

# Artificial Intelligence as a tool for Job Searching

## Introduction

Artificial Intelligence (AI) refers to advanced computer systems that simulate human intelligence, employing statistical models, machine learning, and deep learning to perform tasks traditionally associated with human cognition. While the conceptual roots of AI can be traced back to pioneers such as Alan Turing (1950), it was the development of ChatGPT in 2022 that marked a major turning point, providing new opportunities and challenges for companies, job seekers, and industries worldwide (Open AI 2022).

This paper explores the use of AI as a tool to assist individuals in their job search. By enhancing knowledge acquisition, refining communication tools, and providing continuous feedback, AI holds the potential to streamline the job search process. Moreover, practical methodologies have emerged from a series of workshops that integrate AI-based conversational tools, note-taking software, and multimedia generators to aid job seekers. While AI offers numerous benefits, it also presents challenges, particularly concerning ethical issues, data privacy, and its potential for generating misleading information.

## A classical approach to job searching

A classic metaphor that serves to illustrate the role of AI in the job search process can be found in *Alice in Wonderland* by Lewis Carroll (1865). In the book, Alice encounters the Cheshire Cat at a bifurcation in the road and asks him which way she ought to go. The Cat responds, "That depends a good deal on where you want to get to," emphasizing the importance of having a clear destination.

This metaphor is especially relevant for modern job seekers using AI tools. Just as Alice needed to define her path, individuals searching for employment must be clear about their career goals, target sectors, and desired employers before leveraging AI technologies. Without a clear sense of direction, even the most sophisticated AI tools may not provide meaningful guidance. However, when job seekers know where they want to go, AI can act as a powerful assistant, offering insights and solutions tailored to their needs.

Nowadays, we are often playing the role of Alice, asking questions to the chatbots (in the story the Cheshire Cat). Although asking good questions and instructions is crucial. The more specific, detailed and focused, the better the answers.

## AI applications in job searching

AI offers a wide range of applications for job seekers that enhance various aspects of the search process. These applications can be grouped into three key areas: improving knowledge, sharpening communication tools, and providing continuous feedback and improvement.

### 1. Enhancing knowledge

AI tools can significantly expand a job seeker's knowledge base, both internally (self-awareness) and externally (market awareness). On a personal level, AI can aid individuals in self-reflection, helping them assess their strengths, weaknesses, and career aspirations. AI-driven assessments can provide job seekers with personalized insights that may not be immediately apparent through traditional self-analysis.

Externally, AI offers a wealth of information about industry trends, specific companies, and job roles. AI-powered platforms such as OpenAI's GPT-4 and other conversational agents can act as career coaches, guiding individuals through possible career paths based on their qualifications and interests. Furthermore, AI-driven analytics tools can provide data on which skills are in demand, the types of roles that match the candidate's profile, and how their qualifications compare to market standards.

By aggregating and analysing vast amounts of data, AI can offer job seekers a detailed view of their standing within the job market, helping them make informed decisions. For example, job seekers can leverage AI tools to conduct a thorough analysis of industries and companies that align with their career aspirations, thereby refining their job search strategy.

## **2. Sharpening communication for job searching tools**

AI tools can help refine how candidates present themselves in résumés, cover letters, and online profiles. Natural Language Processing (NLP) models have made it easier for job seekers to craft clear, compelling documents that highlight their skills and experience.

AI-powered résumé builders allow candidates to create well-structured, professionally formatted résumés that meet industry standards. By analyzing job descriptions, these tools can suggest keywords and phrases that increase a candidate's chances of being noticed by recruiters using Applicant Tracking Systems (ATS). Additionally, AI-powered cover letter generators can tailor content based on the specifics of a job posting, ensuring the letter aligns with the company's needs and values.

Platforms like LinkedIn have also integrated AI to optimize users' profiles for job searching. For example, LinkedIn uses AI to recommend ways to improve profiles based on industry standards, suggesting which skills to highlight or how to frame experience descriptions.

Beyond written communication, AI has also contributed to the creation of multimedia portfolios. These tools allow candidates to present their skills and experiences in interactive formats, such as video or digital portfolios that showcase projects and achievements in a creative, engaging way.

## **3. Continuous feedback and improvement**

The job search process is dynamic and often requires constant adaptation and improvement. AI excels in providing continuous feedback, helping candidates refine their approach at each stage of the job search.

AI-powered chatbots can simulate job interviews, giving candidates the opportunity to practice their answers to common questions. These chatbots provide detailed feedback on the tone, content, and delivery of the candidate's responses, offering insights into how they can improve. For example, chatbots might highlight the use of weak language or suggest improvements in the structure of an answer.

Moreover, after real job interviews, AI tools can help candidates reflect on their performance. Note-taking software, which transcribes and summarizes conversations, can analyse a candidate's interview responses, identifying strengths and weaknesses. By reviewing these summaries, candidates can pinpoint areas where they performed well and areas that need improvement, allowing for continuous learning and growth.

## **Practical workshops: applying ai in job searching**

One of the most effective ways to integrate AI into job searching is through practical workshops that teach participants how to use AI tools. The authors conducted a series of workshops in collaboration with Barcelona Activa, an economic promotion agency. These workshops, which took place both in-person and virtually, aimed to equip job seekers with AI tools that could enhance their interview preparation and overall job search efforts.

