# A RECRUITER'S GUIDE TO
LLMs & GENERATIVE AI

How ChatGPT & LLMs Will Impact
Recruiting & Staffing

daXtra

Introduction

Across the globe, large language models (LLMs) and generative AI have been causing a buzz in the workplace. In one study, LinkedIn found that job postings on their platform mentioning GPT or ChatGPT had increased 21-fold since November 2022. LinkedIn also found that 9 out of 10 professionals were excited about AI in general, while 84% believed AI would help their careers.
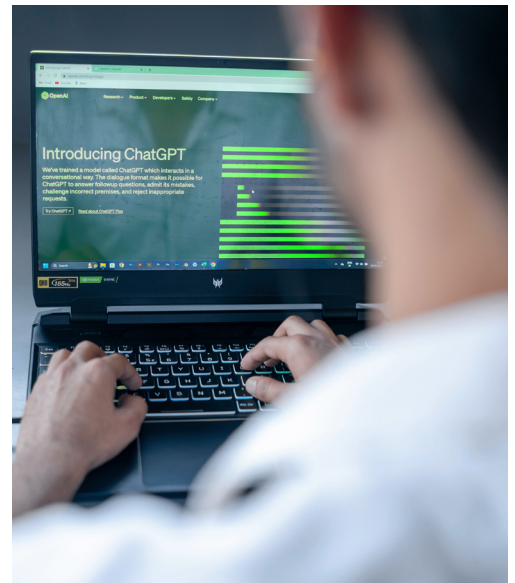
The full impact of generative AI tools (like ChatGPT) is yet to be seen. However, it's undeniable that generative AI will continue to play a role in recruiting and talent acquisition. Even so, many questions remain about the technology, ranging from how it works and its practical applications to how it will affect workers and their workplaces overall.

In this piece, we'll explore those questions as they relate to staffing and recruiting – exploring generative AI, how it's used by recruiters today and the ways it could impact recruiting and hiring in the near and distant future.

This guide covers:

1. **What is generative AI, and how are recruiters using it?**

2. **Why are we talking about this now?**

3. **What should recruiters look out for when evaluating LLM tools?**

4. **How will LLMs impact the recruiting industry in the future?**

5. **Next Steps: How to leverage generative AI in your recruiting**

1 What is Generative AI, and how are recruiters using it?

Despite its recent rise to popularity, AI isn't new. Widely agreed to have originated during the <u>Dartmouth Summer Research Project in 1956</u>, AI is a field of computer science referring to machines or software that can process information, learn from that information and use that information to complete tasks like a human would.

<u>IBM defines generative AI</u> as "deep-learning models that can take raw data [like all of Wikipedia] and 'learn' to generate statistically probable outputs when prompted." <u>IBM also defines Large Language Models</u> (LLMs) as "a category of foundation models trained on immense amounts of data making them capable of understanding and generating natural language and other types of content to perform a wide range of tasks."

In practice, LLMs are used across a variety of industries for things like chatbots, translations, writing text (like emails) or writing code. Their impact is undeniable - with <u>Forbes reporting</u> (citing research from OpenAI, OpenResearch and the University of Pennsylvania) that AI is most likely to affect positions that use programming or writing skills, while "occupations or tasks involving science and critical thinking skills are less likely to be influenced."

The recruiting industry has already seen the influence of AI in general – a walk around the show floor at practically any tradeshow in the last year revealed a huge number of booths advertising the technology. Likewise, generative AI specifically is beginning to see similar levels of interest. LLMs in particular carry a lot of potential for staffing and recruiting operations. So how are recruiters using them today?

Generative AI: deep-learning models that train on raw data to generate outputs when prompted

LLMs: a category of generative AI models that are capable of understanding and generating natural language to perform a wide range of tasks.

Source: IBM

LLMs excel at simple text generation tasks on their own. For example, recruiters could use an LLM tool to do things like write emails to candidates, create job descriptions from a list of requirements, or write a candidate summary based on a resume.

Even with all of the possibilities, LLMs capabilities are limited when they are used as standalone tools. But when LLMs are applied as part of a larger framework with specialized data, they are capable of much more.

