

The Double-Edged Sword of AI in Career Development for GenZ and Future Generations

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Abstract: This article explores the implications of Generation Z (Gen Z) and future generations using Generative AI tools in their career searches, highlighting how these tools can benefit and harm job seekers. We critically analyze the advantages and pitfalls of Generative AI, focusing on issues such as voice, bias, industry trends, privacy, personal development, and decision-making. By understanding these dynamics and providing assessment strategies, we aim to offer actionable recommendations to better equip career educators and job seekers to thrive in a rapidly changing job market and prepare for the future of work.

Keywords: generative AI, career education, future of work, Gen Z, lifelong learning

The integration of generative AI or artificial intelligence (AI) tools into the job search ecosystem has transformed how individuals approach career development, especially for the digitally native cohort Generation Z (Gen Z; born between 1997 and 2012). Gen Z is the first generation to grow up in a world defined by limitless information and constant digital connectivity. However, being pioneers in the digital age brings challenges, as Gen Z must navigate a rapidly evolving landscape without the guidance of previous generations (Katz et al., 2022).

With the open release of Generative AI in November 2022, students, general job seekers, and career educators are quickly realizing these tools can enhance productivity by automating routine tasks and streamlining various aspects of career development—including résumé building, job exploration, and interview preparation, offering unparalleled efficiency and a level of customization previously unattainable by the average job seeker (Duan & Wu, 2024). For example, students can input their interests and skills and have an AI recommend dozens of jobs they may never have known existed (Lang & Catrino, 2023). Similarly, suppose a job seeker is preparing for an interview. In that case, they can input the job they are interviewing for into an AI and do a practice interview for that specific job, while getting real-time feedback on their answers and recommendations to improve their responses.

However, the significant benefits of Generative AI are accompanied by substantial challenges, such as perpetuating biases embedded within their training data (Hacker, 2024), privacy and security concerns (Acquisti et al., 2016), a potential degradation of

critical thinking and interpersonal skills, and a decrease in in-person interactions (Khechine & Lakhal, 2018), which is often what actually lands people jobs (Asher, 2010).

Born into a digital age, Gen Z is quick to embrace new technology to automate tasks, rapidly analyze data, and find work (Chan & Hu, 2023). According to a 2024 Salesforce survey, 70% of Gen Z reported using Generative AI, and 52% of respondents believed it helped them make informed decisions (Salesforce, 2025).

Guidance and support must be provided to safely and effectively utilize this new, powerful technology. It is imperative that Gen Z, future generations, and career educators recognize the double-edged sword of using Generative AI tools in a career search: these tools can be immensely beneficial while also causing inadvertent harm and, when not used properly, limiting instead of expanding future possibilities.

Current State of AI in Career Development

The current state of AI in career development is elusive, characterized by rapid and continuous evolution. AI is transforming college career services, particularly in areas such as job matching, résumé optimization, and personalized career guidance. Recent studies indicate that AI-driven tools are integral to modern human resource management, with significant advancements in digital job-matching platforms and algorithmic fairness (Bankins, 2021). However, challenges related to transparency, bias, and the ethical use of these technologies persist (Albaroudi et al., 2024). By understanding both traditional and Generative AI, career professionals can better address these evolving challenges while leveraging the transformative potential of these technologies.

Traditional AI has long been embedded into career development processes through digital job-matching platforms, résumé scanning software, and algorithm-based personalized career guidance. These applications focus on optimizing existing processes and improving efficiency. In contrast, Generative AI represents a newer frontier, offering dynamic capabilities such as generating tailored résumés, automating resume screening, simulating interview scenarios, and offering hyper-personalized career advice, such as creating personalized career strategies based on nuanced inputs. These systems use sophisticated algorithms to analyze large datasets, enabling them to make recommendations for job seekers based on patterns in both internal company data and external sources like social media (Bujold et al., 2023). The excitement of experimenting with Generative AI is comparable to unveiling a new technological gadget, brimming with potential and promise. When functioning effectively, Generative AI enhances efficiency and can yield impressive outcomes, such as matching job seekers with ideal roles or enabling companies to identify top talent quickly (World Bank, 2023). However, Generative AI outcomes are not always predictable, and success largely depends on how AI is implemented and monitored. Career educators are uniquely situated to educate and equip students to use these powerful tools to their advantage instead of their detriment.

