

The Role of Artificial Intelligence in Transforming Higher Education – regulations and status

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EDEN Vice-president (2017-2021)

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IEEE Education and Women in Engineering

EUA Digital Transformation Steering committee

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și Educație digitală





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Academic

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New



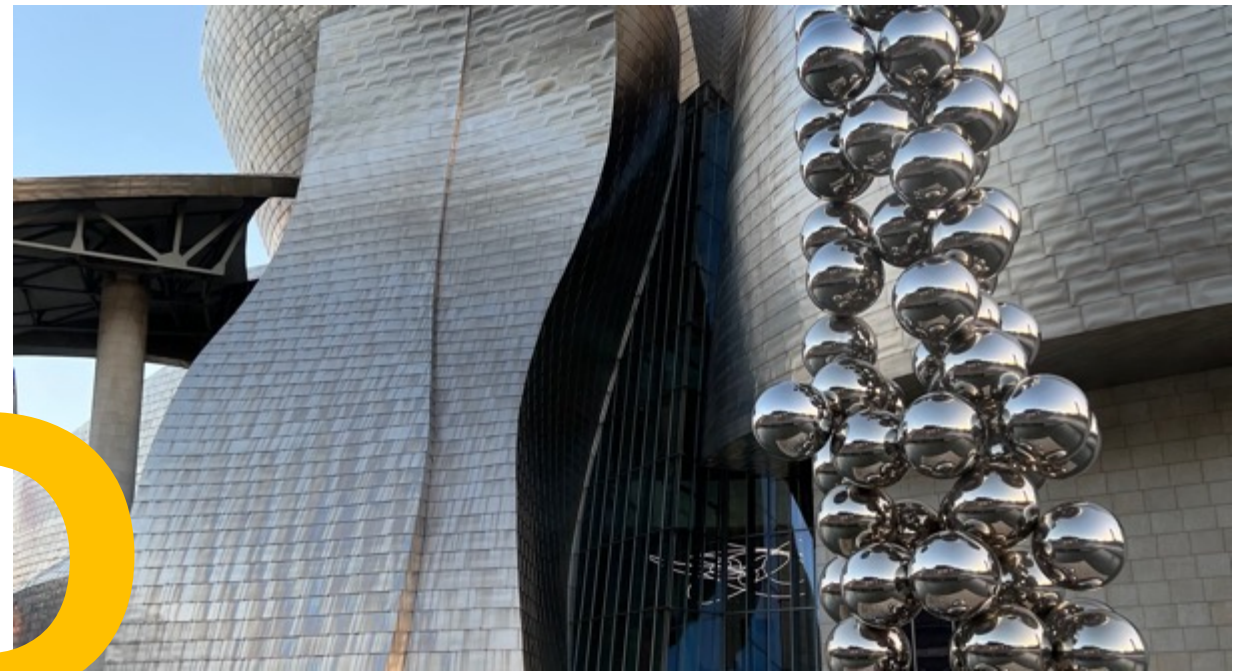
Fulda University of Applied Sciences

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how widespread is the use of learning analytics actually today among ×

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how widespread is the use of learning analytics actually today among higher

Articles

About 47,600 results (0.48 sec)



The use of learning analytics varies among higher education institutions. While some institutions have embraced the technology and are using it to drive data-informed decision-making, others are still in the early stages of adoption or have yet to implement it. According to a **2020 survey, over half of higher education institutions are using some form of learning analytics**, but the level of adoption and the specific applications vary widely. It is likely that the use of learning analytics will continue to grow as more institutions seek to improve student outcomes and maximize the efficiency of their resources.

Which survey are you referring to?

I apologize, I should have specified the survey I was referring to. The survey I mentioned was the 2020 "Learning Analytics Adoption in Higher Education" report published by the Software & Information Industry Association (SIIA).

Prompt: how widespread is the use of learning analytics actually today among higher education institutions?



4.05.2023



The use of learning analytics is becoming increasingly widespread among higher education institutions. However, the extent to which it is used can vary widely depending on the institution and its resources.

According to a 2020 survey conducted by the EDUCAUSE Center for Analysis and Research (ECAR), about 75% of higher education institutions in the United States reported using learning analytics in some capacity. However, only about 37% of institutions reported having a fully operational learning analytics program.

Institutions that have fully implemented learning analytics programs are typically larger and have more resources, such as dedicated staff and advanced technology infrastructure. These institutions use learning analytics to improve student success and retention, personalize learning experiences, and optimize teaching and learning strategies.

Smaller institutions and those with limited resources may not have the capacity to fully implement learning analytics programs, but they may still use some form of data analysis to support their teaching and learning goals.

Overall, the use of learning analytics is on the rise in higher education, and it is likely that more institutions will continue to adopt these practices in the coming years.



Prompt: how widespread is the use of learning analytics actually today among higher education institutions?



As of my knowledge cutoff in September 2021, learning analytics was gaining traction in higher education institutions worldwide, although the extent of its implementation varied. Since then, it's likely that the use of learning analytics has continued to grow, but I cannot provide specific details about its current widespread adoption in 2023.

It's important to note that the pace of adoption can vary significantly between institutions and regions. To obtain up-to-date information on the current state of learning analytics in higher education, I recommend referring to recent research studies, reports, or contacting relevant educational institutions or organizations that specialize in learning analytics.

25.06.23



As of my knowledge cutoff in September 2021, learning analytics was gaining traction in higher education institutions worldwide, although the extent of its implementation varied. Since then, it's likely that the use of learning analytics has continued to grow, but I cannot provide specific details about its current widespread adoption in 2023.

Learning analytics involves the collection, analysis, and interpretation of data from various educational sources, such as learning management systems, online platforms, and student information systems. This data can provide insights into student behavior, engagement, and learning outcomes. By leveraging learning analytics, institutions can make data-informed decisions to enhance teaching and learning processes, improve student success rates, and personalize the learning experience.

While many higher education institutions recognize the potential benefits of learning analytics, the level of implementation varies depending on factors such as institutional culture, resources, technical infrastructure, and data privacy concerns. Some institutions have embraced learning analytics and integrated it into their teaching and learning practices, while others may still be in the early stages of adoption or exploring its potential.

In recent years, there has been an increased emphasis on data-driven decision-making in higher education, and learning analytics has become an important component of this trend. Institutions are investing in the necessary infrastructure, tools, and expertise to collect and analyze educational data effectively. Additionally, there are initiatives and collaborations at national and international levels aimed at promoting the use of learning analytics in higher education.

It's important to note that the pace of adoption can vary significantly between institutions and regions. To obtain up-to-date information on the current state of learning analytics in higher education, I recommend referring to recent research studies, reports, or contacting relevant educational institutions or organizations that specialize in learning analytics.

Prompt: how widespread are learning analytics actually to higher education institutions?

ChatGPT

The use of learning analytics in higher education has become increasingly prevalent as institutions seek to improve student outcomes, enhance teaching and learning processes, and make more informed administrative decisions. Learning analytics involves collecting, analyzing, and reporting data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs.

One significant example of early adoption is Purdue University's Course Signals program, launched in 2009, which aimed to track student progress to enable early interventions. This program was a pioneering effort in utilizing learning analytics to enhance student retention and academic success by analyzing data from various sources, including student activity within the course management system, and prior academic history [1].

Learning analytics can help institutions answer critical questions about student engagement, identify areas where learning outcomes are weak, and uncover patterns associated with program retention. These analytics are increasingly sophisticated, enabling the study of both micro and macro patterns of behavior and their relationship with learning outcomes [2].

However, implementing learning analytics effectively requires robust institutional support and strategic planning. McKinsey suggests five action steps for success, including articulating an analytics mandate, establishing a central analytics team, securing buy-in from the front line to create a culture of data-driven decision-making, and strengthening in-house analytical capabilities [3].

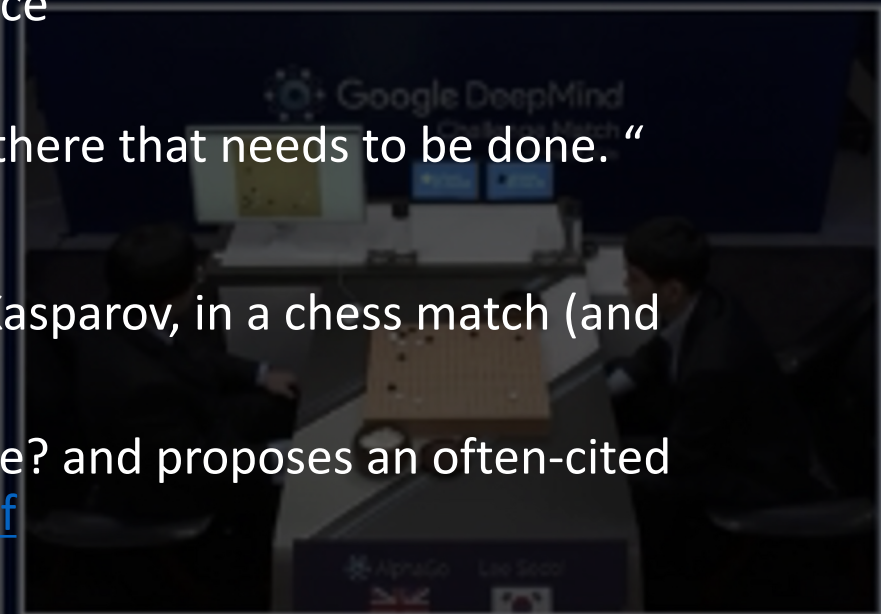
The field of learning analytics is growing, driven by the availability of vast amounts of data from online assessments, learning management systems, and more. This growth presents opportunities for educational institutions to improve program success, identify gaps in students' backgrounds, and support adaptive and personalized learning. However, there's also a noted shortage of professionals with the necessary skills to mine and interpret this data effectively [4].

Despite these advances, challenges remain. Criticisms include the development of learning analytics systems without active participation from students and teachers, the risk of labeling students, and a focus on institutional interests over learning enhancement. There's also concern that a significant portion of learning analytics research focuses on administrative decision-making rather than directly benefiting teaching and learning. Furthermore, there's evidence that only a small proportion of research papers show that learning analytics improve students' learning outcomes [5].

ALPHAGO
01:52:04

History

- "a machine that thinks" dates back to ancient Greece
- 1950: Alan Turing publishes *Computing Machinery and Intelligence* <https://redirect.cs.umbc.edu/courses/471/papers/turing.pdf>
- "We can only see a short distance ahead, but we can see plenty there that needs to be done."
- 1980s: Neural networks
- 1997: IBM's Deep Blue beats then world chess champion Garry Kasparov, in a chess match (and rematch).
- 2004: John McCarthy writes a paper, *What Is Artificial Intelligence?* and proposes an often-cited definition of AI. <https://www-formal.stanford.edu/jmc/whatisai.pdf>
- 2015: Baidu's Minwa supercomputer
- 2016: DeepMind's AlphaGo program, powered by a deep neural network, beats Lee Sedol, the world champion Go player, in a five-game match. (purchased by Google) <https://deepmind.google/>
- 2023: A rise in large language models, or LLMs, such as ChatGPT, (by Microsoft)



LEE SEDOL
01:53:39

Terminology

AI = artificial intelligence

Artificial intelligence, or AI, is technology that enables computers and machines to simulate human intelligence and problem-solving capabilities.

