

TLIC PAPER

Fostering Inclusive Recruitment Interviews with Intelligent Digital Humans: A Diversity and Inclusion Training Initiative

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ABSTRACT

This article is about an intelligent digital human model enhanced by artificial intelligence, designed to meet the requirements from a multinational company in need of training for their human resources personnel on bias-free recruitment interviews. We have been creating a new generation of avatars with social intelligence, who are capable not only of presenting a wide variety of topics in a dynamic and engaging manner, but also of interacting with the audience and communicating emotions and moods. We have been customizing avatars for role plays, building them as real interlocutors who facilitate training in how to handle difficult conversations by including aspects such as non-verbal communication, different communication styles, and diversity and inclusion. Practicing conversations with avatars accelerates learning from experience without the risks associated with learning in the field. At the end of each interview, timely feedback is provided so learners can determine how to improve their performance. These digital humans are able to perform like realistic human beings, challenging the interviewer both at a verbal and para-verbal level, as well on the cognitive and the emotional levels – making it easy for the interviewer to get trapped into biases and false assumptions. The key message is this: diversity and inclusion best practices are first of all about mindset.

KEYWORDS

bias-free interviews, diversity & inclusion, digital humans

1 THE PROBLEM OF BIASES IN RECRUITMENT INTERVIEWS AND THE INTELLIGENT DIGITAL HUMANS AS A SOLUTION

This article explores the potential of using conversational digital humans enhanced by artificial intelligence for training human resources personnel to conduct bias-free recruitment interviews.

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Recruitment interviews are a critical part of the hiring process for any organization. Interviewers can be prone to biases, leading to a less diverse and inclusive workforce. Biases can stem from various factors, including unconscious biases, stereotypes, and personal preferences. Biases can also occur due to preconceived notions about gender, race, and age, leading to discrimination in the hiring process [1], [2], [3], [4], [5]. For example, an interviewer may prefer candidates who have similar educational backgrounds, leading to a less diverse workforce. Training programs using intelligent digital humans for interaction help reduce biases in recruitment interviews [6], [7], [8], [9], [10], [11], [12], [13], [14].

The problem of biases in recruitment interviews refers to the tendency of interviewers to make decisions based on irrelevant factors such as the candidate's age, gender, ethnicity, appearance, and other personal characteristics, rather than their qualifications and skills. Bias can arise in recruitment interviews in several ways. For example, interviewers may have unconscious biases that affect their judgment, or they may be influenced by stereotypes and assumptions about certain groups of people. They may also be more likely to hire candidates who are similar to themselves or to those who have been successful in the past (affinity bias).

To address the problem of biases in recruitment interviews, organizations can take several steps. One approach is to use structured interviews, which involve asking each candidate the same set of questions in the same order. This can help ensure that all candidates are evaluated on the same criteria and that interviewers are not influenced by irrelevant factors. Another approach is bringing diversity to interview panels to avoid hiring based on shared biases. Using technology can also reduce bias in recruitment. For example, using artificial intelligence to analyze resumes and job applications to identify the most qualified candidates, or using online assessments to evaluate candidates' skills and abilities in a standardized and unbiased way.

Blind screening is another way to improve the fairness of the entire hiring process. The program removes any unnecessary information from the candidate's resume, such as their name, age, racial background, and gender. This helps to reduce the recruiter's unconscious biases and ensure that every candidate is evaluated based on their qualifications and skills rather than personal biases.

A further different approach—the one we developed with ENI, a multinational company employing over 31,000 people in nearly 70 countries around the world [15]—is based on interviewers' training aimed at enhancing the awareness of their biases in order to take actions to mitigate them. In our case, this involves providing education and training on diversity and inclusion and encouraging interviewers to seek feedback and input from colleagues and other stakeholders.

To do so, we provided a platform designed to enhance social interaction by sharing insights, knowledge, and ideas, a structure that is familiar to anyone who has used typical social media platforms, allowing learners to add their content easily, whether it be text, image, or video. They also have control over where and how it is seen, through the use of categories and tags; furthermore, this solution fosters a learning motivation culture, supported by a custom-built gamification schema, where colleagues move through leaderboards and rankings according to their level of accomplishment, while active engagement is acknowledged and receives enterprise-wide visibility.



Fig. 1. The home page of the e-REAL Online Platform about bias-free recruiting interviews

The key educational areas of the platform—known as e-REAL Online [16]—are as follows:

- Simulated recruiting interviews with diverse conversational avatars that perform as candidates.
- Tests and self-assessment tools to enable learners to measure their unconscious bias.
- Evaluation exercises to reach a bias-free mindset.
- Riddles and quizzes to further challenge implicit bias.

At the core of the learning experience there are the conversational digital humans, that are (artificially) intelligent enough to challenge the learners and to really enhance the target skills and competencies.