Navigating the complexities of AI requires adaptability, skepticism, and a commitment to ongoing learning. As technology advances, it is imperative to strike a balance between human-driven learning and machine-assisted processes (Khechine & Lakhal, 2018).

Generative AI is a powerful tool, but it is not a solution for all the challenges career development professionals face. Practitioners must approach these technologies critically, ensuring that AI is used ethically and responsibly (Bujold et al., 2023). Staying informed about the latest advancements is crucial, but equally important is maintaining a critical perspective on emerging trends to safeguard against the unintended consequences of Generative AI (Laberge et al., 2020).

The future of Generative AI in career development will be shaped by how effectively career educators and job seekers navigate and manage these tools. Embracing uncertainty, taking risks in innovation, and learning from successes and failures will be key to successfully integrating Generative AI into career development practices. As the landscape continues to evolve, adaptability will remain the most valuable asset for professionals in the field (Westman et al., 2021).

A Path Forward for Career Educators

By critically examining both the potential advantages and the inherent risks associated with Generative AI technology and proposing key assessment strategies, we aim to improve job seeker's success, advance the field of AI-driven career education, and offer a balanced perspective to guide career educators and job seekers to leverage Generative AI effectively while remaining cognizant of the need to maintain and enhance their skills and judgment. Approximately 50% of job seekers currently utilize AI tools like ChatGPT to generate their CVs and cover letters, increasing the volume of applications but potentially lowering their quality (Navarra, 2023). Through this exploration, we hope to illuminate how Generative AI can be utilized judiciously, ensuring it serves as a complement to, rather than a substitute for, human capabilities in the journey of career education and development.

This section offers six recommendations for career educators and job seekers. We seek to comprehensively equip career educators and Gen Z job seekers with the insights necessary to navigate the complexities of a technology-driven job market, fostering a more informed and strategic use of AI tools in their career development strategies. In doing so, we aspire to help strike a balance between embracing technological advancements and retaining the irreplaceable value of human analysis, reflection, and personal perspectives in one's professional journey.

Mitigating Bias in AI Outputs

Given that Gen Z is one of the most racially and ethnically diverse generations to date, their engagement with Generative AI raises critical questions about bias in algorithms and the representation of their identities in AI outputs, which directly impacts their trust and reliance on these tools (Fry & Parker, 2018). Generative AI has many risks in career development, including significant concerns about over-reliance on AI algorithms that perpetuate biases inherent in their training data. Generative AI models, such as ChatGPT and other career-focused AI tools, are trained using massive datasets composed of publicly available text, curated sources, and, in some cases, proprietary content. These models learn by identifying patterns in the data, allowing them to generate responses, recommend jobs, or optimize résumés. However, suppose the training data contains

biases, such as underrepresenting certain demographic groups or historical hiring inequities. In that case, AI outputs perpetuate historical biases in their training datasets, leading to discriminatory practices in job matching and candidate selection processes (O'Neil, 2016). Economic biases that exist worldwide, such as the gender and racial pay gap and unequal hiring practices, can become exacerbated and magnified when companies use AI systems trained and built on biased or incomplete data sets (Arora et. al, 2023).

Disturbingly, seemingly minor discrepancies in training data can lead to amplified outcomes in complex systems, like AI algorithms, thereby magnifying minor biases present in training data with the potential for significantly unfair results (Ferrara, 2024a; Ferrara, 2024b). These biases can manifest in multiple ways in the career exploration journey, including resume screening bias, job recommendation algorithms, interviewing tools, salary prediction and negotiation bots, career exploration and development, and networking and mentorship suggestions.