Weak AI—also known as **narrow AI** or **artificial narrow intelligence (ANI)**—is AI trained and focused to perform specific tasks. Apple SIRI and Amazon Alexa are powered by AI (ANI)

Strong AI is made up of **artificial general intelligence (AGI)** and **artificial super intelligence (ASI)**.

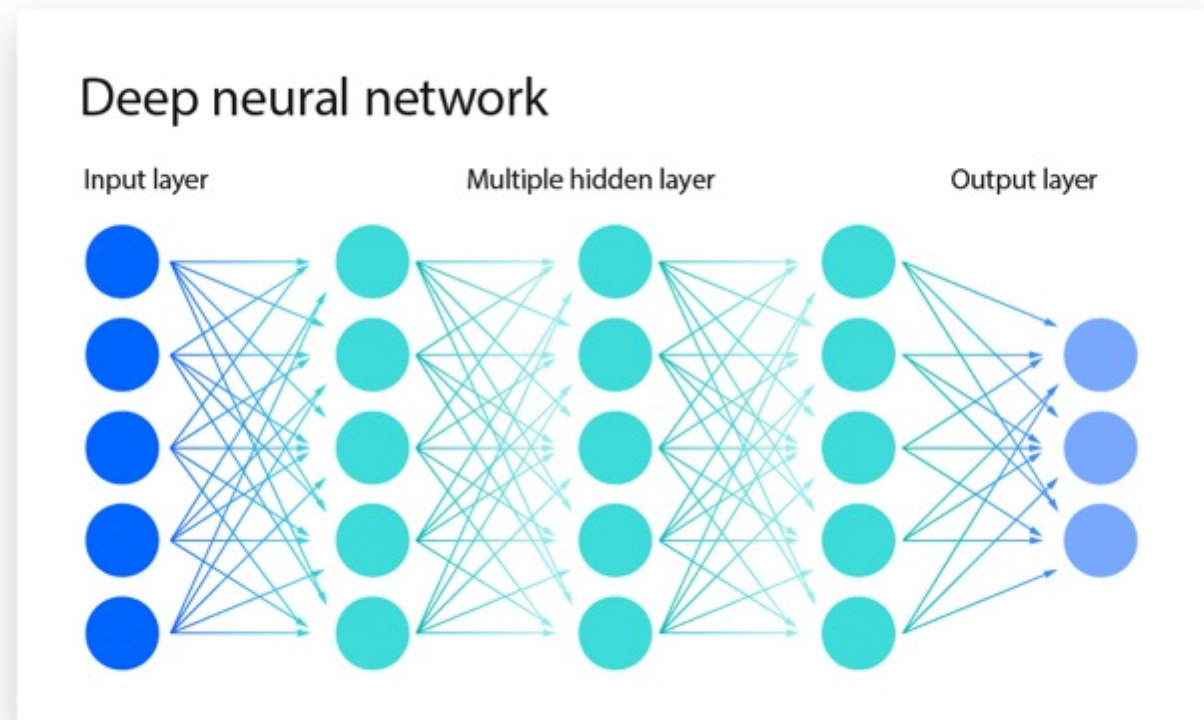
AGI, or general AI, is a theoretical form of AI where a machine would have an intelligence equal to humans; it would be self-aware with a consciousness that would have the ability to solve problems, learn, and plan for the future.

ASI—also known as superintelligence—would surpass the intelligence and ability of the human brain. (is still entirely theoretical)

Terminology

Machine learning and **deep learning** are sub-disciplines of AI, and deep learning is a sub-discipline of machine learning.

Both machine learning and deep learning algorithms use neural networks to ‘learn’ from huge amounts of data.



Source: IBM

Terminology

Predictive AI: Collects and analyses patterns in data to make informed predictions. For example, to analyse patterns in student data to predict if a student is on track to graduate.

Generative AI: Creates text, code, images, videos, and other types of content, based on an assignment or question from the user (by way of a 'prompt'). Using this in education could lead to plagiarism.

Generative AI refers to deep-learning models that can take raw data and “learn” to generate statistically probable outputs when prompted.

Terminology

GPT = Generative Pre-Training Transformer

Chat GPT – Software which interacts in a conversational way. The dialogue format makes it possible for ChatGPT to answer follow-up questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests.

Large Language Model (LLM) is trained on enormous amounts of online data to quickly generate text and answer questions, based on the prompts that you put in. However, it is optimised to generate *plausible* and *pleasing* responses, but they are not necessarily *true*.

- OpenAI – Organisation that developed ChatGPT

<https://openai.com/blog/chatgpt/>

what is generative AI?

Generative AI is a type of artificial intelligence that involves creating models that can generate new and original data or content based on patterns in existing data. These models are trained on large datasets of input data, such as text, images, or audio, and use algorithms to analyze and identify patterns in the data. Once the model has learned these patterns, it can generate new data that is similar in style, format, or content to the original dataset.

Generative AI has been used to create a wide range of applications, including language translation, image and video synthesis, music composition, and even game design. One of the key advantages of generative AI is that it can create new and unique content that may not have been possible with traditional programming or human creativity alone. However, there are also concerns about the potential misuse of this technology, such as the creation of fake news or deepfakes.



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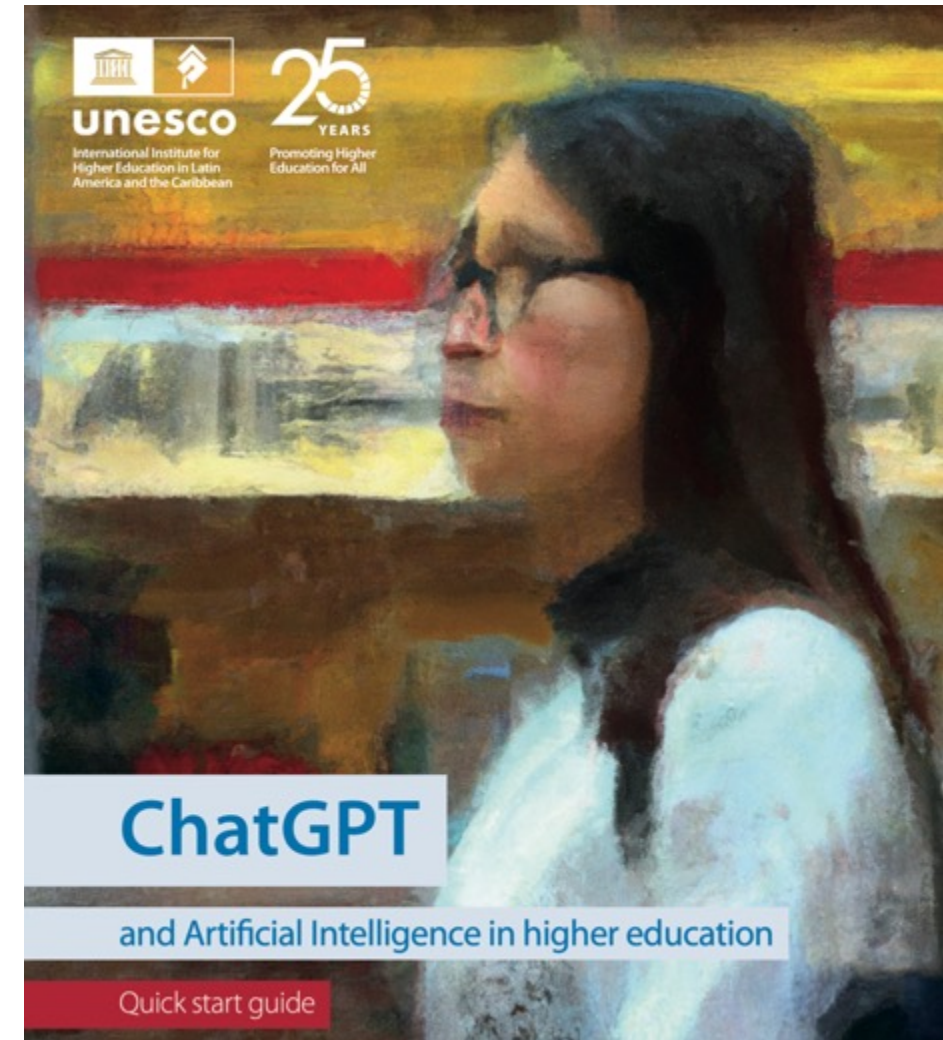
what is generative AI?

What is ChatGPT?

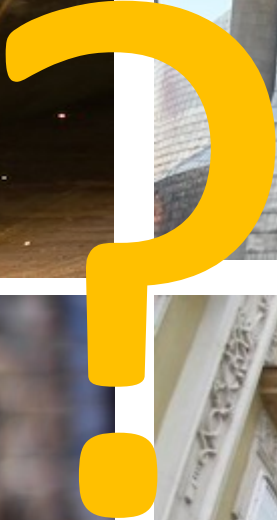
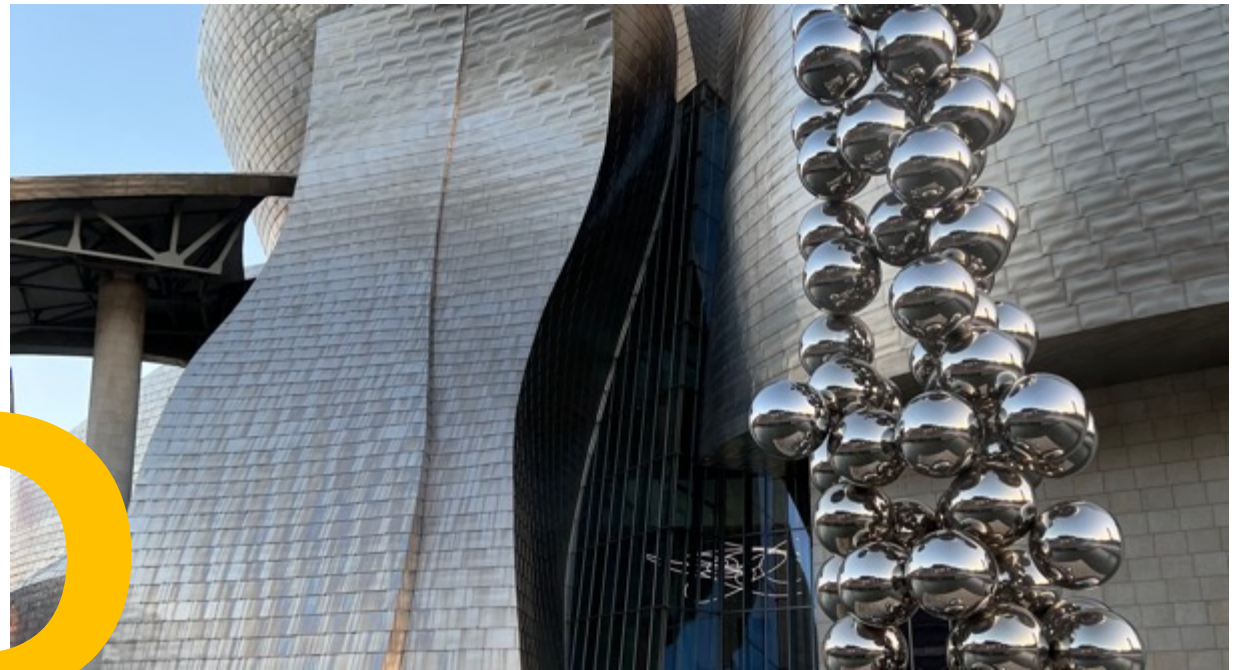
ChatGPT is a language model that allows people to interact with a computer in a more natural and conversational way. GPT stands for “Generative Pre-trained Transformer” and is the name given to a family of natural language models developed by open Artificial Intelligence (AI). This is also known as a form of generative AI because of its ability to produce original results.