For example, Daxtra already uses AI to power search and match technology. Recruiters use Daxtra Search Nexus' advanced capabilities to find candidates, who are ranked using AI that evaluates the context of the skills and experience in each resume. And, at Daxtra, we have continued to explore new ways to incorporate generative AI into our products.

In 2023, we implemented LLMs to enhance our skills taxonomy (so our tools can better identify skills from resumes). This means we can intelligently group skills based on their function at scale – for example, "customer service" and "client support" are grouped together because they have the same function, despite having no overlapping words. And, Daxtra has scheduled continuous improvements to our search and parsing products going forward.

By adding LLM capabilities to an existing framework and product, recruiters will be able to take advantage of tried-and-true solutions that are enhanced by the additional power of generative AI.

Overall, generative AI's role in recruiting depends on the contexts in which it's deployed. However, it, and LLMs in particular, are still poised to have a large impact on what's possible with recruiting technology. From enhancing parsing to more efficient searching and candidate engagement, the possibilities are far greater.

Key takeaway: LLMs are capable of more advanced tasks when used as part of a structured, specialized tech stack.

2 Why are we talking about this now?

In the past few years, generative AI tools have become more prevalent and applicable, and as a result, people are more curious about their potential capabilities. These advances can be attributed to several factors:

- **Increase in available training data:** Artificial intelligence is only as good as the data it's trained on. And for years, AI was only able to train on limited data sets – sets that were too small to provide meaningful results. Thanks in part to the ubiquity of the internet, massive amounts of data are now available for AI training.

  MIT Sloan Management Review notes that "the ability to access large volumes of data with agility and ready access is leading to a rapid evolution in the application of AI and machine-learning applications" beyond limited sample data sets. With more data available for training than ever before, AI is empowered to learn more and make even more complex inferences.

- **Breakthroughs in computing and algorithms:** There have been advances in the computational power that can be brought to bear and improvements in the architecture of the statistical inference models. This essentially means that computers can draw better conclusions based on larger amounts of data, which can be applied to a wider range of subjects. Prior to these breakthroughs, computing power was much more limited.

  Daxtra co-founder Steve Finch explained "In the 90s, you could train only three layers of statistical network models. Any more than that and the computers would trip over themselves and didn't learn properly."

  Google's research that led to the development of the transformer model in 2017 laid the foundation for the massive language models we see today, which can contain trillions of parameters to be trained. Today, technological breakthroughs enable LLMs to model language more accurately than ever.

This means LLMs can perform linguistic tasks such as processing, summarizing, translating and generating text with a syntactic correctness and nuance that many computer scientists didn't realize was possible until recently.

- **Greater accessibility of high-power machines:** Along with increases in computational power, accessibility of high-computational power machines has increased, and democratized the ability to train or host LLMs. This is due in part to both the rise of cloud computing services like AWS or Microsoft Azure, and the ability to purchase high-spec machines for more reasonable prices.

- **News, marketing and general buzz:** AI has been rapidly catapulted into the spotlight by the focus on LLMs and success of OpenAI's ChatGPT. This has included widespread media coverage, substantial marketing hype and new legislation on the horizon. According to Statista, after February 2022 Google searches for "generative AI" increased substantially, as individuals and organizations alike became interested in the potential capabilities of generative AI technology.

With these advances, tools that use generative AI have become increasingly popular. Many recruiters, staffing agencies and in-house HR teams are already deploying AI tools in some capacity to save time and keep up with demand – but those tools require careful consideration and monitoring to ensure they are being used fairly.

62% of recruiting pros express optimism about AI's impact on recruitment.

LinkedIn, The Future of Recruiting 2024

3 What should recruiters look out for when evaluating LLM tools?

Forrester predicts that in 2024, 10% of operational processes would use LLM-infused autonomous workplace assistants to automate internal processes. As organizations rush to join the ranks of those already using generative AI, it's important to evaluate available tools thoroughly and be aware of potential risks that can adversely impact businesses, like false information, data security and bias.