The workshops followed a structured approach, focusing on three main phases:

### **1. Script preparation (with chatbots)**

Job interviews can be likened to rehearsing for a performance, where preparation is key. In the first phase of the workshops, participants were taught how to use AI-powered chatbots to generate interview scripts. Chatbots simulate the role of an interviewer, asking questions tailored to the participant's target industry or role. Candidates could then engage in a dialogue with the chatbot, refining their answers and gaining deeper insights into what recruiters may be looking for.

This process encouraged creativity and critical thinking, allowing participants to think through multiple scenarios and generate thoughtful, well-structured answers. It also helped reduce the anxiety associated with interview preparation by familiarizing candidates with the types of questions they might face.

### **2. Interview practice (with note-taking tools for videoconferencing)**

In the second phase, participants practiced their interview skills in a mock setting, utilizing AI-based note-taking software to record and analyse the session. These tools transcribed and summarized the conversation, providing valuable insights into how the candidate communicated during the interview.

Participants were encouraged to reflect on their performance, reviewing the AI-generated summaries to identify areas for improvement. This method allowed participants to assess not only the content of their responses but also their non-verbal communication, such as tone and pacing. The ability to review a transcription of the interview added a layer of objectivity that is often missing from self-assessment.

### **3. Continuous improvement (using chatbots)**

In the final phase, the emphasis shifted to continuous improvement. After reviewing the feedback from the note-taking tools, participants were encouraged to use AI chatbots again, this time focusing on refining their weaknesses. For example, if a candidate struggled with answering behavioural questions, the chatbot could provide additional practice scenarios and suggest strategies for framing responses more effectively.

This iterative process ensured that participants were continuously refining their skills and becoming more confident in their ability to perform well in real job interviews.

## **Risks and ethical considerations**

While AI offers numerous advantages for job seekers, it also raises important ethical and practical concerns that must be addressed.

## **1. Data privacy**

AI tools often require users to input personal information, such as résumés, cover letters, and interview recordings. This raises significant data privacy concerns, particularly in relation to the storage and handling of sensitive information. Job seekers and developers must ensure that all data shared with AI platforms is protected in accordance with regulations like the General Data Protection Regulation (GDPR) in the European Union (2018).

AI platforms should implement robust security measures to protect user data from breaches and misuse. Additionally, transparency is essential; users should be fully aware of how their data will be used, stored, and potentially shared with third parties. The authors recommend the candidates to use an invented digital character, with a different name making difficult or impossible univocally identifying the participant.

## **2. AI hallucinations**

Another risk associated with AI is the phenomenon of "hallucinations," where AI systems generate incorrect or misleading information. In the context of job searching, this could manifest in several ways. For example, an AI-powered career coach might provide inaccurate job market insights, or a chatbot might suggest ill-suited interview strategies based on faulty data (Vincent 2019).

Given this risk, job seekers must be cautious when using AI tools and should cross-check the information they receive with reliable human sources. AI tools should be used as supplementary aids rather than the sole source of advice or guidance.

## **3. Ethical bias**

AI systems are only as good as the data they are trained on, and this presents a significant ethical challenge. If AI systems are used in the hiring process, they may inadvertently perpetuate biases present in historical data, such as gender, race, or socioeconomic bias. For example, if an AI-based recruitment tool is trained on résumés from predominantly male applicants, it might develop a bias against female applicants (Floridi et al.2019).

To mitigate this risk, developers must prioritize fairness and transparency in the design of AI systems (Binns 2018). AI models should be regularly audited for biases, and corrective measures should be taken when biases are detected. Additionally, employers using AI tools for hiring must ensure that these tools comply with anti-discrimination laws and promote diversity in the recruitment process.

## **Conclusion**

AI has the potential to revolutionize the job search process, offering job seekers powerful tools to enhance their knowledge, refine their communication, and continuously improve their strategies. The workshops conducted by the authors, in collaboration with Barcelona Activa, demonstrate how AI can be effectively integrated into the job search process, providing candidates with the skills and confidence needed to navigate a competitive job market.

However, AI is not without its risks. Data privacy, hallucinations, and ethical biases present significant challenges that must be carefully managed to ensure that AI tools are used responsibly and equitably. As AI continues to evolve, job seekers, developers, and

employers must remain vigilant about these issues, ensuring that AI serves as a tool for empowerment rather than exclusion.

In conclusion, while AI is not a substitute for human judgment and effort, it can be a powerful ally in the job search process. As the labour market continues to evolve, the integration of AI into career development will likely become an indispensable part of the future of work, offering job seekers the opportunity to navigate their career paths with greater confidence and efficiency.

## References

- Binns, R. (2018). Fairness in Machine Learning: Lessons from Political Philosophy. *Proceedings of the 2018 Conference on Fairness, Accountability, and Transparency*, 149-159.
- Carroll, L. (1865). *Alice's Adventures in Wonderland*. London: Macmillan.
- European Union. (2018). General Data Protection Regulation (GDPR). Retrieved from <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32016R0679>
- Floridi, L. (2019). *The Ethics of AI: Key Concepts and Debates*. Oxford University Press.
- OpenAI. (2022). Introducing ChatGPT. Retrieved from <https://openai.com/blog/chatgpt>
- Turing, A. (1950). Computing Machinery and Intelligence. *Mind*, 59(236), 433-460.
- Vincent, J. (2019). AI Bias: Learning the Wrong Lessons. *Nature*, 573(7772), 168-170.