We asked ChatGPT to explain ChatGPT in 50 words. Here is its answer:

ChatGPT is a large language model developed by OpenAI, based on the GPT-3.5 architecture. It can generate human-like text based on input prompts, answer questions, and perform a variety of natural language processing tasks. It was trained on a massive dataset of internet text to learn patterns and relationships in language.



<https://unesdoc.unesco.org/ark:/48223/pf0000385146>



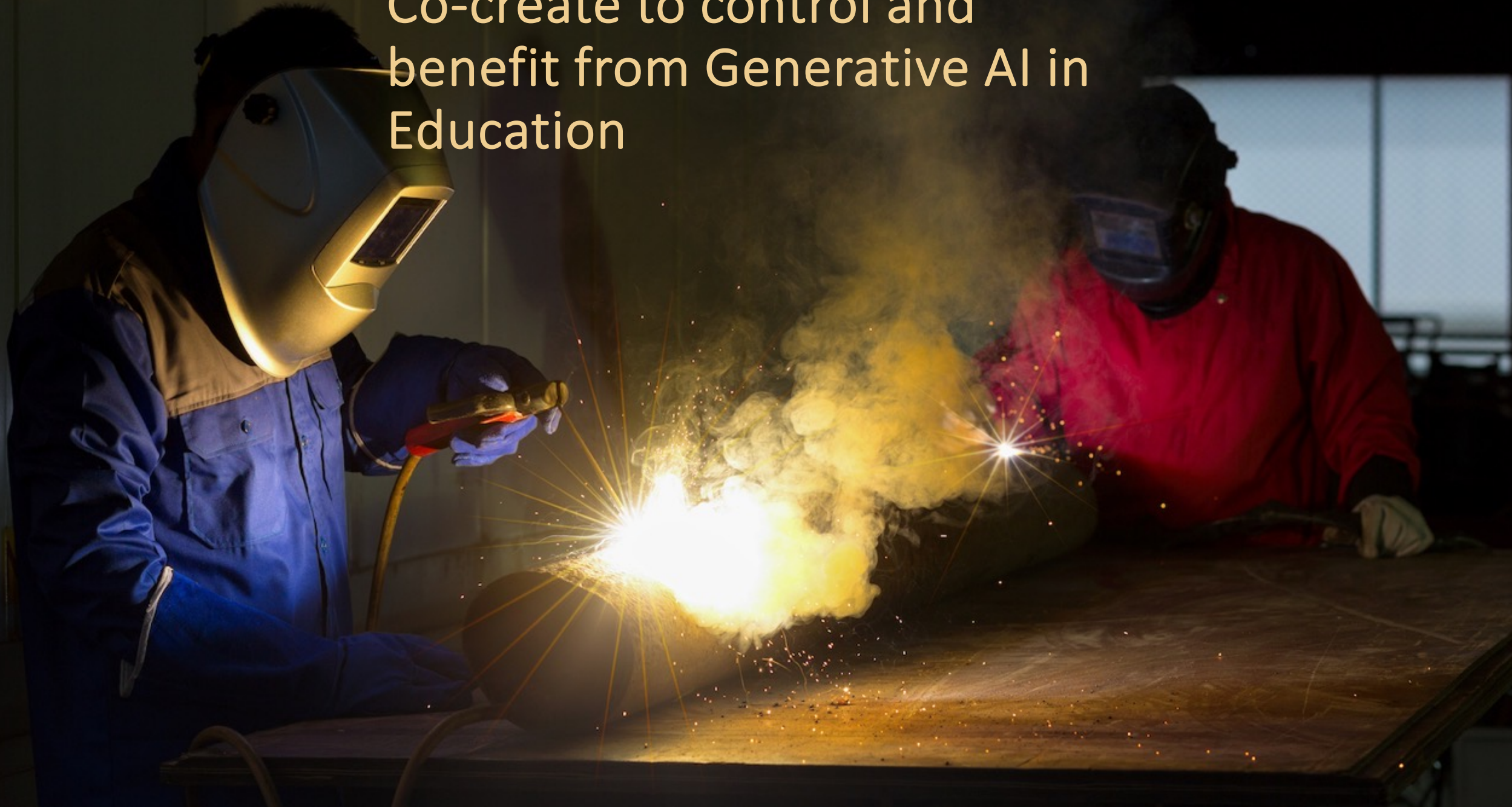


Welding

A complicated process, with rules
Used by people with training
Create simple industrial things
Create wonderful things
Create art



Co-create to control and
benefit from Generative AI in
Education



Co-create to control and
benefit from Generative AI in
Education

Regulation



AI and EU



<https://fpf.org/fpf-resources-on-the-eu-ai-act/>

* Take notice of the compliance timeline deviation under Article 11(3) concerning GPAI models already placed on the market or put into service (before 12 months from the date of entry into force of this Regulation);
 ** The European Commission has initiated a 'Call of interest' in Nov. 2023 – first meeting with interested parties will be announced during H1 2024. The European Commission is seeking such voluntary commitments to anticipate the AI Act and to start implementing its requirements ahead of its general applicability date;
 *** Take notice of the compliance timeline deviation under Article 11(2) concerning High-risk AI Systems already placed on the market or put into service (before 24 months from the date of entry into force of this Regulation).

AI and EU



EUROPEAN EDUCATION AND CULTURE
EXECUTIVE AGENCY (EACEA)

EACEA.A - Erasmus+, EU Solidarity Corps
EACEA.A.6 - Platforms, Studies, and Analysis

Brussels, 20 February 2023
EACEA.A.6/LR

EACEA Projects showcasing topics on European Digital Education Hub

Key theme: Artificial Intelligence

- Use scenarios & practical examples of use in education; studying and exploiting the capacity of current tools; mapping current projects
- Education about AI & how to fit into existing curricula / create new ones
- Supporting/training teachers to use AI in teaching
- Influence of AI on governance in education

AI and EU

AI Act: different rules for different risk levels

Unacceptable risk

AI systems are systems considered a threat to people and will be banned. They include:

- Cognitive behavioural manipulation of people or specific vulnerable groups: for example voice-activated toys that encourage dangerous behaviour in children
- Social scoring: classifying people based on behaviour, socio-economic status or personal characteristics
- Real-time and remote biometric identification systems, such as facial recognition

Topics
European Parliament

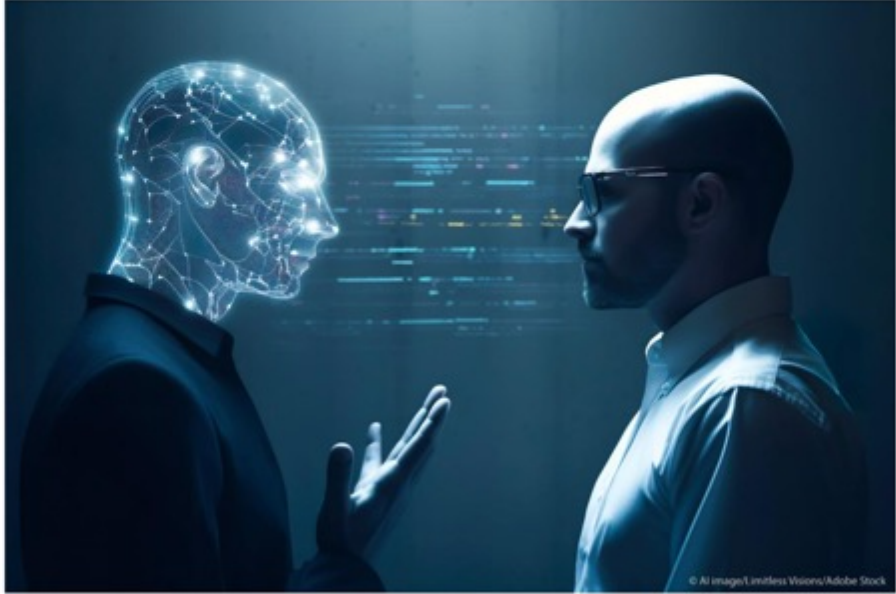
Digital Energy Gender equality Climate and environment Circular economy All topics

Topics > Digital > Artificial intelligence > EU AI Act: first regulation on artificial intelligence

EU AI Act: first regulation on artificial intelligence

The use of artificial intelligence in the EU will be regulated by the AI Act, the world's first comprehensive AI law. Find out how it will protect you.

Published: 08-06-2023 · Last updated: 19-12-2023 · 11:45



This illustration of artificial intelligence has in fact been generated by AI

As part of its [digital strategy](#), the EU wants to regulate artificial intelligence (AI) to ensure better conditions for the development and use of this innovative technology. AI can create

