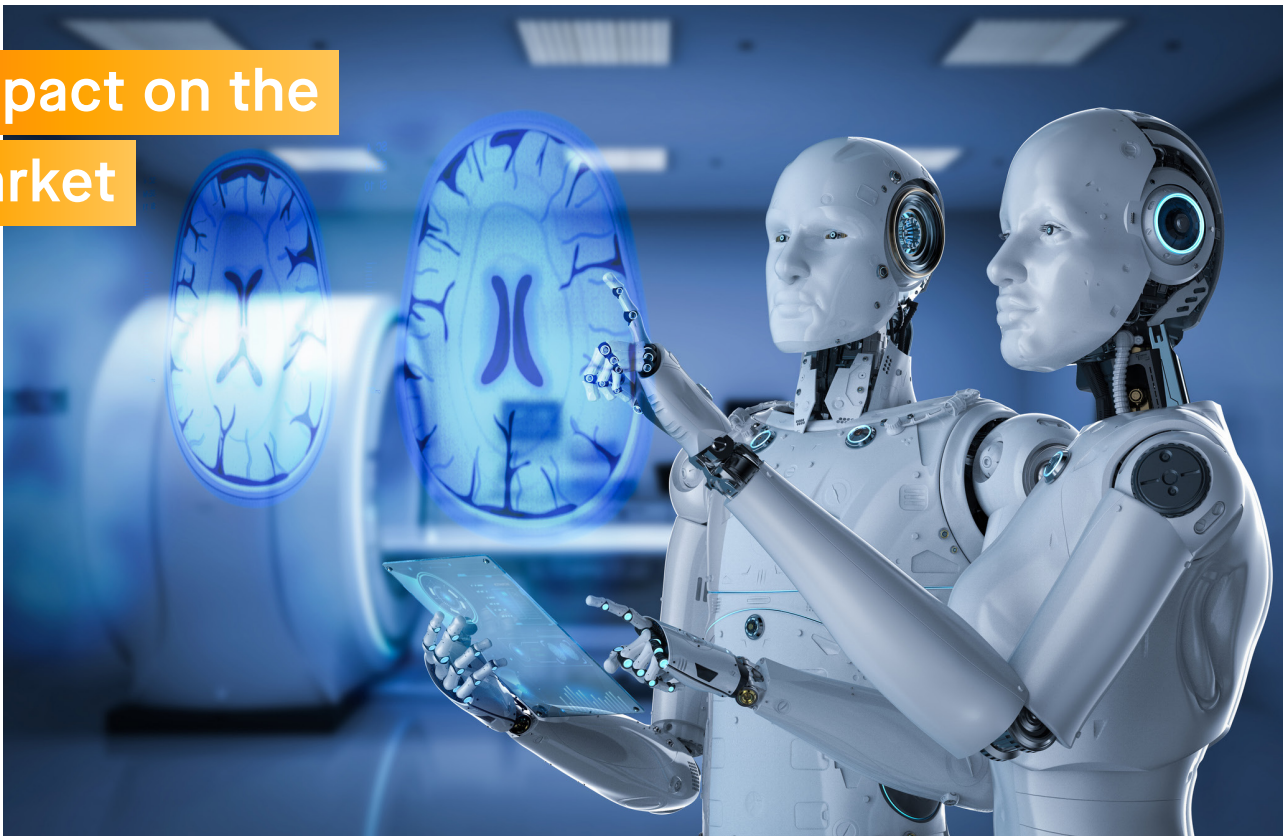


# AI's impact on the job market



Artificial Intelligence has the potential to create new opportunities, but also to lead to job losses. Which way will the balance tip?

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Throughout history, the labor market has undergone major upheavals. Recent examples include the COVID-19 pandemic, the impact of geopolitics, for example, reshoring, and so on. Today, advances in Artificial Intelligence (AI) are creating new challenges. Technological progress has always fed human fear and resistance reflexes. The Industrial Revolution in England gave rise to Luddism, a violent social conflict pitting craftsmen against employers and manufacturers who favored the use of machines (notably looms) in wool and cotton processing.

Today, many employees are worried about the massive job losses that will result from the rise of AI. What's the latest?

