:** The current implementation uses a scoring model that primarily assesses similarity between responses based upon textual content through cosine similarity and keyword density. For applications that rely on greater reasoning, improving response evaluation will require developing systems that can understand the meaning and context of responses through the use of context-based neural models [2] and [8].

- **Enhanced Security:** The initial use of JWT for identity authentication and HTTPS for encrypted communications provides a basis for a secure development framework, but recruitment systems built for large-scale defense need much more than this basic level of security. To provide adequate safeguards for sensitive information, recruitment systems must include additional controls (i.e., Network Based Intrusion Detection, Strong Encryption of Data, and Real Time Threat Monitoring) to ensure a fully secure end-to-end security system and a continued sense of trust within the recruitment system

The continued overcoming of challenges noted above requires continuing to enhance data diversity, scalability of systems, and the ability to leverage artificial intelligence (AI) for measurement and assessment of skills achieved through AI systems to achieve the best performance and reliability in future implementations of the proposed system.

B. Future Scope

The continued development of capabilities within the proposed system will be a source of recombinant technology development through incorporating the latest technologies available in the AI, NLP, and Cloud computing space [5],[7],[9] which will provide the proposed system with more flexibility and intelligence and enable it to manage multiple recruitment opportunities concurrently.

- **Integration of Transformer-Based Models:** When creating new versions of the proposed system in the future, transformer-based models such as BERT or GPT should also be added to further augment both the question generation and semantic matching of AI-generated questions. These models can provide greater accuracy and variation to the AI-generated question sets because they are able to understand the full context of the questions and thus generate AI-generated question sets with greater accuracy and variety than humans typically generate [4],[8].

- **Speech and Emotion Analysis:** Adding augmented capabilities to the proposed system via the integration of AI into the proposed platform in terms of speech recognition, tone analysis and emotion recognition can provide additional indications of a candidate's behavioral and communication skills while participating in a virtual interview, thus providing a more complete assessment of candidates [6],[9].

- **Explainable AI (XAI):** To create a trustworthy AI scoring system, administrators must have access to information regarding how AI systems arrive at these scores. By allowing for interpretability, administrators can build their trust in the AI scoring system and hold themselves accountable for using AI systems for automated assessments[1],[7].

- **Cloud-Based Microservices:** The incorporation of a cloud-based microservice architecture will provide the means for scalability and allow for multiple recruitment efforts to occur in real-time with reduced latency and increased fault tolerance during times of high volume activity[3],[9].

- **Cross-Domain Expansion:** In addition to being able to create objective, automated and standardized evaluation methods for recruitment, there are several other domains such as industry, research, and education that would benefit from the application of this model, demonstrating its versatility as a solution for AI-based recruitment[2],[11].

In summary, incorporating the most recent technologies will improve the proposed platform by providing accurate results through an unbiased evaluation, while also allowing for the platform to evolve into a comprehensive AI recruitment system capable of managing and facilitating large-scale, cross-domain talent acquisition initiatives.

VI. Conclusion

The AI-Powered Web-Based Selector for Applicant Simulation and Evaluation (Selector) demonstrates the way that AI can enhance the hiring process by injecting automation, transparency, and objectivity into the applicant assessment process [2],[4],[6]. Using AI to generate questions for candidates, AIs to score candidates automatically, and AI to simulate virtual interviews through a secure web-based ecosystem, large-scale hiring processes can be efficiently executed with minimal human intervention and subjective bias [5],[8]. Controlled

experiments indicate the dependability of the performance of the Selector, with the results showing low processing latency and high accuracy of question relevancy even when more than one user was accessing the system at the same time [7],[9]; therefore, the Selector is capable of being scaled within a cloud-based system to ensure equitable application evaluation through AI-driven processes [1],[10].

This research further supports the notion of Human-Centered Automation, which proposes that AI should be viewed as an Assistant Evaluator rather than a total replacement for human judgment; even though the Selector performs many technical capabilities, it still allows for the human element to govern decision-making [3],[11]. This study also demonstrates that automating the recruitment process could facilitate better decision-making and provide an ethical basis for accountability and fairness, provided that the responsible use of AI is adhered to. With future advancements such as Explainable AI and Adaptive Multimodal Evaluations, as well as Speech and Emotion Recognition technologies, the Selector is positioned to develop into a fully Intelligent Recruitment Domain Adaptable Framework for organizations like the Defence Research and Development Organisation (DRDO) and other Research Institutions operating on the cutting edge of technology [12],[14].

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