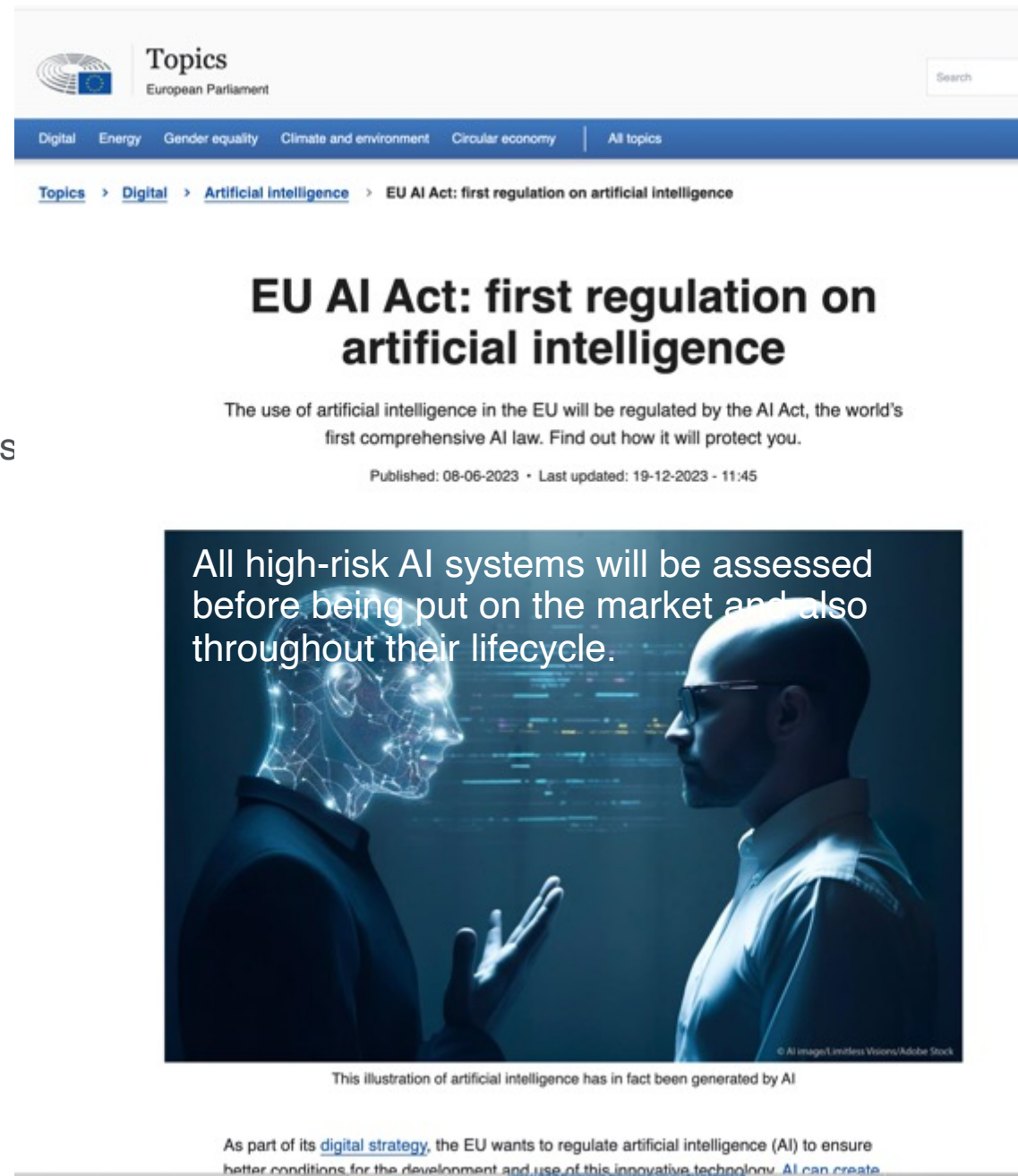
CEL e-Learning

AI and EU

AI Act: different rules for different risk levels

High risk: AI systems in toys, aviation, cars, medical devices and lifts

- Biometric identification and categorisation of natural persons
- Management and operation of critical infrastructure
- **Education and vocational training**
- Employment, worker management and access to self-employment
- Access to and enjoyment of essential private services and public services and benefits
- Law enforcement
- Migration, asylum and border control management
- Assistance in legal interpretation and application of the law.



The screenshot shows the European Parliament website. At the top, there is a search bar and a navigation menu with categories like Digital, Energy, Gender equality, Climate and environment, Circular economy, and All topics. The main heading is 'EU AI Act: first regulation on artificial intelligence'. Below the heading, there is a sub-heading: 'The use of artificial intelligence in the EU will be regulated by the AI Act, the world's first comprehensive AI law. Find out how it will protect you.' The publication date is 'Published: 08-06-2023' and the last update is 'Last updated: 19-12-2023 - 11:45'. A large image shows a person's profile with a glowing digital brain, and text overlaid on it reads: 'All high-risk AI systems will be assessed before being put on the market and also throughout their lifecycle.' Below the image, a caption states: 'This illustration of artificial intelligence has in fact been generated by AI'. At the bottom, there is a paragraph: 'As part of its digital strategy, the EU wants to regulate artificial intelligence (AI) to ensure better conditions for the development and use of this innovative technology. AI can create'.

AI and EU

AI Act: different rules for different risk levels

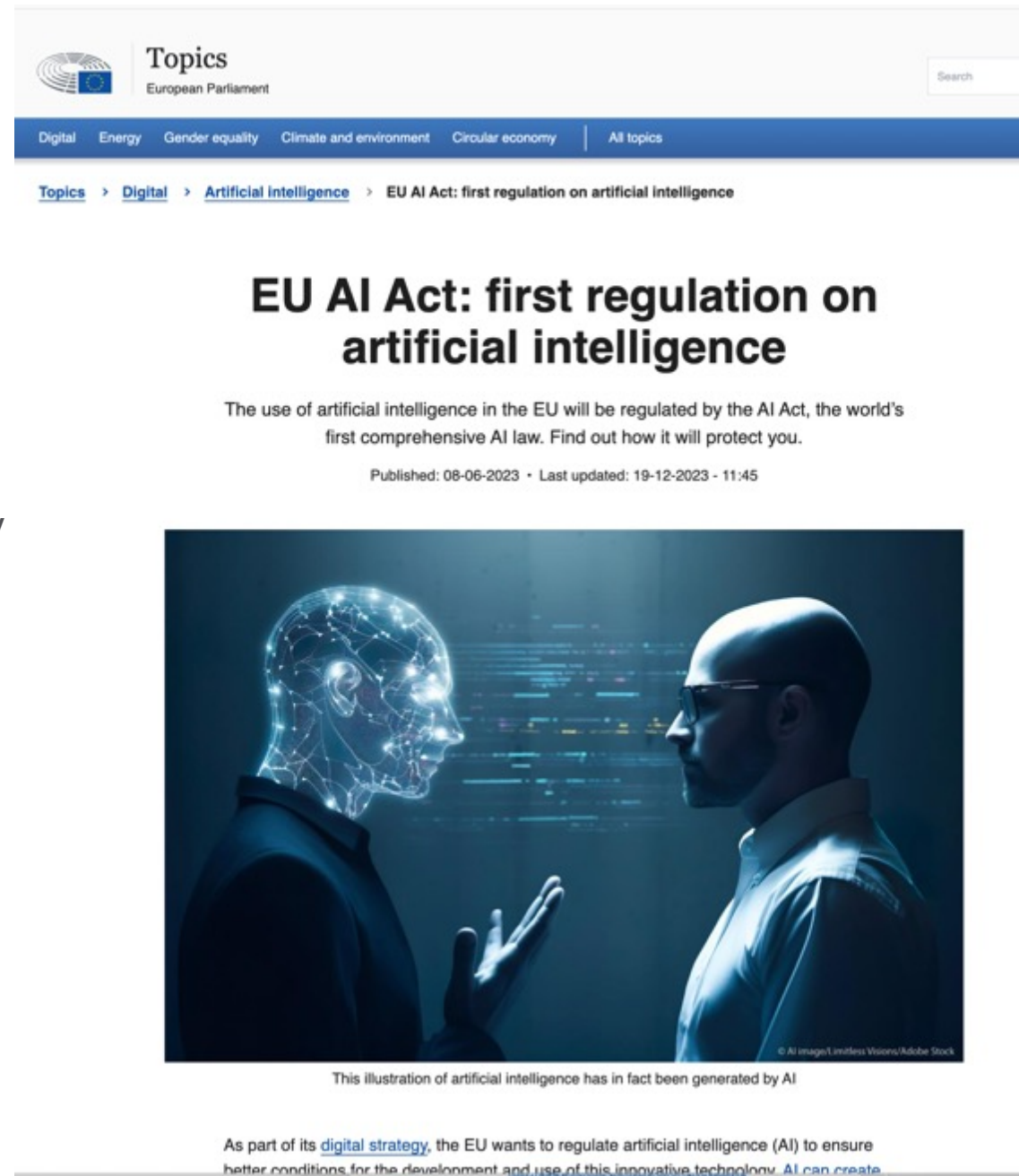
Generative AI

Generative AI, like ChatGPT, would have to comply with transparency requirements:

- Disclosing that the content was generated by AI
- Designing the model to prevent it from generating illegal content
- Publishing summaries of copyrighted data used for training

Limited risk

Limited risk AI systems should comply with minimal transparency requirements that would allow users to make informed decisions.



The screenshot shows the European Parliament website. At the top, there is a search bar and a navigation menu with categories: Digital, Energy, Gender equality, Climate and environment, Circular economy, and All topics. The breadcrumb trail reads: Topics > Digital > Artificial intelligence > EU AI Act: first regulation on artificial intelligence. The main heading is "EU AI Act: first regulation on artificial intelligence". Below it, a sub-heading states: "The use of artificial intelligence in the EU will be regulated by the AI Act, the world's first comprehensive AI law. Find out how it will protect you." The publication date is "Published: 08-06-2023" and the last update is "Last updated: 19-12-2023 - 11:45". The central image is a blue-toned illustration of a human head profile on the left, with a glowing digital brain structure, and a man in profile on the right, wearing glasses and gesturing with his hand. Below the image, a caption reads: "This illustration of artificial intelligence has in fact been generated by AI". At the bottom, a text block states: "As part of its digital strategy, the EU wants to regulate artificial intelligence (AI) to ensure better conditions for the development and use of this innovative technology. AI can create".

AI and EU

Artificial Intelligence Act: deal on comprehensive rules for trustworthy AI (09-12-2023)

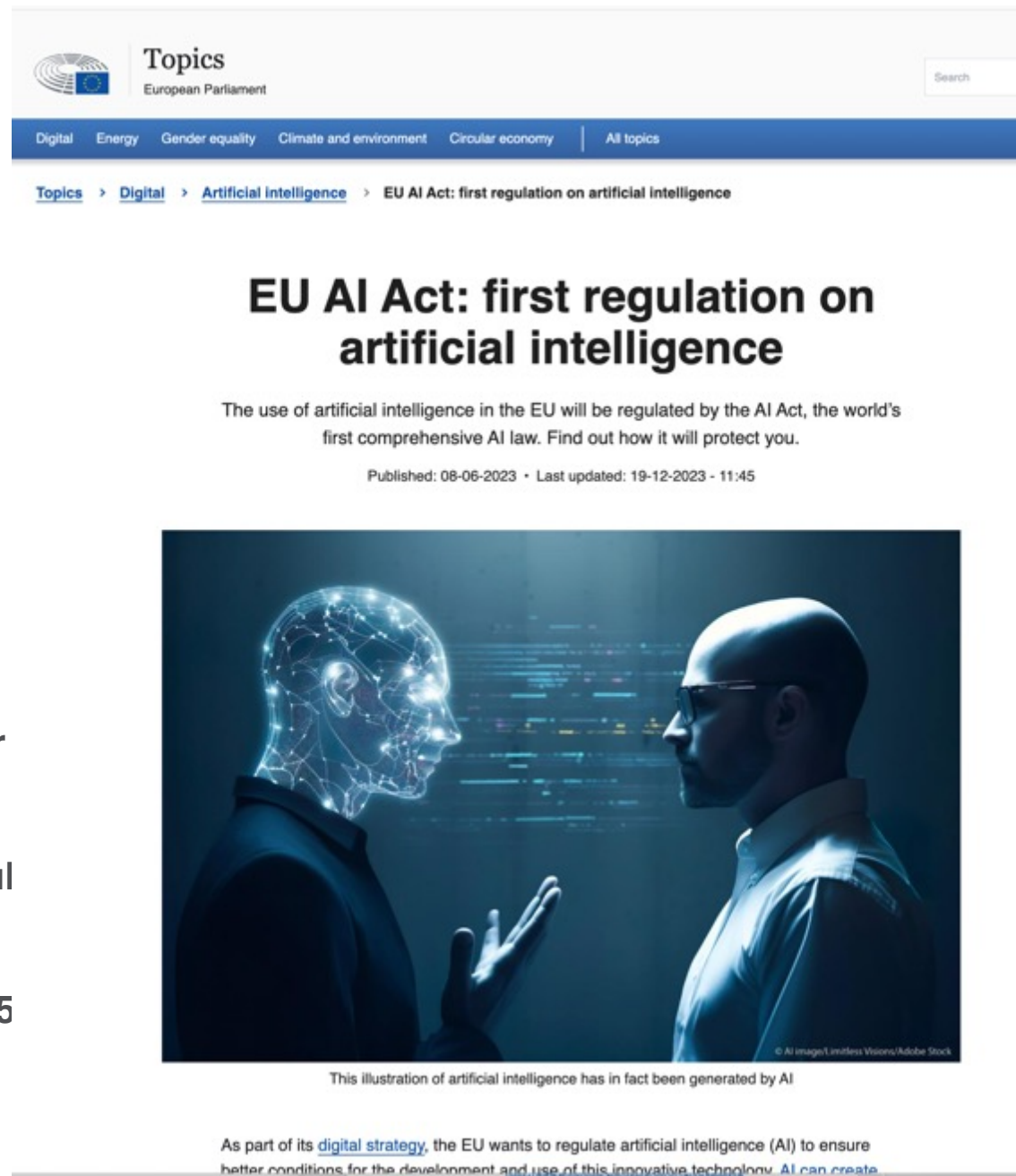
Safeguards agreed on general purpose artificial intelligence