Résumé Screening Bias

AI-driven applicant tracking systems (ATS) are widely used to screen résumés and rank candidates before a human sees them. Suppose these systems are trained primarily on data from successful candidates with similar demographic traits, such as gender or race. In that case, the AI may inadvertently favor candidates who fit this profile, excluding equally or more qualified candidates from different backgrounds. For instance, if historical hiring data shows a preference for candidates from certain prestigious universities, the AI might deprioritize or filter out résumés from candidates who attended less well-known schools, regardless of their qualifications. Recent studies have shown that AI résumé review systems are biased, significantly favoring White-associated names in 85.1% of cases and disadvantaging Black males in up to 100% of cases (Wilson & Caliskan, 2024).

Job Recommendation Algorithms

Many online job platforms use AI to suggest positions to users based on their previous searches, applications, and profile information. If these algorithms are biased, they might recommend jobs that reinforce existing career stereotypes, such as suggesting technical roles predominantly to men and administrative roles to women, thereby limiting exposure to opportunities that could have resulted in a better fit based on skills and interests (Ozer et al., 2024).

Interviewing Tools

AI-powered interviewing tools that analyze candidates' speech patterns, facial expressions, or body language may discriminate against individuals based on accents, speech impairment, or physical disabilities (Harwell, 2022). Such biases can disadvantage candidates who do not conform to the specific models of "ideal" communication or behavior that the AI is programmed to identify as successful, disproportionately affecting those from diverse backgrounds or with neurodiverse conditions (Albaroudi et al., 2024).

Salary Prediction and Negotiation Bots

AI systems designed to guide or automate salary negotiations may use historical salary data that reflects gender or racial pay gaps. If not carefully adjusted, these systems could perpetuate wage inequalities by suggesting lower salaries to women or minority groups based on biased historical payment data on gender, age, and/or previous title (Aaijaz et al., 2024).

Career Exploration and Development

AI tools used within organizations to suggest potential career paths to employees can limit professional growth by perpetuating a “glass ceiling” that already exists for women and minorities, as these systems are trained on data sets of people already in power, who are often male and white (Buolamwini, 2023). For example, a system might suggest career advancements more frequently to employees of a certain demographic, ignoring the potential and aspirations of others not recognized due to biased training data, which can contribute to professional disparities that disadvantage minority groups (Kordzadeh & Ghasemaghaei, 2021).

Network and Mentorship Suggestions

Algorithms that drive many online social and connection tools, like social media, are already susceptible to homophily, where users of similar backgrounds and viewpoints are grouped together and more often appear in each other’s feeds (Weber et al., 2022). Platforms using AI to connect users with mentors or professional networks could exhibit bias by favoring matches based on demographic similarities, such as connecting individuals of the same race or gender. Such biases may restrict diverse networking opportunities for people in underrepresented groups.

Hiring Bias

On the employer side, recent studies have highlighted the persistence of bias in Generative AI systems across various sectors, including recruitment. For example, researchers at the MIT Media Lab have demonstrated that algorithms can develop biases based on the data they are fed, often mirroring societal prejudices related to race, gender, and socio-economic status (Mitchell et al., 2019). Particularly concerning in the context of job applications is where such biases could result in qualified candidates being overlooked due to inherent prejudices in the AI’s decision-making process (Cai et al., 2024), such as the infamous Amazon hiring scandal where women résumés were screened out due to a predominantly male training data, which led the AI to “prefer” male candidates (Dustin, 2018). Without addressing these biases, Generative AI systems risk reinforcing structural inequalities in the hiring process (Albaroudi et al., 2024). To combat these issues, it is imperative for career educators to encourage students to adopt a multifaceted approach. Remaining “the human in the loop” is one of Mollick’s (2024, p. 52) imperative principles for living and working with AI; Mollick (2024) cautions that we must remain vigilant and constantly refine and adapt AI-generated output.

In other words, human oversight is crucial; job seekers and career educators must resist delegating everything to AI and recognize that AI tools have weaknesses and blind spots. We suggest career educators support job seekers in actively seeking diverse perspectives

and integrating human oversight into the AI output review process to detect and correct potential biases. To support this process, we provide suggestions and recommendations on human oversight and audits in the final section of this paper. We also suggest seeking out platforms and tools known for their commitment to diversity and inclusion, as these companies are more likely to employ algorithms audited for bias. For example, platforms like LinkedIn, Pymetrics, and Eightfold AI have integrated bias-reduction measures in their algorithms to promote fair hiring and career development (Karthikeyan, 2023). On the employer side, HR professionals must review Generative AI recommendations to ensure fairness and consider contexts that AI might miss. Having a dual approach can help mitigate potential biases introduced by AI, ensuring that one's career exploration journey is not solely based on, and therefore limited by, algorithmic output (Shahriar et al., 2021). As AI continues to evolve, continuous vigilance and adaptation of these strategies ensure that AI aids rather than hinders fair employment exploration and practices.