2 CONVERSATIONAL DIGITAL HUMANS ENHANCED BY ARTIFICIAL INTELLIGENCE

At e-REAL Labs, we have been creating a new generation of avatars with social intelligence who are capable not only of presenting a wide variety of topics in a dynamic and engaging manner, but also of interacting with the audience and communicating emotions and moods [17]. We have been customizing avatars for role-plays, building them as real interlocutors who facilitate training in how to manage difficult conversations by including aspects such as non-verbal communication, different communication styles, and diversity. At the end of each interview, timely feed-back is provided by the tracking system embedded in the e-REAL platform, so learners can work out how to improve their performance.

These digital humans are able to perform like realistic human beings, challenging their interviewers both at a verbal and para-verbal level, as well as on the cognitive and the emotional levels—making it easy for the interviewers to get trapped into biases and false assumptions.



Fig. 2. Representative conversational digital humans enhanced by artificial intelligence

Conversational digital humans enhanced by artificial intelligence are computer-generated characters, or avatars, that simulate human conversation in a natural and engaging way. These digital humans are created using advanced artificial intelligence techniques such as natural language processing, machine learning, and computer vision. They are programmed to interact with users in a variety of ways, such as answering and asking questions, sharing opinions, and other aspects of real recruiting interviews. They are customized to display different personalities, relational and communicative styles, and emotions, which can help to create a consistent and engaging user experience. They are also trained to learn from user interactions, allowing them to improve their responses. Overall, they are programmed to attend recruitment interviews as candidates: Their responses, voices, gestures, and facial expressions are programmed to challenge the learners who have to perform as recruiters.



Fig. 3. A representative conversational digital human in action within a representative office dedicated to hiring interviews

3 COMMUNICATION WITH DIGITAL HUMANS

Digital humans are designed to understand natural language and respond in a conversational manner. Every digital human is unique and has different capabilities and limitations. For example, using ambiguous language or complicated jargon may confuse the digital human; adding context for questions or requests helps the digital human understand the purpose of the conversation and provide more relevant and accurate responses. Avoiding interruptions while the digital human is speaking allows for a more fluid conversational experience.

Digital humans are not at all human beings, even if they are designed in ways that are making them quite close to us. One of the key benefits of conversational digital humans is their ability to provide a human-like interaction without the need for a human agent. This can be particularly useful in situations where human agents may not be available 24/7 or where there is a high volume of interactions that need to be managed. Another benefit of using intelligent digital humans is that they allow learners to practice a range of situations and to interact with different kinds of personalities in a short amount of time, improving their expertise and their knowledge.

Digital humans are an essential component of this training program at ENI, which is aimed at improving a standardized and consistent evaluation of candidates. By using digital humans first, educational outputs are showing that the training targets are met. Overall, we can add that conversational digital humans enhanced by artificial intelligence have the potential to transform the way that businesses and organizations deliver training in general, providing more engaging and personalized experiences that can drive business growth.

Further research is needed to explore the potential of intelligent digital humans in reducing biases in recruitment interviews. At e-REAL Labs, we're committed to this research because we envisage generative artificial intelligence as an interesting driver for education and training. A representative conversational digital human to interact with is available by scanning the QR code below and then scheduling a meeting online:



Fig. 4. By scanning the QR code, an avatar will appear and will perform a short self-introduction and provide an online calendar allowing you to book a meeting with a number of intelligent avatars ready to talk with real human beings

Regarding the educational program introduced here, we can say that biases in recruitment interviews can lead to a less diverse and inclusive workforce.

The educational program co-developed with ENI provides a solution that reduces biases in recruitment interviews. The use of intelligent digital humans can help to improve the fairness of the hiring process, reduce the time and resources required for recruitment interviews, and increase the diversity and inclusivity of the workforce.

4 CONCLUSIONS

Engaging in interactive conversations with these avatars introduces a distinctive avenue for rapid experiential learning, providing trainees with a dynamic and controlled environment to hone their skills. This unique training approach not only expedites the learning curve but also serves as a protective buffer against the inherent risks associated with traditional field-based learning methods. Unlike real-world scenarios, where mistakes can have significant consequences, learners can experiment and refine their interviewing techniques without jeopardizing actual recruitment outcomes.

Furthermore, each interaction with these digital humans culminates in a comprehensive feedback session, adding a layer of pedagogical depth to the training process. This feedback mechanism is instrumental in empowering participants by enabling them to pinpoint specific areas for improvement in their interview techniques. It promotes self-awareness and a growth mindset, fostering a continuous learning ethos among HR personnel.

The exceptional capabilities of these digital humans extend beyond mere simulation. They possess the remarkable capacity to mimic genuine human behavior, providing interviewers with multifaceted challenges. Through verbal and para-verbal cues, they demand nuanced responses, mirroring real-life interview dynamics. Moreover, these digital counterparts introduce cognitive and emotional intricacies into the training environment. They can manifest a spectrum of emotions and moods, challenging interviewers to navigate the complexities of human interaction. This immersive experience serves as a powerful mirror, shedding light on the potential pitfalls and vulnerabilities that can emerge when biases and false assumptions creep into the interview process.

The integration of these intelligent digital humans transcends traditional training methods, offering a multifaceted and transformative learning experience. It not only accelerates skill development but also fosters self-awareness, promotes a commitment to continuous improvement, and illuminates the critical role of mindset in the pursuit of diversity and inclusion in recruitment practices.

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