Limitation for the use of biometric identification systems by law enforcement

Bans on social scoring and AI used to manipulate or exploit user vulnerabilities

Right of consumers to launch complaints and receive meaningful explanations

Fines ranging from 35 million euro or 7% of global turnover to 7.5 million or 1.5% of turnover



The screenshot shows the European Parliament's 'Topics' page. At the top, there is a search bar and a navigation menu with categories: Digital, Energy, Gender equality, Climate and environment, Circular economy, and All topics. The breadcrumb trail reads: Topics > Digital > Artificial intelligence > EU AI Act: first regulation on artificial intelligence. The main heading is 'EU AI Act: first regulation on artificial intelligence'. Below it, a sub-heading states: 'The use of artificial intelligence in the EU will be regulated by the AI Act, the world's first comprehensive AI law. Find out how it will protect you.' The publication date is 'Published: 08-06-2023' and the last update is 'Last updated: 19-12-2023 - 11:45'. A large illustration depicts a human head with a glowing digital brain on the left and a man in a white shirt and glasses on the right, gesturing towards the digital head. The background is dark blue with light blue digital data lines. A small copyright notice at the bottom right of the illustration reads '© AI image/Uniflex Visions/Adobe Stock'. Below the illustration, a caption states: 'This illustration of artificial intelligence has in fact been generated by AI'. At the bottom of the page, a paragraph begins: 'As part of its digital strategy, the EU wants to regulate artificial intelligence (AI) to ensure better conditions for the development and use of this innovative technology. AI can create...'

AI and EU

Artificial Intelligence Act: deal on comprehensive rules for trustworthy AI (09-12-2023)

General purpose and generative AI

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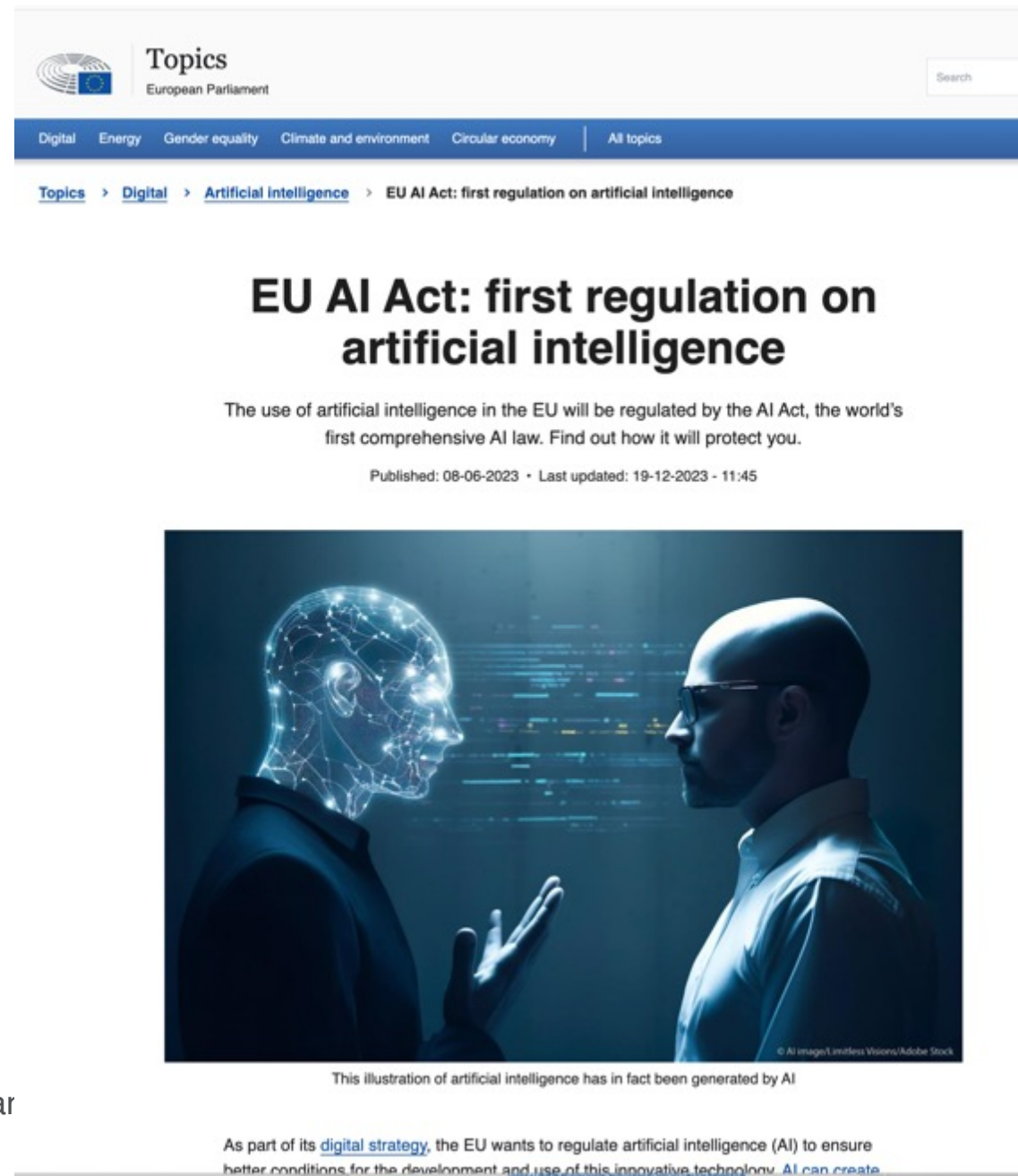
Disclosing that the content was generated by AI

Designing the model to prevent it from generating illegal content

Publishing summaries of copyrighted data used for training

High-impact general-purpose AI models that might pose systemic risk, such as the more advanced AI model GPT-4, would have to undergo thorough evaluations and any serious incidents would have to be reported to the European Commission.

<https://www.europarl.europa.eu/news/en/press-room/20231206IPR15699/artificial-intelligence-act-deal-on-comprehensive-rules-for-trustworthy-ai>



The screenshot shows the top navigation bar of the European Parliament website with the 'Topics' menu. The breadcrumb trail reads: Topics > Digital > Artificial intelligence > EU AI Act: first regulation on artificial intelligence. The main heading is 'EU AI Act: first regulation on artificial intelligence'. Below it, a sub-heading states: 'The use of artificial intelligence in the EU will be regulated by the AI Act, the world's first comprehensive AI law. Find out how it will protect you.' The publication date is '08-06-2023' and the last update is '19-12-2023 - 11:45'. The central image depicts a glowing digital head profile facing a man in profile, with a caption below it: 'This illustration of artificial intelligence has in fact been generated by AI'. At the bottom, a text block reads: 'As part of its digital strategy, the EU wants to regulate artificial intelligence (AI) to ensure better conditions for the development and use of this innovative technology. AI can create'.

AI and EU

The EU is one of the largest jurisdictions in the world and plays an active role in the global regulation of digital technology through the **GDPR, Digital Services Act, the Digital Markets Act.**

For AI in particular, the Artificial intelligence Act is regarded in 2023 as the most far-reaching regulation of AI worldwide.

Most European Union (EU) countries have their own national strategies towards regulating AI, but these are largely convergent

AI and EU

Vote European Parliament on 13.03.2024

6.3.2024

A9-0188/808

Amendment 808

Anna Cavazzini

on behalf of the Committee on the Internal Market and Consumer Protection

Juan Fernando López Aguilar

on behalf of the Committee on Civil Liberties, Justice and Home Affairs

Report

Brando Benifei, Dragoş Tudorache

Artificial Intelligence Act

(COM(2021)0206 – C9-0146/2021 – 2021/0106(COD))

A9-0188/2023

European Parliament

2019-2024



TEXTS ADOPTED

P9_TA(2024)0138

Artificial Intelligence Act

European Parliament legislative resolution of 13 March 2024 on the proposal for a regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts (COM(2021)0206 – C9-0146/2021 – 2021/0106(COD))

(Ordinary legislative procedure: first reading)

Regulation

AMENDMENTS BY THE EUROPEAN PARLIAMENT*

to the Commission proposal

REGULATION (EU) 2024/...

THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of ...

on harmonised rules on artificial intelligence (and amending Regulations (EC) No

<https://www.europarl.europa.eu/plenary/en/report-details.html?reference=A9-0188-2023>
300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU)

2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828, (Artificial

Intelligence Act)

AI - USA

On 4 October 2022, the **White House Office of Science and Technology Policy** published a **Blueprint for the Development, Use and Deployment of Automated Systems** ([Blueprint for an AI Bill of Rights](#)).

The Blueprint is – unlike EU's AI Act – non-binding and lists five principles that are intended to minimise potential harm from AI systems.

Safe and effective systems

Protection against algorithmic discrimination

Privacy

Notices and explanations

Human alternatives, testing and fallback

THE WHITE HOUSE



Applying the Blueprint for an AI Bill of Rights

While many of the concerns addressed in this framework derive from the use of AI, the technical capabilities and specific definitions of such systems change with the speed of innovation, and the potential harms of their use occur even with less technologically sophisticated tools.

Thus, this framework uses a two-part test to determine what systems are in scope. **This framework applies to (1) automated systems that (2) have the potential to meaningfully impact the American public's rights, opportunities, or access to critical resources or services.** These Rights, opportunities, and access to critical resources of services should be enjoyed equally and be fully protected, regardless of the changing role that automated systems may play in our lives.

This framework describes protections that should be applied with respect to all automated systems that have the potential to meaningfully impact individuals' or communities' exercise of:

AI - USA

OCTOBER 30, 2023 **Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence**

Artificial Intelligence must be safe and secure.

Promoting responsible innovation, competition, and collaboration ... investments in AI-related education, training, development, research, and capacity, while simultaneously tackling novel intellectual property (IP) questions and other problems to protect inventors and creators...

The interests of Americans who increasingly use, interact with, or purchase AI and AI-enabled products in their daily lives must be protected.

Americans' privacy and civil liberties must be protected as AI continues advancing

Developing Guidelines, Standards, and Best Practices for AI Safety and Security. Within 270 days

<https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/>

THE WHITE HOUSE



OCTOBER 30, 2023

Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence



BRIEFING ROOM

PRESIDENTIAL ACTIONS

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Purpose. Artificial intelligence (AI) holds extraordinary potential for both promise and peril. Responsible AI use has the potential to help solve urgent challenges while making our world more prosperous, productive, innovative, and secure. At the same time, irresponsible use could exacerbate societal harms such as fraud, discrimination, bias, and disinformation; displace and disempower workers; stifle competition; and pose risks to national security. Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks. This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society.