Reinforcing Mollick's principle to be "the human in the loop" (2024, p. 52) and the imperative to seek out diverse perspectives and integrate human relationship building and input into a career education process, a successful job search can be supported, but not entirely implemented by Generative AI tools.

Preserving Authenticity in AI-Assisted Communications

The authenticity of communication—whether in résumés, cover letters, or LinkedIn profiles—plays a pivotal role in how potential employers perceive a job candidate (Song et al., 2020). The integration of AI tools in creating such content, while beneficial for enhancing structure and grammar, presents a risk: the dilution of the personal narrative that uniquely defines each candidate. AI technologies can negatively influence perceptions of job seekers' warmth, social competence, social attractiveness, and hiring desirability (Weiss et al., 2022). When AI systems generate content based largely on general data and common templates, the resultant documents might lack the personal touch that resonates with human recruiters, potentially resulting in less engaging and less credible applications.

To address this issue, career educators should encourage job seekers to build a strong foundation for their professional documents by drafting documents independently of AI. Starting with their work allows individuals to infuse their unique voice and personality into their applications, establishing a tone that authentically represents their personal brand and professional ethos. Once the foundation is laid, AI tools can then be employed to refine content by enhancing language, adding clarity, correcting grammatical errors, and suggesting alterations for impact, ensuring that the narrative remains true to the candidate's voice while benefiting from the precision and efficiency of AI (Cardon et al., 2023a).

Furthermore, the process of revising AI-assisted outputs should be iterative, involving multiple rounds of feedback from a career educator, trusted mentors, or peers. Feedback is essential as it provides external perspectives on how well the AI modifications align with the candidate's intended message and personal style. It also offers an opportunity to identify where AI might have inadvertently introduced generic phrases or concepts that detract from the individual's unique characteristics. Career educators can encourage job

seekers to engage in iterative revisions with AI while maintaining control over the narrative, ensuring each iteration brings the content closer to the optimal balance of authenticity and professionalism. Such an approach not only preserves the personal touch but also maximizes the effectiveness of AI tools, leveraging technology to enhance human-driven content rather than replace it (Cardon et al., 2023b).

By adhering to these practices, career educators can teach students how to utilize AI to their advantage without compromising the authenticity of their communications. Strategically using the technology ensures their applications not only stand out for their high quality but also for their genuine representation of the candidate's individual journey and professional aspirations.

Ensuring Personalization Through Specific & Iterative Input

Due to their reliance on extensive and often generalized datasets, Generative AI systems may default to producing generic outputs that do not capture a job seeker's unique attributes and fail to adequately distinguish one person, or job seeker, from another (Pratama et al., 2023). To counteract this, detailed customization of inputs is essential to ensure outputs truly represent the candidate's unique skills and experiences. Career educators must encourage job seekers to customize their interactions with AI tools by inputting detailed, personalized information (Zavalevskyi et al., 2024). Providing specific prompts to the AI generates outputs that more accurately reflect the individual's unique professional qualifications and career aspirations.

To enhance personalization, career educators can help job seekers define and then write about their specific interests and skills, formal and informal education, and specific items from their résumé, and/or industry-specific keywords. Once they receive an AI output, career educators can coach job seekers to continuously refine their AI inquiries to receive more nuanced, personalized output specific to their goals. Consistent interaction allows for increasingly refined customization and more personalized AI assistance (Mollick, 2024). Increased personalization can also lead to higher quality job matches as résumés go through ATS, as more personalized applications are more likely to pass through ATS and catch the attention of hiring managers (Holm, 2020; Novaković & Dražeta, 2024).

