AI-Assisted Recruiting Technologies: Tools, Challenges, and Opportunities

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ABSTRACT

This article introduces the tools, processes, and challenges of AI-assisted recruiting technologies, including video interviews, social media screening, LinkedIn recruiting, and neuroscience games. This study provides important guidance for hiring professionals, job applicants, and technical and professional communication classrooms regarding ways to effectively respond to the potential and pitfalls of automated recruiting technologies.

CCS CONCEPTS

• **Human-centered computing**; • **Collaborative and social computing**;

KEYWORDS

AI-assisted recruiting, automated hiring, video interviews, social media screening, LinkedIn recruiting, neuroscience games

1 INTRODUCTION

Using a collection of capacities such as natural language processing, facial recognition, and voice recognition, artificial intelligence (AI) technologies have profoundly changed how job screening works and how job applicants are evaluated by algorithms before being selected for manual evaluation [1]. This research illustrates opportunities and challenges of AI-assisted recruiting, covering a range

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of tools including video interviews, social media profiling, LinkedIn optimization, and neuroscience games. Drawing on academic and trade literature, white papers, and technical reports, we introduce the processes of automated recruiting technologies, discuss the ethical concerns, and provide implications for hiring professionals, job applicants, and professional communication classrooms.

2 VIDEO INTERVIEWS

Asynchronous video interview (AVI), an alternative cost-effective option to traditional face-to-face interviews, has been used in personnel selection by measuring job candidates' personality traits, mental capability, knowledge, and interpersonal communication skills [2]. Candidates need to record their responses to predefined interview questions using an interview platform [3]. Empowered by facial recognition, natural language processing (NLP), and deep learning, AVI automatically scores and ranks candidates' interview performance through analyzing their verbal or nonverbal messages and biometric data such as speech, intonation, and facial expressions. Numerous challenges, however, have emerged for both recruiters and job applicants. Recruiters may confront ethical and legal controversies regarding the interpretability, bias, fairness, and security of AVI [4], while job candidates may experience privacy invasion and discriminatory evaluation. To deal with those issues, several state laws have gone into effect to regulate the ethical use of AI for employee interviews such as the Artificial Intelligence Video Interview Act issued by the State of Illinois [5]. Additionally, recruiters can incorporate ethical principles of screening technologies and learn from competing companies' best practices in addressing potential controversies. Job candidates can benefit from understanding the assessment process of AVI, matching their capabilities with the required competencies of target positions, and practicing video interview skills.

3 SOCIAL MEDIA PROFILING

Using machine learning techniques, social profiling is an emerging approach to automatically modeling user profiles using publicly shared data on online social networks to help employers understand candidates' demographics, psychographics, and wellness [6]. For instance, a babysitter cannot secure a position without passing the

AI scan of social media profiles for respect and attitude [7]. Based on the different areas of assessment, we categorized social profiling service providers into three types: (a) social influence assessment tools (e.g., Klout), (b) personality assessment tools (e.g., Humantic AI, Receptiviti), and (c) online background check tools (e.g., Social Intelligence, Predictum). Although these tools can help improve efficiency in talent assessment, they may violate legal regulations and cause discrimination or prejudice against certain persons or groups. To cope with the challenges of automated social media screening, job candidates should take an audience-centered approach to managing their online persona. Professional communication instructors can consider incorporating elements of digital literacy, algorithmic literacy, and soft skills development in their instructional design, raising students' awareness of the use of social media screening in the hiring process, and discussing strategies for building a positive online brand. Meanwhile, human resource professionals, recruiters, and other key decision-makers should be cautious of the ways in which automated screening influences their perceptions of job candidates' potential.

4 LINKEDIN RECRUITING

With approximately 94% of recruiters using LinkedIn in candidates selection [8], creating an effective LinkedIn profile for "algorithmic audiences" [9] becomes a critical task for potential job applicants. Job seekers benefit from understanding how LinkedIn uses AI algorithms to assess their online profiles. For example, LinkedIn Recruiter, an AI-based recruiting system, helps recruiters find suitable candidates with required skills and experiences [10], prioritizes candidates who have a higher probability to respond to job offers, and automatically learns from recruiters' refining queries to recommend a list of potential employees to recruiters. To craft LinkedIn profiles with a higher ranking in recruiters' talent pool, job seekers can consider (1) incorporating terms from job descriptions and job titles of target positions in the profiles to improve findability by recruiters; (2) taking LinkedIn skill assessments before displaying the verified skill badges in the profiles; (3) including at least five skills in the skill sets section and presenting three most relevant skills at the top; (4) indicating availability to new positions; and (5) engaging with target companies' brand in the profiles [11].

5 NEUROSCIENCE GAMES

Neuroscience games have emerged as one of the most popular forms of AI-assisted recruiting. Pymetrics, a leading company in neuroscience games, measures candidates' traits such as fairness, risk tolerance, and focus using game-like tests that rely on psychometric values for validity [12]. This tool boasts a 75% reduction in hiring time, a 25% decrease in costs, and a 77% candidate satisfaction rate [13]. These benefits have been tested against ethical issues in the field of AI recruiting including privacy, bias, and the resistance of those seeking more traditional methods of job search. Additionally, as Pymetrics markets itself as a place where one can be who they truly are, issues of authenticity arise. A study focusing on faking personality traits for job market success reveals that individuals may be prone to playing into a performative status to better fit the needs of jobs rather than providing truthful information

[14]. To address potential issues, Pymetrics has used outside help as a means of auditing both their gamified employment solutions and their attempts at building an anti-bias AI. With the core of neuroscience games being their ability to capitalize on key skills without accessing demographic information, potential employees can consider seeking out other forms of these "brain games" as a tool for preparing themselves to use Pymetrics.

6 DISCUSSION AND CONCLUSION

The emerging AI-assisted recruiting technologies can improve the recruitment process by reducing cost, time, and human bias. They also raise a range of ethical, legal, and privacy concerns in the employment screening process, which can be addressed with concerted efforts from employers, job applicants, researchers, and instructors. Employers or hiring professionals should develop best practices for AI recruitment and establish clear protocols. Job applicants can take a proactive role in understanding the use of algorithms in evaluating candidates. Researchers can critically examine how AI tools are developed and operationalized, how the training datasets are gathered and processed, and what biases such tools may have that can put certain types of applicants at a disadvantage in the job-hunting process. To empower job applicants who are under increasing pressure to outperform accelerating technological changes, technical and professional communication instructors can help students understand how AI transforms employment screening and discuss strategies for navigating evolving algorithms in automated recruiting.

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