Centrul de ID/IFR
și e-Learning

AI - Worldwide

No global approach

countries are in various stages of evolving their approach to regulating AI and take differing views of how best to do it



https://en.wikipedia.org/wiki/Regulation_of_artificial_intelligence

<https://futureoflife.org/open-letter/pause-giant-ai-experiments/>

future of life
Our mission Cause areas Our work About us

Home > Pause Giant AI Experiments: An Open Letter

← All Open Letters

Pause Giant AI Experiments: An Open Letter

We call on all AI labs to immediately pause for at least 6 months the training of AI systems more powerful than GPT-4.

Signatures
33003

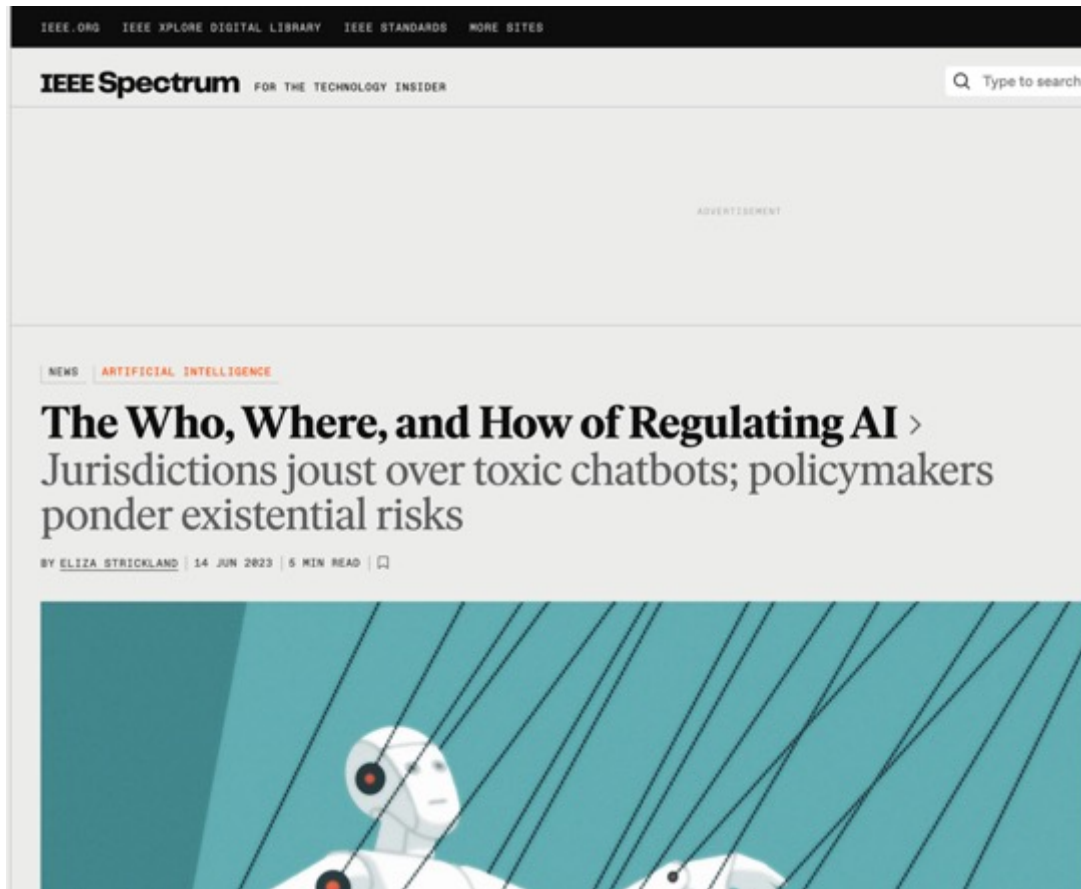
Add your signature

PUBLISHED
March 22, 2023

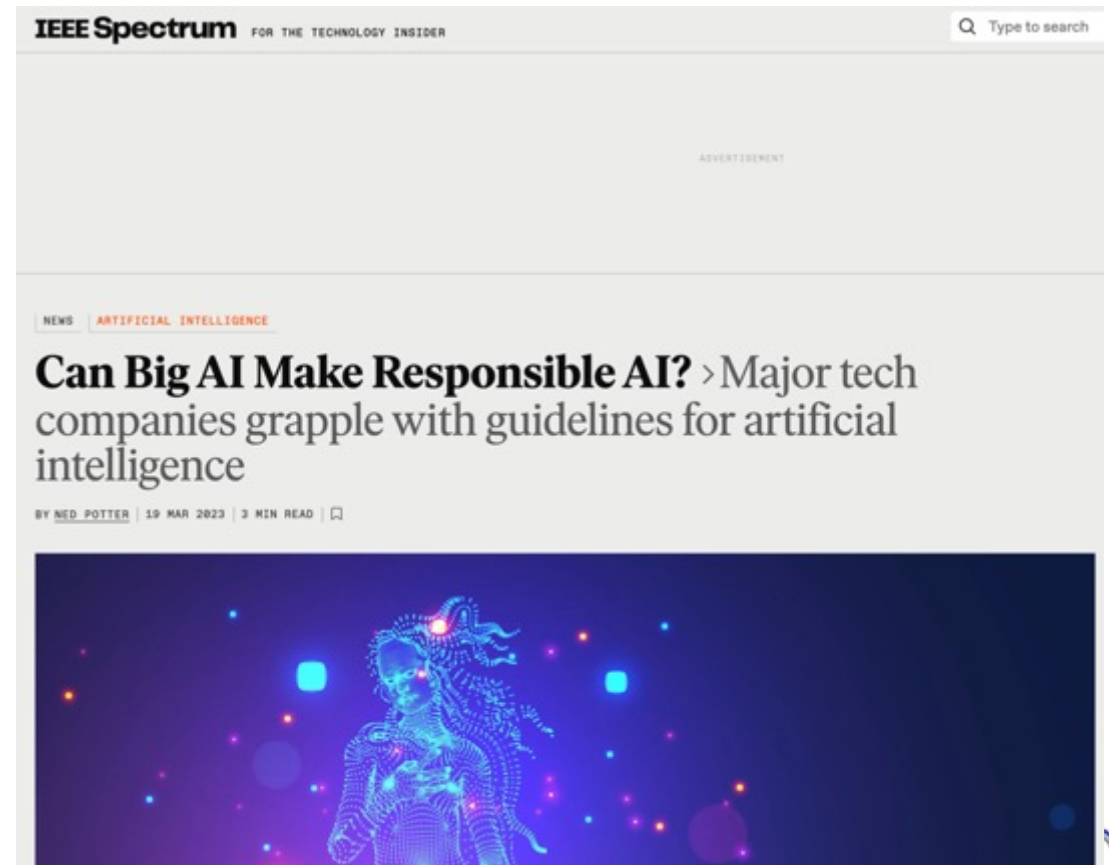
AI systems with human-competitive intelligence can pose profound risks to society and humanity, as shown by extensive research^[1] and acknowledged by top AI labs.^[2] As stated in the widely-endorsed *Asilomar AI Principles*, *Advanced AI could represent a profound change in the history of life on Earth, and should be planned for and managed with commensurate care and resources*. Unfortunately, this level of planning and management is not happening, even though recent months have seen AI labs locked in an out-of-control race to develop and deploy ever more powerful digital minds that no one – not even their creators – can understand, predict, or reliably control.




AI & IEEE



<https://spectrum.ieee.org/ai-regulation-worldwide>



<https://spectrum.ieee.org/ai-ethics-industry-guidelines>

The image shows two welders in a dark industrial setting. The welder on the left is wearing a blue protective suit and a silver welding mask, holding a welding torch. The welder on the right is wearing a red protective suit and a black welding mask. They are both focused on their work, with bright yellow and orange sparks and a plume of white smoke rising from the point of contact between the torch and the metal. The background is dark, with some faint light coming from a window or opening on the right.

Co-create to control and benefit from Generative AI in Education

Regulation

Adopt

Ethics

Challenges and ethical implications

- The impact of ChatGPT on higher education has been immediate and divisive. Although its applications in higher education are extensive, many universities have already banned it over fears of student plagiarism, and several countries have blocked ChatGPT.

Academic integrity

Lack of regulation

Privacy concerns

Cognitive bias

Gender and diversity

Accessibility

Commercialization

Actioning the UNESCO Recommendation

Harnessing the rapid spread of AI to ensure it supports the greater good should go hand in hand with the implementation of the UNESCO Recommendation on the Ethics of AI.

- The UNESCO [guidance for policymakers on AI and education](#) sets out policy recommendations in seven areas:
 - 1. A system-wide vision and strategic priorities
 - 2. Overarching principle for AI and education policies
 - 3. Interdisciplinary planning and inter-sectoral governance
 - 4. Policies and regulations for equitable, inclusive, and ethical use of AI
 - 5. Master plans for using AI in education management, teaching, learning, and assessment
 - 6. Pilot testing, monitoring and evaluation, and building an evidence base
 - 7. Fostering local AI innovations for education

<https://unesdoc.unesco.org/ark:/48223/pf0000385146>

Actioning the UNESCO Recommendation

Steps to Regulate GenAI in education:

Endorse international or regional General Data Protection Regulations (GDPRs) or develop national GDPRs

Adopt/revise and fund whole-of- government strategies on AI

Solidify and implement specific regulations on the ethics of AI

Adjust or enforce existing copyright laws to regulate AI-generated content

Elaborate regulatory frameworks on generative AI

Build capacity for proper use of GenAI in education and research

Reflect on the long-term implications of GenAI for education and research

Guidance for generative AI in education and research, UNESCO, 2023

<https://unesdoc.unesco.org/ark:/48223/pf0000386693>

Actioning the UNESCO Recommendation

key elements :

- (1) governmental regulatory agencies,
- (2) providers of AI-enabled tools,
- (3) institutional users and
- (4) individual users

Balance between the regulation of GenAI and the promotion of AI innovation

Institutional strategies to facilitate responsible and creative use of GenAI

Guidance for generative AI in education and research, UNESCO, 2023

<https://unesdoc.unesco.org/ark:/48223/pf0000386693>

Actioning the UNESCO Recommendation

Institutional strategies to facilitate responsible and creative use of GenAI

Institutional implementation of ethical principles: Ensure that researchers, teachers and learners use GenAI tools responsibly and ethically, and critically approach the accuracy and validity of the outputs.