Recent advancements in AI, particularly in Natural Language Processing (NLP) and adaptive machine learning models, have significantly enhanced the personalization capabilities of AI tools. NLP technologies now enable AI systems to interpret complex aspects of human language more effectively (Carrasco, 2024). These developments are particularly pivotal in the context of career development, as personalized input and output can substantially impact a job seeker's success and ensure more nuanced matching between job descriptions and applicants' résumés. Deeper textual analysis helps in identifying not just keywords but also the context and implied qualifications, leading to more accurate job recommendations (Carrasco, 2024).

Adaptive machine learning models have also enabled AI systems to learn from user feedback and interaction history. AI models adjust their algorithms based on the changes users make to AI-generated recommendations, thereby improving their accuracy over time

(Belle et al., 2024). For instance, if a job seeker consistently modifies suggestions in a particular way, the AI learns to incorporate such preferences in future outputs. Li et al. (2023) found that Large Language Models (LLMs) have a grasp of emotional intelligence, and their performance can be improved with emotional prompts. Continuous learning from interaction ensures that AI tools become increasingly effective at tailoring their assistance to meet individual needs and preferences (Belle et al., 2024), making the job search process more efficient and customized. When discussing AI in the job search, it is important to recognize that a variety of tools exist beyond the commonly known ones, such as ChatGPT. Each tool is designed for different aspects of the job search process. For instance, LinkedIn's AI-driven job recommendations personalize listings based on a user's profile and activity. At the same time, Resume Worded provides AI-powered feedback on résumés and LinkedIn profiles by analyzing industry and recruitment trends. Paradox's AI recruiting assistant supports job seekers by automating interview scheduling and providing real-time feedback. Platforms like Eightfold AI also leverage deep learning to assess career trajectories, understand workforce development trends, and suggest opportunities based on evolving user behavior. By strategically and intentionally integrating these tools, job seekers can enhance their search with AI that continuously adapts to their needs.

Prioritizing Privacy and Data Security in AI Tool Usage

Using AI for a career search often involves sharing personal and sensitive information, like work history, salary expectations, skills, certifications, personality assessments, social media profiles, location, and career goals. While these details enable more tailored job recommendations, they also raise privacy concerns if the data is mishandled or shared without consent, highlighting the need for secure data management and transparent practices to protect users' information. However, research suggests Gen Z is relatively unconcerned about data collection agreements. A 2022 McKinsey & Company study found that Gen Z is the most likely generation to allow apps and websites to collect their data without fully understanding how it will be used. Even when aware of these practices, many still proceed, as over 40% reported granting access to personal information in exchange for perks like discount codes or free services. This willingness to trade personal data for convenience underscores the importance of educating Gen Z job seekers on digital privacy and ensuring AI-driven platforms maintain ethical data practices.

If a platform's data handling policies are inadequate, personal data can be exposed and misused (Albaroudi et al., 2024). As the use of Generative AI in recruitment and career services continues to grow, concerns about how personal data is stored, shared, and potentially exploited have and will continue to become more pronounced (Bankins, 2021). Career educators must encourage job seekers to strike a balance between providing enough information for personalized recommendations, like one's work experience, skills, and career goals, while protecting their privacy and remaining cautious about uploading any sensitive information, such as one's home address, exact salary history, detailed financial goals, or highly specific certifications that could be misused, like security clearances. By adopting these precautions, individuals can safeguard their data and personal information in the increasingly AI-driven job search landscape.

Integrating AI with Real-World Connections and Experiential Engagement

While Generative AI tools in job searching offer the convenience of speed and scalability, they inherently operate within the confines of their programmed algorithms and data sets. These tools categorize and recommend opportunities based on specific, often static criteria such as keywords, qualifications, and previous job titles. In addition, since AI models are trained on historical data and updated periodically, they may not accurately reflect real-time developments in certain fields (Brynjolfsson & McAfee, 2022). In rapidly changing sectors, outdated recommendations can arise, limiting job seekers' access to a comprehensive range of potential career paths, especially in emerging or rapidly evolving fields (Davenport & Kirby, 2020).