Here are a few things to consider when evaluating LLM or other generative AI solutions:

Data privacy and security

What happens to the data you share with an LLM through prompts or other inputs? It's often used to further train the model. For instance, Samsung employees accidentally leaked sensitive company code by uploading it to ChatGPT, which carried potential security risks for the company.

It's important to determine what data an LLM is using, and what happens with that data after you share it. For example, if you use generative AI in an external tool to summarize a resume, you are effectively transferring data outside of your organization – which could result in a breach of data privacy laws. Plus, if an external tool is trained on your company's proprietary data, there's a chance it could be offered to your competitors after that training has occurred. When using generative AI, it is crucial to determine if (and how) your data is protected, stored, and anonymized before it's used for any further training of the tool.

Bias

Avoiding bias is becoming an increasingly important initiative in recruiting and an essential consideration when implementing AI technology in the hiring process. It's no secret that human decision-making can be shaped by unconscious bias and, if an AI model is trained on biased data, it can mirror those biases in its outputs. For example, in 2015 Amazon discovered its recruiting engine was biased against female candidates. Why? Its models were trained to vet applicants based on patterns from submitted resumes over 10 years – most of which were submitted by men. This led the AI model to prefer male candidates' resumes over female candidates' resumes.

However, AI can be used as a tool to help combat biased decision-making. McKinsey notes that AI can "reduce subjective interpretation of data, because machine learning algorithms learn to consider only the variables that improve their predictive accuracy." In practice, though, it's important to consider how an AI solution was trained, and whether its training data reflects stereotypes or other inequalities. Recruiters can also take additional steps to combat bias by ensuring that AI tools and processes are used in tandem with human interaction and other proactive initiatives, like anti-bias training.

When it comes to bias and generative AI, Large Language Models (LLMs) are trained on an enormous amount of data which makes them applicable to a wide variety of contexts. This, in turn, makes it difficult to predict the exact questions they will be asked and how biased their responses may be due to the training data. To address this issue, reinforcement learning with human feedback (RLHF) is used to help LLMs learn which types of queries can result in biased responses and learn to correct any potential issues.

Training

The size and content of a training dataset have a large impact on the effectiveness of an LLM solution. Models trained on large, specialized data sets will be able to perform more precise analysis. If you're hoping to use an LLM for a specific recruitment task, such as writing candidate summaries, you'll have better results from an LLM trained specifically on resumes and candidate summaries. For example, Daxtra's AI solutions are specialized due to their training on a large amount of anonymized resume data. In comparison, an LLM trained on an unspecified data set containing a smaller set of resumes would have less relevant information and context available to inform its outputs. Ensuring that an LLM is trained on the right data for your use case is critical since training an LLM yourself is costly – Computer World reported that LLMs can cost anywhere from "a couple of million dollars to 10 million dollars to train for specific use cases."

Automation

When considering an AI solution that's marketed as fully automated, it can be helpful to understand the underlying processes. Automation and AI aren't interchangeable terms but are sometimes paired together when AI-powered tools go to market. In these cases, examine which components of a solution are automated, how those elements interact with AI, and how the solution fits into your workflows and processes.

Speed

Processing text with an LLM can be time-consuming. For each query, an LLM model is computing several layers of statistical inference networks, which can be the equivalent of billions of numerical computations. This can result in a delayed response time – ranging anywhere from a few seconds for smaller queries to several minutes for larger ones. An LLM's processing speed is also affected by its precise architecture, underlying hardware (like specialized GPUs) and configurations. When evaluating LLMs or solutions that rely on them, determine whether the model is configured in a way that speeds up your workflow, rather than hindering it with slow response times.

Human oversight and organizational guardrails

LLMs can be prone to factual inaccuracies and have a propensity to "hallucinate". Although LLMs are trained to predict the words (or code) that should come next in a sequence, they're not trained to do research, fact-check or cite sources. Because of this, it's crucial to include human oversight in your LLM-assisted workflows to check for inaccuracies or errors, and to ensure that incidents can be fed back into the learning algorithm to improve the model for your organization in the future. Setting up organizational guidelines for when and how employees can use generative AI will help your organization protect its data and comply with any relevant legislation or regulations around the use of AI tools. Hiring teams should also consider the issues of explainability and legal compliance – in many places, the use of AI in hiring decisions is regulated, and it's crucial for organizations to take care in the design and deployment of AI systems to stay within what's allowed by law.