## The Pessimistic View: AI's Threat to Employment

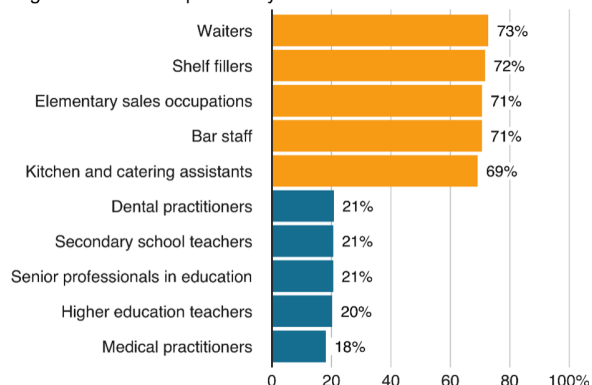
As Artificial Intelligence continues to develop, the implications for the job market are regularly discussed. AI can perform tasks with greater ease, speed, and precision than humans. It can achieve excellent results on university entrance exams, produce unique images and write texts in any language. In its 2023 report, OpenAI found that 80% of the US workforce belonged to an occupation in which at least 10% of the tasks can be performed by AI, and that for 20% of occupations, half of the tasks will be affected by AI. Many jobs are therefore at risk.

According to the WEF's 2023 "Future of Jobs" report by 2027, the AI revolution will create 69 million new jobs, while 83 million will be eliminated", creating an overall contraction of 14 million jobs worldwide.

Previous technological innovations have had an impact on low-skilled jobs involving repetitive tasks. According to the National Bureau of Economic Research, between 50% and 70% of wage growth in the USA since 1980 has been due to the decline in the wages of workers replaced or downgraded by automation. Workers, drivers, waiters, and cashiers have been, and will continue to be replaced by automation and technology.

### Jobs at risk from automation

Highest and lowest probability



Source: Office for National Statistics

However, it is administrative and white-collar employees who are most likely to be impacted by the AI-related economic revolution. In its 2023 report, Open AI suggests that journalists, business managers, lawyers, accountants, auditors, mathematicians, financial sector employees, consultants and computer programmers are the most impacted by AI.

Companies, driven by the ambition to increase (or maintain) their profitability in a context of generalized wage rises, are paying increasing attention to the cost-cutting potential offered by the use of AI. AI machines and algorithms can work non-stop, often at a faster pace than an employee, without the need for a salary or benefits. Companies like McDonald's have already introduced self-service kiosks to streamline operations and reduce labor costs. Similarly, investment banks are increasingly relying on algorithms and softwares for automated transactions, which can process large amounts of data and execute trades instantaneously. These examples show how companies are leveraging technology to improve profitability and, in some cases, reduce their workforce.

Furthermore, the recruitment process is not immune to the potential biases of AI systems. The use of algorithms to sort candidates on the job market creates ethical and discrimination risks. A study conducted by Johns Hopkins University and the Georgia Institute of Technology in 2022 demonstrated that racist and sexist biases embedded in AI systems can manifest themselves via robots that incorporate discrimination into their decision-making process. This can perpetuate existing inequalities and lead to employment disparities, particularly for minority candidates.

## The Optimistic View: Job Opportunities in the Age of AI

In the past, automation has mostly led to job creation rather than destruction. Data on long-term unemployment in the G7 countries clearly show that it is in fact, linked to economic cycles, rather than technological innovation. Ford's assembly line, for instance, increased productivity. Production time for a car dropped from 12 hours to 1.5 hours. At the time, the first reaction was to project an explosion of job losses in this field. But the fall in car prices led to an increase in market demand, which in turn led to an increase in employment.

Is the ever-changing world of employment at a similar point with A.I today?

According to the WEF report, AI, Machine Learning, Sustainability, Business Intelligence and Cybersecurity are the sectors expected to see the highest growth rate. AI-generated algorithms are likely to excel in certain areas, such as repetitive tasks or code generation, based on predefined models. However, more complex programming tasks that require creativity, problem-solving and an in-depth understanding of user needs, will always require the intervention of a professional.

Thanks to technological advances, the job market includes new professions that didn't exist before, such as cloud engineers, cybersecurity lawyers and YouTubers. The widespread adoption of AI could have benefits that are hard to imagine today but will create new industries that currently are unknown.

One notable example is that of an "AI trainer". This person feeds the AI with the right data. Job vacancies for "AI trainers" are already appearing online, as companies need experts in certain fields to check the accuracy of answers and make them more familiar to the human ear.

Similarly, a "prompts" engineer works on building specific text strings, helping to train and generate more accurate results from a chatbot such as, ChatGPT, Google's Bard and Midjourney.