In addition, despite their ability to process large datasets, AI algorithms often lack the nuanced understanding required for significant career choices, particularly when considering individual preferences, aspirations, and the unique factors involved in career paths (Schemmer et al., 2023). Over-reliance on AI may lead to decisions that are misaligned with personal goals or market realities. To mitigate such risks, career educators can help job seekers integrate their judgment with AI-generated outputs and additional career assessment tools, such as interest inventories and personality tests. Career educators can serve as a sounding board and reference to support the job seeker to reflect and connect with industry experts who can provide personalized insights, which is more likely to lead to successful and fulfilling outcomes than basing one's career decisions on data alone (Rodgers et al., 2023).

In the realm of career development, over-reliance on AI for important decisions can result in a disconnect between personal preferences and the objective data provided by algorithms. AI, while useful for generating suggestions, may not account for an individual's unique career aspirations or the subtleties of specific industries, nor will it ever replace the experience of shadowing or conducting an informational interview, which can unearth realities of a job that might be missed when only searching online.

Many college career centers including Tulane University, Bowling Green State University, Trinity College (CT), Johns Hopkins University, University of Delaware, and Dartmouth College utilize a "life design" approach to career exploration, teaching a creative, iterative, human-centered problem-solving methodology that can be applied to navigate change and transition throughout life (Lang, 2021). The field of "life design" highlights the power of prototyping, or building an experiment to test out an area of interest, as the idea of a job or how it is written on paper or framed on the internet might be very different than experiencing what that job is like firsthand (Lang, 2021). While AI can be a great starting point for exploration of potential career pathways, it will never replace the lived experience of shadowing someone on the job or conducting a career conversation (or informational interview). Therefore, it is essential to complement AI recommendations with personal insights, professional consultation, and real-world experience via shadowing or having a career conversation with someone in a desired field (Burnett & Evans, 2016).

To counteract the limitations of AI, career educators can help job seekers map out and adopt a more holistic approach to career decision-making. By balancing AI use with

experiential learning, job seekers can ensure a more holistic approach to career development. This involves blending AI tools with more traditional and proactive job searching methods, including engagement in industry-specific events, utilization of personal networks, active participation in professional associations, and volunteering and internships.

Engagement in Industry-Specific Events

Participating in conferences, workshops, and seminars relevant to one's field provides valuable learning opportunities and opens doors to networking with industry leaders and peers. Such events often serve as a platform for companies to scout for talent and may offer job opportunities not advertised widely (Asher, 2010). Seeking the expertise of industry professionals provides up-to-date insights that are more tailored and contextually relevant than the information generated by AI systems (Oancea et al., 2023). Combining AI-driven insights with real-time information from these sources ensures that individuals remain well-positioned to adapt to the dynamic landscape of their chosen fields.

Utilization of Personal Networks

“Employee referral hiring” refers to organizations leveraging social networks to fill job openings with new hires, a method that remains popular among many employers (Schlachter & Pieper, 2019). A 2022 Aptitude Research survey found that 82% of U.S. employers use employee referrals to source, identify, and shortlist candidates (Laurano, 2022). Engaging with one's network can also uncover hidden job opportunities through referrals or inside information about upcoming openings (Stenken & Zajicek, 2009). Active engagement in industry events and networks leads to expanding one's network through building individual relationships, which is what ultimately lands people jobs (Asher, 2010). Industry experts can also provide personalized, human insights that a job seeker might miss if only utilizing AI tools in their search.

Active Participation in Professional Associations

Membership in professional associations can provide access to industry-specific resources, career advice, mentorship programs, and exclusive job listings. Some organizations find and filter candidates by their respective professional affiliations (Kehoe et al., 2022). These associations often have internal job boards or newsletters that feature opportunities not available elsewhere.

Volunteering and Internships

Engaging in volunteer work or internships, especially in desired industries, can significantly enhance one's professional network and increase visibility to potential employers. These roles sometimes lead to full-time job offers and are excellent ways to demonstrate commitment and gain practical experience (Galbraith & Mondal, 2020). The National Association of College and Employer's (NACE) 2024 Internship and Co-op report found that 85% of responding employers indicated internships are the top recruiting method for their investment of time and money, far ahead of career fairs (9%), on-campus visits (3%), and participating in campus panels (3%; Gatta et al., 2024).