How an LLM works, how quickly it works, what it does with your data and how it will serve your business are all critical questions to consider when evaluating LLM-based solutions. Standalone LLMs can be less effective and more difficult to implement because, on their own, they don't provide much of a structure or framework. However, when vendors integrate LLMs into their tools, so that they are part of a larger framework, this can provide additional security, oversight, computing power and speed, which can make LLMs more efficient and more useful to businesses as a whole.

4 How will LLMs impact the recruiting industry in the future?

LLMs have the potential to make a big impact on recruiting. When applied effectively, LLMs could help recruiters spend less time on tedious admin tasks, providing greater capacity for them to focus on what matters most: fostering personal relationships and building on the work that LLMs have done.

Today, LLMs are frequently used to summarize data or generate language. For instance, in a 2023 podcast, <u>McKinsey Partner Bryan Hancock expressed</u> that he thought generative AI would help recruiters write better job requirements:

> **"Generative technology can actually pull on the skills that are required to be successful in the job. That's not to say managers don't need to check the end product… but generative AI can dramatically improve speed and quality."**

Hancock also expressed that AI could help personalize candidate engagement, saying:

> **"Right now, if you're an organization with tens of thousands of applicants, you may or may not have customized ways of reaching out to people who have applied. With generative AI, you can include much more personalization about the candidate, the job and what other jobs may be available if there's a reason the applicant isn't a fit. All those things are made immensely easier and faster through generative AI."**

Today's applications of LLMs in recruiting are mostly specialized to those kinds of use cases. However, the full potential of LLMs and generative AI is best realized when it's leveraged as part of a larger technology platform.

A structured framework that enables generative AI to support recruiting-specific functions beyond just generating text can go a long way for an organization.

For example, on its own, generative AI can search unstructured data for specific terms. This could apply to helping recruiters identify specific skills in large candidate data pools. Applying that capability to a larger AI framework opens the doors to greater possibilities – for example, identifying candidates with the right skills but unconventional credentials, vastly expanding a skills taxonomy, or enhancing the accuracy of resume parsing.

Don Tomlinson, Chief Technology Officer of Daxtra, agrees that generative AI will have broad implications for recruiters.

> **"AI technology has come a long way in the last several years. Right now, it's having a massive impact on time savings and manual tasks. In the future, as its capabilities continue to grow, we will probably see the technology harnessed in a way that allows recruiters to interact more with candidates and better exercise their expertise. We may also see its impact on candidates grow. For instance, instead of asking generative AI to write their cover letters, they could be able to use it to influence their job searches and career development to a greater extent."**

It's important to note that we shouldn't aim for artificial intelligence to automate the entire hiring process. AI isn't perfect, and in many places there are regulations around how much influence AI can have in making hiring decisions. As such, generative AI shouldn't entirely replace recruiters or hiring teams. **Instead, it should empower them, improve their workflows, and enable them to make more informed decisions.**