Guidance and training

Building GenAI prompt engineering capacities

Detecting GenAI-based plagiarism in written assignments

A 'human-centred and pedagogically appropriate interaction' approach

Guidance for generative AI in education and research, UNESCO, 2023

<https://unesdoc.unesco.org/ark:/48223/pf0000386693>

AI regulations in Higher education

- **Politehnica University of Timisoara** - recommendations approved by Senate on 25.05
 - The use is not forbidden, but within the ethics, author rights and authenticity regulations
 - To include a analyse/process validation
 - To include the exact information which is validated (question and answer)
 - To be cited accordingly
- **Changes in the Students' Authenticity declaration**

“In the elaboration of the work I used specific tools of artificial intelligence (AI), namely _____ (name) _____ (source), which I cited in the content of the work/I did not use specific tools of artificial intelligence (AI)”
- **Guidance and training with academics and students in the final year**
- **Validation after the finals this year**

https://www.upt.ro/img/files/hs/2023/HS_85_25.05.2023_Aprobare-recomandari-AI_UPT.pdf

AI regulations in Higher education

- [University of Bergen, Norway](#) - **Guidance** on the use of chatbots at the Faculty of Social Sciences
 - The use is not forbidden, but within the ethics, author rights and authenticity regulations

“As a student, you must take responsibility for your own text and be sure that everything that is written there is correct and follows the usual [rules for using sources](#)”

<https://www.uib.no/svf/162444/veiledning-om-bruk-av-samtaleroboter-ved-det-samfunnsvitenskapelige-fakultet>

AI regulations in Higher education

- **University of Education Heidelberg- Guidance** on the use of chatbots at the Faculty of Social Sciences
 - All media and tools are allowed. “AI tools such as ChatGPT, which can be very helpful in generating ideas and writing texts, for example”
 - You are responsible for your results
 - Indicate aids used.
 - <https://csp.uber.space/phhd/rulesfortools.pdf>

AI regulations in Higher education

- **University of Education Heidelberg- Guidance** on the use of chatbots at the Faculty of Social Sciences
 - All media and tools are allowed. “AI tools such as ChatGPT, which can be very helpful in generating ideas and writing texts, for example”
 - You are responsible for your results
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AI regulations in Higher education

Amsterdam University College

Guidelines for the course Advanced Research Writing

- At the Amsterdam University College, lecturers of the bachelor course Advanced Research Writing have added GenAI guidelines to the course policy. They believe that their students need to practice using GenAI in a responsible manner, since they will also use it in their future careers. That's why they allow their students to use GenAI in the course to support their writing and use it as an assistant, as long as they adhere to certain rules and guidelines.

AI regulations in Higher education

Amsterdam University College

1. Students may use generative AI technology to support their writing, in ways similar to how internet search engines, grammar and spell checkers, and (online) dictionaries and thesauruses are used.
2. Students may use generative AI as a source of information and to generate content, as long as they use the tool as an assistant, not an author. Instructions on how to do this are provided further down this document.
3. If students use generative AI tools, they must provide full transparency about how they use them. Instructions on how to do this are provided further down this document.
4. Students are advised to familiarize themselves with the advantages as well as disadvantages and potential risks of using generative AI. These topics will also be discussed in class.
5. Students who make use of generative AI tools in their writing assignments remain fully responsible for the texts they submit.

Course Policy on using Generative AI in Advanced Research Writing (Fall 2023)

The course Advanced Research Writing aims to teach advanced academic writing skills to the (academic) writers of the future. As teachers, we have no doubt that the writers of the future will do their writing supported by AI technology. Therefore, we also believe that today's students need to learn and practice using AI technology critically and responsibly in their writing.

Generative AI technology and the advantages, disadvantages and risks of using AI tools like ChatGPT will be topics for discussion in this course. Moreover, students are permitted to use generative AI technology in working on their writing projects for this course, provided they adhere to certain rules and guidelines, as outlined in this document and to be discussed further in class.

Rules & Guidelines

1. Students may use generative AI technology to support their writing, in ways similar to how internet search engines, grammar and spell checkers, and (online) dictionaries and thesauruses are used.
2. Students may use generative AI as a source of information and to generate content, as long as they use the tool as an assistant, not an author. Instructions on how to do this are provided further down this document.
3. If students use generative AI tools, they must provide full transparency about how they use them. Instructions on how to do this are provided further down this document.
4. Students are advised to familiarize themselves with the advantages as well as disadvantages and potential risks of using generative AI. These topics will also be discussed in class.
5. Students who make use of generative AI tools in their writing assignments remain fully responsible for the texts they submit.
6. The "Regulations governing fraud and plagiarism" (AS&P, Appendix 2) apply to any assignment submitted in the course, written with the help of generative AI or not.
7. These Rules and Guidelines apply exclusively to the course Advanced Research Writing. In other contexts, such as the Capstone, students should contact their teacher or supervisor for permission and guidelines on the use of generative AI tools.



AI regulations in Higher education

KU Leuven

KU Leuven is open to the use of generative AI (GenAI)-technology concerning education and research and encourages her students, teaching staff and researchers to handle this technology in a responsible and critical way.

Specific principles and guidelines per target group (students, teachers, researchers)

The necessity of correct referencing

AI regulations in Higher education

KU Leuven

Be transparent about the use of GenAI

Never import (privacy)sensitive or confidential information (including unprotected discoveries)

Make use of the 'opt out'-option of ChatGPT

Verify GenAI

Avoid plagiarism or any infringement of copyright

Double check the most recent state of affairs

Be prepared for bias by GenAI

Do not be satisfied with the first output

Give meaning to GenAI

Do not humanize GenAI tools

Surpass GenAI

Limit GenAI's energy usage

<https://www.kuleuven.be/english/genai>

AI regulations in Higher education

KU Leuven for researchers

Transparency about the use of GenAI in scientific publications, project applications and doctoral theses

Reference styles

APA

Chicago

IEEE

MLA

<https://bib.kuleuven.be/english/training-and-tutorials/citation/referring-to-genai>

<https://www.kuleuven.be/english/genai>

AI regulations in Higher education

KU Leuven for teachers

Don't ban GenAI, but use it responsibly

Teaching staff are expected to clearly inform students about whether or not they are allowed to use GenAI for assignments such as visual, writing and programming assignments.

Students are expected to be transparent about the use of GenAI so that their knowledge, understanding and skills can be assessed fairly and correctly.

If a student uses GenAI and is not transparent about its use, this may be considered an irregularity.

<https://www.kuleuven.be/english/education/leuvenlearninglab/support/highlighted/generative-artificial-intelligence>

<https://www.kuleuven.be/english/genai>

AI regulations in Higher education

KU Leuven for teachers

How does the use of GenAI relate to the learning goals and personal development goals of specific courses and the study programme?

What is the added value of using GenAI and where does it have a place in learning sequences concerning information, writing or research skills, or in assignments with a critical or creative aspect?

How do we teach students the limitations of GenAI, and how do we teach them to use it critically and responsibly?

What frameworks and constraints should we develop so that students learn how to use GenAI responsibly?

How do we make sure the acquisition of basic factual knowledge remains a key pillar for critical thinking, reasoning and seeking solutions to issues - and this despite the use of GenAI?

How do we ensure that students acquire basic skills such as academic argumentation and writing, when they can also use GenAI for this purpose?

How do we ensure that students see learning as something of value now that GenAI makes it so easy to generate a fast result?

How do we adapt our assessment to this context?

<https://www.kuleuven.be/english/education/leuvenlearninglab/support/highlighted/generative-artificial-intelligence>

<https://www.kuleuven.be/english/genai>

AI regulations in Higher education

UK Parliament

In November 2023, the Department for Education published a report on the use of generative AI in education. The Government has also announced an investment of up to £2 million to provide new AI-powered resources for teachers in England.

Stakeholders have indicated that the successful implementation of AI in education will require: evidence demonstrating where AI can be effective at delivering educational outcomes; training and guidance for educators; and further clarity surrounding the legal frameworks that control how AI collects and uses educator and learner data.

They also indicate that there is a need to tackle 'digital divides', otherwise AI tools may not be available to disadvantaged groups and may therefore exacerbate inequalities.



POSTnote 712

By Juri Felix,
Laura Webb
23 January 2024

Use of artificial intelligence in education delivery and assessment

<https://post.parliament.uk/research-briefings/post-pn-0712/>

AI regulations in Higher education

UK Parliament

Limitations in reducing workloads

Lesson planning and marking

Personalised education and support

Educator training

AI use by educators in assessment

Learner use of AI

Rethinking assessment

Policy considerations

Training and guidance

Safety and data security

<https://post.parliament.uk/research-briefings/post-pn-0712/>

AI regulations in Higher education

UK Parliament

Examples of AI EdTech

- **Personalised education platforms:** AI tutors such as Khanmigo⁷⁰ interact directly with learners by providing personalised support through a chatbot interface. Platforms such as CENTURY46 provide teachers with an overview of learning progress, and the strengths and weaknesses of each student in a classroom, and tailor learning to meet each individual learner's needs.
- **Marking technologies:** Applications including Graide⁴³ and Progressay⁴⁴ assist or automate the marking and grading of student work using, for example, teacher inputs and AI-powered marking schemes. Some platforms are also capable of automatically generating feedback for learners.
- **Classroom assistant platforms:** These provide teachers with materials and resources for a range of purposes, for example, lesson plans, quizzes and classroom activities. Examples include TeacherMatic⁷¹ and the Oak National Academy platform.⁷²
- **Teacher training tools:** Tools such as Teacherverse⁷³ focus on teacher development, for example, by allowing teachers to practise teaching skills by using AI simulations of classroom scenarios.

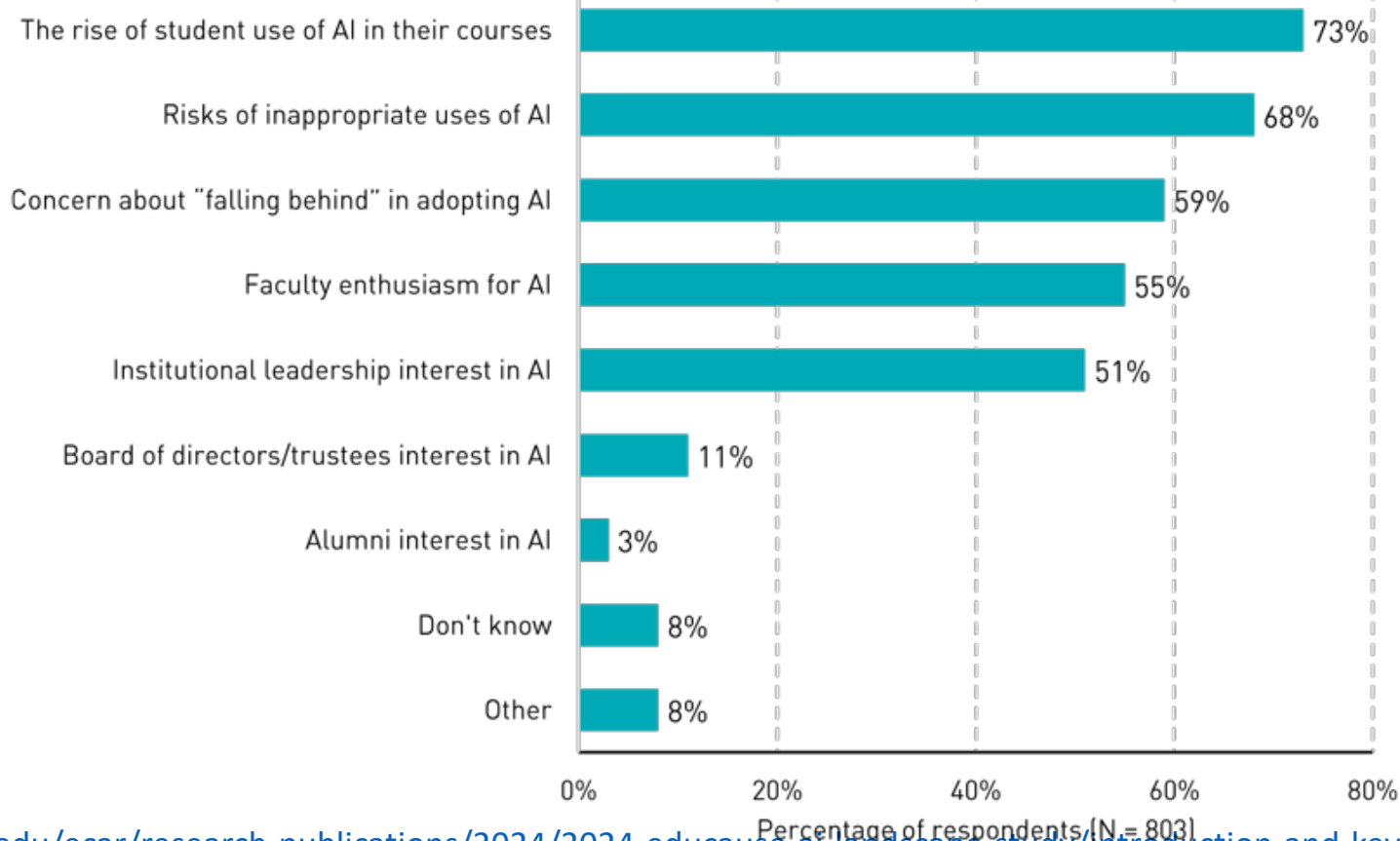
<https://post.parliament.uk/research-briefings/post-pn-0712/>