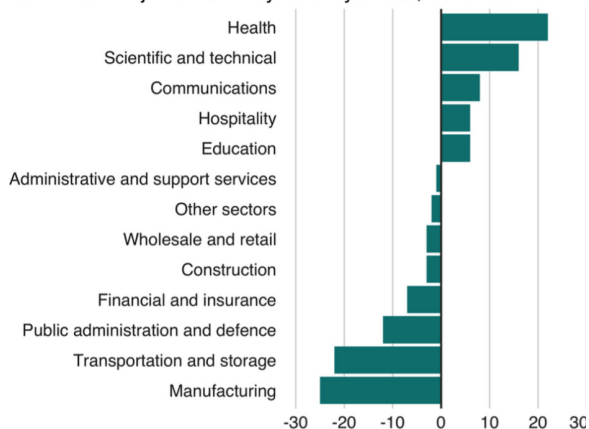
AI devalues capabilities such as a lawyer's memorization of an incredible number of legal rules, as today's electronic databases can store huge amounts of data. But AI also enhances writing skills, persuasive negotiation or complex problem-solving. If properly harnessed, AI should create positive externalities, affecting other fields such as cybersecurity specialists who will ensure the protection of sensitive data.

By collaborating with AI, developers can effectively protect their applications and infrastructure against cyber threats. According to the WEF's 2023 Global Risks Report, there is an estimated shortage of 3 million cybersecurity specialists worldwide. Ethics experts are also needed to ensure the careful and responsible use of AI and to ensure the fairness of algorithms. In addition, enabling AI to develop new services and products, will in turn lead to the emergence of additional and complementary responsibilities such as marketing and R&D.

In its 2023 report, Open AI lists sectors with little exposure to generative AI, including manufacturing, mining, agriculture and scientific skills. ChatGPT cannot replace athletes, mechanics, or chefs, among others. In addition, the authors admit that, although the study classifies certain professions such as mathematicians, accountants and computer programmers as 100% exposed to AI, it is unclear to what extent these positions can be fully broken down into specific tasks, and what necessary skills for competent performance of the activity are omitted from the study.

### How AI could change the job market

Estimated net job creation by industry sector, 2017-2037



Source: PwC

The demand for AI development, implementation and management professionals is growing rapidly. Companies across a variety of sectors are recognizing the potential benefits of integrating AI into their operations. This has led to a significant increase in the need for professionals with expertise in AI-related fields. According to the WEF report, 42% of companies surveyed plan to prioritize training their workers in the use of AI and big data over the next five years. In addition, 44% of employee skills will need to be updated. This underlines the importance of ongoing training to avoid being overtaken by AI developments.

Although AI has the ability to be more efficient in certain tasks, human intervention remains essential for problem-solving, creativity, emotional intelligence and efficient communication. This collaboration, known as "job hybridization", enables AI-generated information to be interpreted, informed decisions to be made, ethical considerations to be addressed, work productivity to be improved, and AI to be used as a tool rather than a substitute. By combining human expertise and creativity with the analytical power of AI, companies and all organizations can achieve better performance.

### Regulations Should Ease Concerns

Sam Altman, CEO of OpenAI, acknowledges that "as AI capabilities become more advanced, the safety bar needs to be raised". He admits that AI scares him "a little bit" and, in his first testimony before the US Congress, he called for swift regulation of new AI applications.

In May 2023, the European Parliament led the way and approved the first Western AI law, known as the European AI Act. Several countries, including China and the USA, are in the process of formulating their own policies and regulatory approaches, and will inevitably closely follow the undergoing negotiations in Europe.

These regulations can help alleviate concerns about job losses and workers' rights. Standards can be introduced to promote the development of new skills. Regulators, business leaders and educational institutions must collaborate and develop strategies that promote a smooth transition in the face of AI advances by fostering a culture of lifelong learning.

### Conclusion

The challenge posed by AI is huge: it involves framing its development without slowing down the technology's productivity potential for businesses. This is particularly true in an era of high inflation and high public debt, where population growth is waning, and economic growth is stagnating. For the West, the situation resembles a "prisoner's dilemma". If the USA or Europe were to halt AI development for social, security or ethical reasons, other countries, such as Russia and China, might not do the same, in order to benefit from the first mover advantage in the global AI race.

The impact of AI on the labor market is a double-edged sword, as it brings both threats and opportunities. On the one hand, AI has the potential to create new jobs. On the other, it poses a threat to certain jobs, particularly white-collar ones. By regulating AI, governments will be able to harness its vast potential while ensuring a fair labor market.

## Pour plus d'informations

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