When recruiters can easily sort through data, generate job descriptions quickly and match candidates to jobs with ease, they're left with more time to apply their expertise to building relationships and making the right placements at scale. **It's about learning to work with LLMs, rather than using them as replacements for human jobs.**
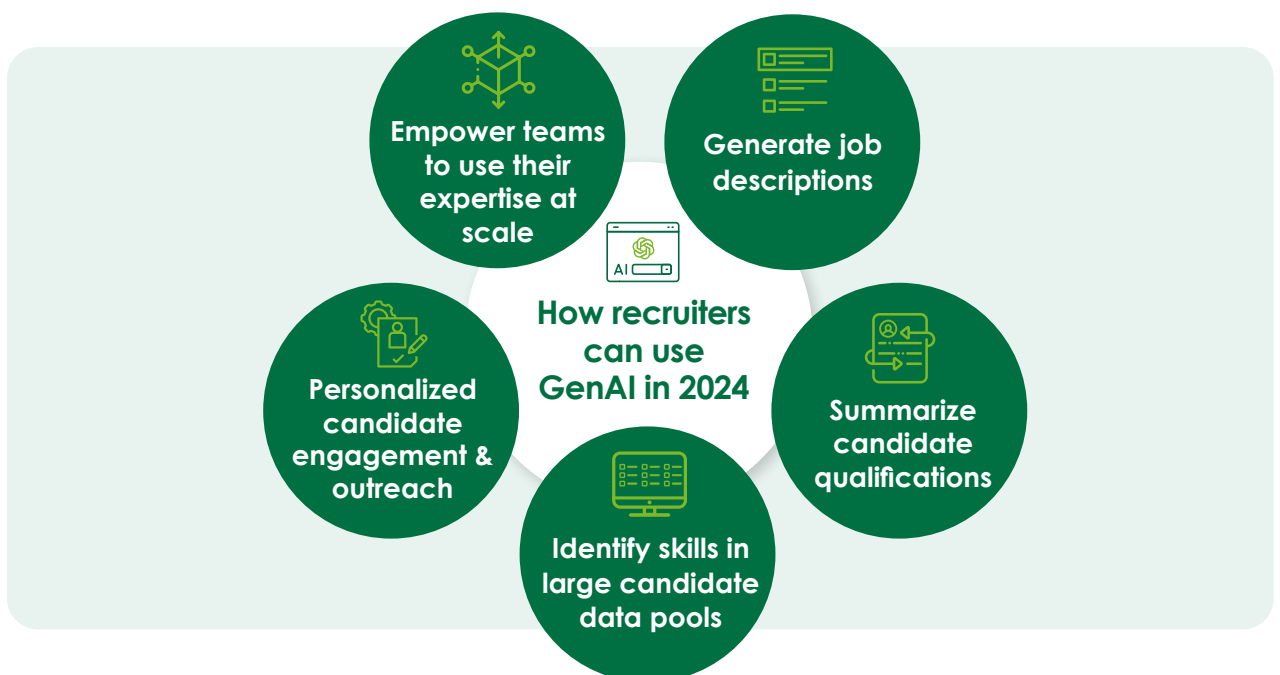
5 Next Steps: How to leverage generative AI in your recruiting

AI is a powerful tool, and LLMs have the potential to revolutionize the workplace. That said, LLMs are not a one-size-fits-all solution, or a silver bullet for efficiency in recruiting and HR.

When looking at adding any AI tools to your recruiting and hiring tech stack, it's important to audit your existing processes to see where AI can help effectively. Carefully consider what tools will meet your needs and integrate into your existing tech stack to support your organization's workflows.

Once you find the right tools, it's important to implement them effectively – take advantage of support and onboarding to ensure the process is smooth, and train your team to use your chosen tools effectively. It's also wise to set up periodic tech stack health checks, to ensure your tools are continuing to work as intended.

The human element is an essential part of staffing and recruiting. When implemented effectively, generative AI can streamline and support day-to-day work. By learning to work with generative AI and integrating it into the recruiting process, recruiters and HR teams can save time, focus on building personal relationships and apply their expertise to making successful placements. Whether you're just starting out or looking to scale, strategically supporting your team with generative AI solutions can help ensure your business doesn't get left behind.

How recruiters can use GenAI in 2024

- Empower teams to use their expertise at scale
- Generate job descriptions
- Summarize candidate qualifications
- Identify skills in large candidate data pools
- Personalized candidate engagement & outreach

About Daxtra

Daxtra has a long history of applying AI to recruiting and is committed to exploring the potential applications of generative AI in the sector. As the use of AI and LLMs continues to evolve, Daxtra will be at the forefront of innovation, helping organizations navigate this changing landscape.

Whether you're a staffing firm or in-house recruiting team, Daxtra specializes in intelligent solutions that can streamline your processes and empower you to better connect with candidates. You can learn more about our solutions on our product pages or by getting in touch with our team.

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