Maintain Human Oversight

AI can offer valuable support in career decision-making, but it will not replace human judgment. Adopting these diversified strategies allows job seekers to access a broader array of opportunities, thereby considering a wider variety of career options that AI might overlook and enhancing their prospects in a dynamic job market. These in-person, human-centered approaches ensure job seekers discover roles more closely aligned with their career aspirations, skills, and values, rather than predetermined by their past accolades and job titles. Moreover, such an approach helps build a robust professional network that offers support and guidance throughout one's career. By maintaining human oversight, career educators and job seekers remain “the human in the loop” (Mollick, 2024), deepening and fine-tuning AI output in a way that would be entirely missed if students relied solely on AI for all their career decisions.

Furthermore, over-reliance on AI for career guidance can impede personal and professional growth by discouraging independent problem-solving and decision-making, both of which are critical in today's job market (Bostrom, 2022). While AI offers useful recommendations, job seekers must actively engage in self-directed learning and critically evaluate the content provided by AI tools. Adopting such an approach, individuals can develop the necessary cognitive and analytical skills to thrive in their respective fields. Additionally, real-world experiences like internships and hands-on projects can complement AI-driven insights and contribute to more comprehensive skill development (Chiekezie et al., 2024).

Career educators can guide students in leveraging AI to enhance their career search while also encouraging them to build professional networks, attend industry conferences, seek guidance from experts closely connected to real-time developments, engage in self-reflective processes, and resist outsourcing all the “work” to AI. By combining AI-driven insights with up-to-date advice from industry professionals, this approach ensures that students receive both cutting-edge information and practical, relevant guidance for informed career decision-making.

Assessing AI's Impact in Career Development: Measuring the Double-Edged Sword

Our final recommendation is that job seekers and career educators supporting the career search embrace a culture of critical reflection and continuous assessment. Just as we teach job seekers to critically evaluate job offers and career paths, we must equip them with the skills to evaluate the tools that are supposed to aid them and thereby gauge the effectiveness and fairness of AI in their career search. To navigate the complexities of AI in career development, it is essential to implement robust assessment strategies, ensuring these tools enhance, rather than hinder, student success. The methods below provide career centers with frameworks for measuring the effectiveness of AI tools and mitigating potential biases.

Conduct Bias Audits to Unveil Hidden Prejudices

Research has found AI-based hiring tools disproportionately favor white male candidates in résumé screening, often due to biases embedded in training data (Wilson & Caliskan, 2024). Inspired by the work of Buolamwini (2023) and Maudslay et al. (2019), we

recommend that career centers conduct regular, rigorous audits of AI tools to identify and mitigate biases by testing outputs across diverse student personas (e.g., varying names, genders, institutions). A bias audit could include inputting identical résumés with different names (e.g., male vs. female, ethnically diverse names) into AI résumé screening tools; comparing job recommendations for students with similar qualifications but different demographic backgrounds; or analyzing whether AI recommends diverse career paths or reinforces traditional gender and racial career stereotypes. For example, AI-based job-matching tools have been found to steer women toward administrative roles and men toward STEM careers, perpetuating historical labor market inequalities (Özer et al., 2024). Career educators should assess whether and how AI tools expand or limit student career possibilities.

Assessing Student Engagement with AI in Career Services

To gauge the impact of AI tools on student confidence and efficacy, career centers can assess:

- Frequency of AI use, including how often students use AI tools such as ChatGPT, LinkedIn AI, or résumé optimization software.
- Types of AI interactions, including what career-related tasks (e.g., résumé building, interview practice, job search) students used AI for.
- Perceived value of AI guidance, including whether students find AI-generated career advice useful, misleading, or biased.

Surveys can be designed using Likert-scale questions and open-ended responses to track qualitative and quantitative shifts in student engagement (Westman et al., 2021). A sample question might include: “How prepared do you feel for interviews after using AI simulations?” To understand further, qualitative methods such as focus groups and one-on-one interviews can provide deeper insights into how AI shapes students' career exploration. Facilitators can ask questions such as: “How has AI influenced your career decisions? What challenges have you encountered when using AI for job applications? Do you feel that AI has improved your job search effectiveness?” These discussions can help career educators assess whether students are over-relying on AI tools and/or struggling with interpreting and acting on AI output. By analyzing shifts in self-reported confidence and perceived preparedness, career educators can fine-tune their training programs to better align with student needs and aspirations.

