



# The Artificial Intelligence Newsletter

July 2023



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# Introduction

## Staying ahead of the curve

At PwC Albania and Kosovo, we are always on the lookout for new technologies, trending topics, inside stories on the future of technology and innovations globally - aiming to share them with all tech enthusiasts.

The first part of the AI Newsletter intended to summarize latest trends in artificial intelligence, including transformers, generative models, large language models (LLMs), natural language processing (NLP), and diffusion models.

The second edition of the AI Newsletter covered the topics of predictive analytics, automated decision making, big data, constructing the world of AI models using descriptive data, and related modern age ethical concerns of AI that must be taken into account as AI technology advances and becomes more prevalent in society.

In our third edition, the main focus is on the potential positive and negative impacts of AI, potential political and regulatory solutions as well as its impact on the future of work and wealth. Our aim is to provide our readers with insights and updates on the latest developments in the field of AI and to continue to share our passion for technology with all tech enthusiasts.

\*Through these newsletters PwC Albania and Kosovo is not endorsing any of the technologies or solutions mentioned, but rather summarizing and bringing to readers trending technologies which are defined by external experts as game-changing technologies.

# Implications at a glance

How will AI impact society and the economies of nations



## Potential positive impacts on the social level

The [PwC 2022 AI Business Survey](#) highlights the advancements of AI, its success and benefits in as many lines of business as possible. For example “AI leaders” are advancing with AI in three areas at once: business transformation, enhanced decision-making and modernized systems and processes. As for social benefits, what could be the positive impact? We are listing below quite a few:

1. **Automation of routine tasks and customer service with AI chatbots:** AI chatbots are increasingly being used to automate routine tasks, such as customer service inquiries, freeing up human workers to focus on more complex and valuable tasks. These chatbots are being trained to respond to customer inquiries quickly and accurately, aiming to improve customer satisfaction.
2. **Improved accuracy and speed of search engine results:** Transformer models and LLMs are being used to improve the accuracy and speed of search engine results. With a better understanding of natural language, these models can deliver more relevant results to users in real-time.
3. **Increased accuracy and speed of machine translation:** With the help of LLMs, machine translation is becoming more accurate and faster. This is helping to break down language barriers and making it easier for people to communicate and do business globally.
4. **More efficient and accurate natural language processing:** LLMs and transformer models are being used to improve the efficiency and accuracy of natural language processing. This is enabling new applications such as voice-activated assistants, improved sentiment analysis, and more accurate text classification.
5. **Improved predictive analytics for a wide range of applications:** With the help of diffusion models, predictive analytics is becoming more accurate and useful in a wide range of applications, such as stock market forecasting, customer behavior prediction, and fraud detection.
6. **Improved image and video recognition and analysis:** LLMs and transformer models are being used to improve image and video recognition and analysis. This is enabling new applications such as improved surveillance, enhanced medical imaging, and more accurate content recommendations.
7. **More complex and accurate data analysis:** With the help of LLMs, data analysis is becoming more complex and accurate. This can help organizations to make better decisions based on insights derived from their data.
8. **Improved data privacy and security through encryption and authentication:** With the help of LLMs and other technologies, data privacy and security are being improved through encryption and authentication. This is helping to ensure that sensitive information remains secure and confidential.

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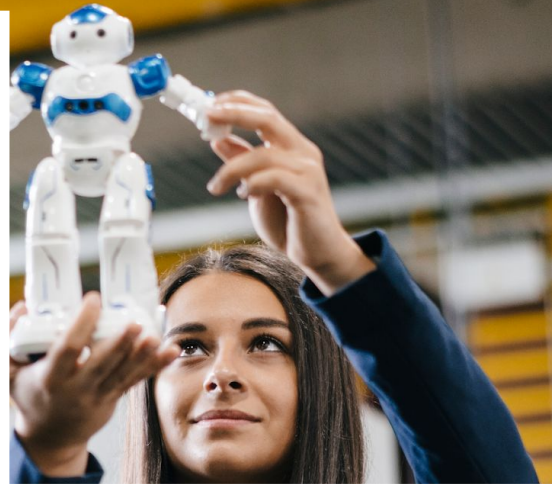


## Potential positive impacts on the social level

9. **Faster, more efficient data processing and storage:** With the help of LLMs, data processing and storage is becoming faster and more efficient. This is helping organizations to manage and utilize their data more effectively.
10. **Enhanced decision making through improved data insights:** With the help of LLMs and other technologies, decision making can become more informed and effective through improved data insights. This may help organizations to make better decisions based on a deeper understanding of their data.
11. **Improved natural language understanding and generation:** With the help of LLMs, natural language understanding and generation are becoming more accurate and sophisticated. This is enabling new applications such as improved voice-activated assistants and more realistic conversational AI.
12. **Improved automated text summarization and document analysis:** With the help of LLMs, automated text summarization and document analysis are becoming more accurate and useful. This can help organizations to quickly identify the most important information in large volumes of text.
13. **More efficient and automated customer service and support:** With the help of AI chatbots, customer service and support can become more efficient and automated. This may lead to improved customer satisfaction and a reduction in the workload for human customer service representatives.