Tracking AI Tool Engagement Metrics

Many career service offices already offer AI-powered platforms, such as VMock for résumé review and Quinnia, Big Interview, or others for mock interviews. Any center using an AI-powered platform can track:

- Engagement metrics, including how frequently students interact with AI-driven career tools.
- Completion rates, including how many students complete AI-recommended résumé revisions or interview preparation steps.
- Outcome-based engagement: correlating AI use with improved résumés, cover letters, interview performance, and successful hires.

By analyzing these data, career educators can determine whether AI tools enhance career readiness or whether students disengage due to frustration, misinformation, or bias (Lalberg et al., 2020).

Tracking Internship and Job Placement Outcomes

Tracking the correlation between AI tool engagement, support, and actual employment outcome is crucial. Key metrics career centers can track include:

- Interview conversion rates: Do students who use AI résumés and job-matching tools secure more interviews?
- Job placement rates: Are AI-assisted job seekers more likely to receive offers?
- Student confidence levels: Do AI-enhanced job seekers report greater confidence in the application process?

Kaashoek et al. (2024) warned that “applicants could become indistinguishable as everyone turns to generative AI to create their materials” (p. 6), raising concerns about homogeneity and a loss of individual differentiation. Similarly, Weiss et al. (2022) found that AI-driven interview feedback may improve applicant responses but often lacks contextual understanding of emotional intelligence and nonverbal cues, which remain critical in hiring. As such, testing the effectiveness of AI platforms, from resume builders to interview preparation tools, is crucial to understanding if their usage leads to increased job placement. Taking this a step further, career centers could partner with institutional research offices to compare placement rates of students who used AI tools versus those who did not, while controlling for variables like GPA and major.

Conclusion

Using AI tools in tasks like résumé building, job exploration, and interview preparation has revolutionized the way that the digitally native generation Gen Z approaches career progression, and the integration of Generative AI into career development offers unprecedented opportunities for efficiency, personalization, and innovation in job searches (Lang & Catrino, 2023). AI's potential lies in its ability to automate and streamline processes, providing job seekers with personalized recommendations based on vast datasets. While these technologies provide significant advantages, their implementation is not without challenges and limitations. Issues such as algorithmic bias, data privacy concerns, and the risk of over-reliance on technology underscore the need for a balanced, human-centered approach. To ensure effective and useful AI output, job seekers must actively engage with AI tools by providing specific, detailed inputs and continuously refining their interactions. Furthermore, the importance of human insight cannot be overstated. Personal judgment, industry expertise, and interpersonal interactions remain crucial elements in making well-rounded career decisions.

Career educators play a vital role in helping Gen Z students and future generations engage in self-directed learning and critically assess AI-generated recommendations; this strategy will not only enhance one's career search but will also teach students how to engage with AI in other contexts, thereby cultivating skills needed for long-term success. Through strategic implementation of assessment strategies, career educators can effectively navigate the double-edged sword of AI in career development. Only by

remaining vigilant and continually refining one's approach based on data-driven insights and ethical considerations can AI fully empower Gen Z and future generations in their career journeys, fostering a future where technology enhances rather than diminishes human capabilities.

The future of career development depends on striking the right balance between embracing technological advancements and maintaining the irreplaceable value of human judgment, personal growth, and ethical responsibility. To fully harness the potential of Generative AI, it is essential to tailor resources and support for Gen Z and future generations, emphasizing AI literacy, including understanding bias, ethical considerations, and strategies for maximizing its applications, which can empower these generations to utilize AI effectively while being mindful of its limitations. Career educators and job seekers must remain vigilant to the ethical use of AI, address biases, and ensure privacy and data security. By integrating AI with human oversight and leveraging traditional methods, such as networking and professional development, individuals can navigate the rapidly changing job market while remaining in charge and in control of their personal development and ultimately, their forward professional pathway.

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