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## Potential negative impacts on the social level

As generative AI becomes increasingly popular and widespread, questions about the risks associated with it become unavoidable. Based on a [PwC article](#), while the positive use cases for generative AI are staggering, there's also [potential for misuse and harm](#). Following [PwC's Responsible AI framework](#), here are some key risks to be mindful of:

- 1. Increased reliance on data-driven decision making**, which can lead to bias and inaccurate decisions: As organizations become more reliant on data-driven decision making, there is a risk of relying on biased data or making decisions based on inaccurate or incomplete information which can lead to unintended consequences and harmful outcomes (e.g., discrimination or ethical violations).
- 2. Increased risk of data privacy and security breaches from malicious actors:** As AI and LLMs become more widespread, the risk of data privacy and security breaches from malicious actors increases. This can lead to sensitive information being stolen or misused, causing harm to individuals and organizations.
- 3. Disruptions to the job market as AI and automation become more prevalent:** AI and automation are leading to disruptions in the job market, as some jobs become automated and others become more valuable which can lead to economic and social challenges, as workers are displaced and must adapt to new roles.
- 4. Increased risk of malicious and discriminatory uses of AI:** AI and LLMs can be used maliciously or discriminatorily, leading to harm to individuals and society.
- 5. Difficulty in understanding and interpreting complex models:** As AI and LLMs become more complex, it becomes increasingly difficult for humans to understand and interpret the models and their results leading to a lack of transparency and accountability in decision making processes.
- 5. Increased cost of AI-based services and products:** AI-based services and products can be expensive, particularly for smaller organizations or individuals. This can lead to a digital divide, where not everyone can have access to the benefits of AI.
- 6. Reduced transparency in decision making processes:** AI-based decision making can lead to reduced transparency in decision making processes, as complex models may not be easily understood or explainable. This can lead to a lack of trust in the decisions being made and a reduction in accountability.
- 7. Reduced creativity and insight due to limited AI capabilities:** AI and LLMs have limited capabilities, and can only make decisions based on the data and models they are trained on. This can lead to a reduction in creativity and human insight, as decision making becomes more automated and less personal.

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## Potential political and regulatory solutions to these potential near-future issues

### **Regulation of AI and data privacy**

Governments and regulators can introduce laws and regulations to protect data privacy and prevent the misuse of AI. For example, data protection laws such as the General Data Protection Regulation (GDPR) in Europe help ensure that individuals have control over their personal data.

### **AI ethics boards and standards**

Governments and organizations can establish AI ethics boards to develop standards and guidelines for the responsible use of AI. These standards can help ensure that AI is used in a way that is transparent, fair, and ethical.

### **Investment in AI education and retraining programs**

Governments can invest in education and retraining programs to help individuals and organizations adapt to the changing job market and develop the skills necessary to work in the AI-driven economy.

### **Oversight and accountability for AI decision making**

Governments and organizations can establish oversight mechanisms to ensure that AI decision making is transparent and accountable. For example, organizations can establish audit trails for AI systems, allowing for the review and investigation of decisions made by the AI.

### **Encouragement of transparency and explainability in AI models**

Governments and organizations can encourage the development of AI models that are transparent and explainable, helping to build trust and accountability in AI decision making.

### **Investment in AI research and development**

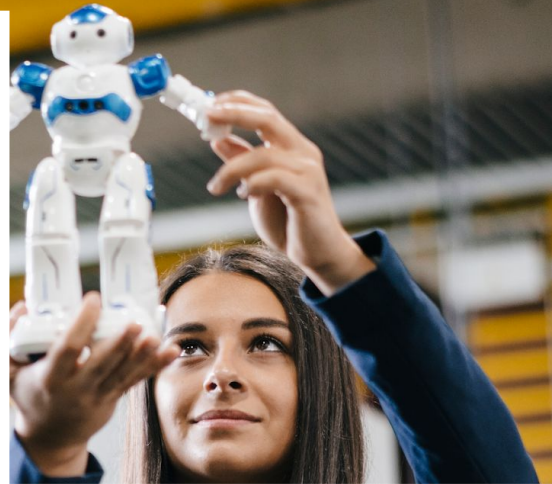
Governments can invest in AI research and development to ensure that AI is developed in a responsible and ethical way, and to encourage the development of innovative and effective AI solutions.

### **Collaboration between governments, industry, and academia**

Governments can facilitate collaboration between industry, academia, and civil society to ensure that AI is developed and used in a way that benefits everyone. This can help to ensure that the potential benefits of AI are realized and the risks are minimized.

# Implications at a glance

Macroeconomic and income implications



## Impacts on the Future of Work and Wealth

The AI revolution has the potential to bring about a post-labour economy, where machines and algorithms take over many of the tasks previously performed by humans. With the rapid advancement of AI technologies, such as chatbots like ChatGPT, there is a growing concern that jobs in creative and intellectual professions will be among the first to be automated.

It was thought that manual jobs would be the first to be replaced by machines, while jobs that require creativity and problem solving would be safe. However, recent developments in AI suggest that this might not be the case. AI systems like ChatGPT are now capable of generating human-like responses, which means that many jobs that were previously considered safe, such as writing and journalism, could be at risk of automation.

The use of AI in fields such as finance and law is increasing rapidly. This can result in many back-office jobs being automated, such as compliance and legal research.

Although a post-labour economy might give rise to job displacements, it is also possible that the rise of the AI revolution could bring about new opportunities for work. The development of new AI technologies will likely create a demand for workers with expertise in these areas, such as AI engineers and data scientists. According to **PwC's Global Artificial Intelligence Study**, perhaps because successful AI initiatives are providing the money (through either cost savings or enhanced revenue) for a bigger hiring budget, they're also more likely to be actively recruiting more AI specific talent (42% versus 32%).

Additionally, as machines take over many of the routine and manual jobs, people will have more time to focus on creative and intellectual pursuits, leading to a rise in new forms of work in these areas.

It is important for policymakers to carefully consider the impact of the AI revolution on the economy and society, and to take steps to mitigate its negative effects, such as by investing in retraining and education programs for data-driven people and for workers who are displaced by automation. Besides filling talent gaps, this approach can enhance cooperation among the groups that AI requires.

**Source:** [How will automation impact jobs?](#)

Thank you for following our series of newsletters dedicated to AI. Stay tuned for more upcoming news and articles!

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