AI regulations in Higher education

USA universities

2024 EDUCAUSE AI Landscape Study

Strategic Planning and Readiness Primary Motivators for AI-Related Strategic Planning

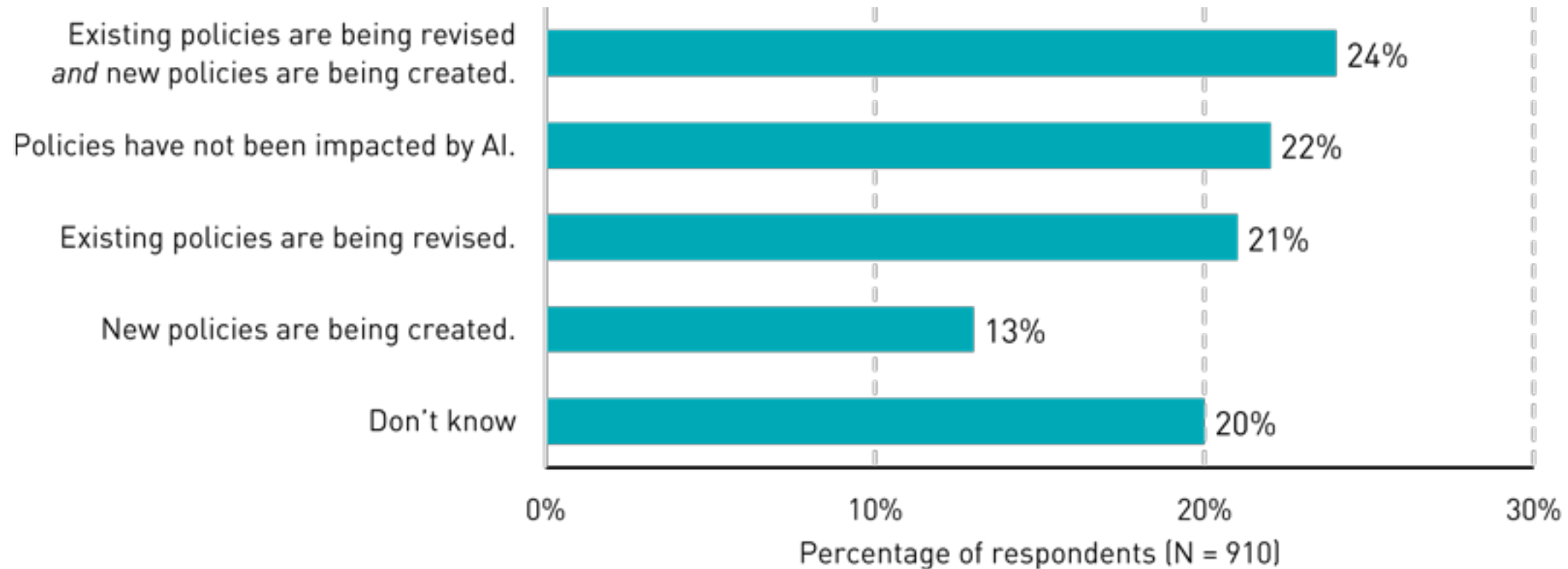


AI regulations in Higher education

USA universities

2024 EDUCAUSE AI Landscape Study

Policies and Procedures



AI regulations in Higher education

USA universities

2024 EDUCAUSE AI Landscape Study

Policies and Procedures

- AI is making the biggest impact on policies for teaching and learning, technology, and cybersecurity and data privacy (reported by 95%, 79%, and 72% of respondents, respectively, as "already impacted" or "soon to be impacted").
- Academic integrity is still top of mind. A majority of respondents (78%) indicated that AI has impacted academic integrity.
- Data governance practices are shifting in response to AI. Nearly half of executive leaders (47%) said that their institution is preparing data to be AI-ready.
- Data privacy and security are central concerns. Privacy and security professionals are most concerned with data security (82%), compliance with federal regulations (74%), ethical data governance (56%), compliance with local regulations (56%), and the impacts of biases in data (52%).
- Only 18% of respondents said their AI-related policies are somewhat or extremely restrictive—for example, banning student or faculty use.

AI regulations in Higher education USA universities

The image shows a Padlet board titled "University Policies on Generative AI" with a subtitle "Collection of university policies and websites. Questions? Contact Tracy: mooret@westernu.edu". The board contains several pins representing different university policies and articles:

- University of Maryland:** A pin with a photo of a campus and text discussing "Option 1 (no AI)" and "Option 2 (some AI)" regarding the use of AI-powered programs like ChatGPT or DALL-E in a course.
- UC Berkeley:** A pin titled "Appropriate Use of ChatGPT and Similar AI Tools" with text stating that AI should not be used to generate output that would be considered non-public, such as student records or research.
- A comprehensive AI policy education framework for university teaching and learning:** A pin featuring a circular diagram with three dimensions: Pedagogical, Governance, and Operational.
- Rice University - Honor Council limits use of ChatGPT:** A pin with a photo of a building and text stating that the Honor Council has explicitly prohibited the use of AI software for classes.
- Walden University:** A pin titled "Academics: Artificial Intelligence: Guidelines for Using ChatGPT and Other AI Tools in Writing and Research".
- UNC-Chapel Hill:** A pin titled "Generative AI" with text stating that ChatGPT and other generative AI tools are changing Higher Education, organizations, and society.
- Stanford University:** A pin titled "Generative AI Policy Guidance" with text stating that using generative AI tools to substantially complete an assignment or exam is not permitted.
- Arizona State University:** A pin with the ASU logo and text stating that generative AI (other than incidental use) is not permitted.
- Boston University:** A pin titled "Policy on the Use of AI Text Generation" with a PDF icon.
- Ohio State University:** A pin with a photo of a building and text discussing AI language-generation tools.
- University of Puget Sound:** A pin with a photo of a building and text discussing AI/ChatGPT.
- Colorado State University:** A pin with a photo of a building and text discussing AI/ChatGPT.

<https://padlet.com/cetl6/university-policies-on-generative-ai-m9n7wf05r7rdc6pe>

AI regulations in Higher education

USA universities

Common uses of AI span across the campus, including in personalized learning, virtual assistants and chatbots, learning analytics, grading, language translation, content and syllabus creation, research and the admissions process.

Ethics video

https://www.linkedin.com/posts/gerolf_aieethics-highereducation-activity-7169667131989442560-XHQ1?utm_source=share&utm_medium=member_desktop

Developing AI regulations in Higher education

Don't ban GenAI, but use it responsibly

Policy considerations

Specific principles and guidelines per target group (students, teachers, researchers)



Developing AI regulations in Higher education

Don't ban GenAI, but use it responsibly

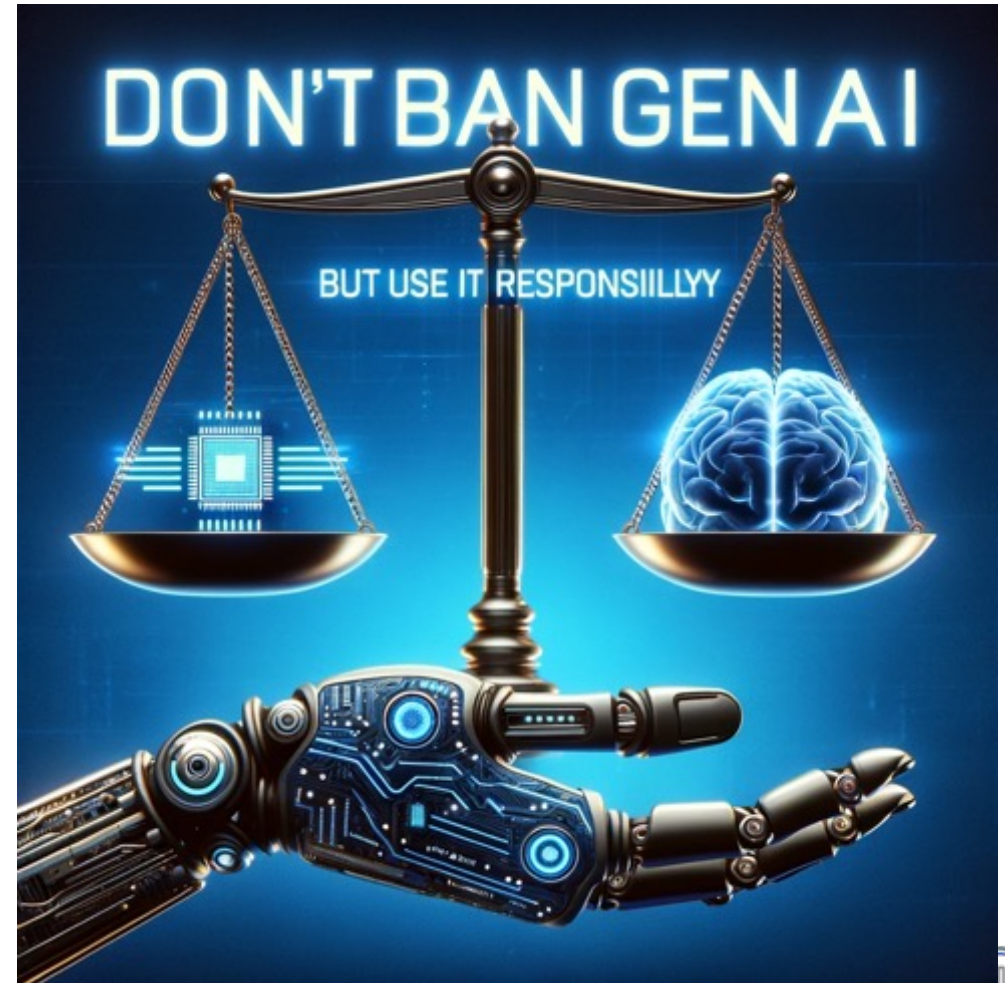
Training and guidance

Technical guidance and supervision

Safety and data security

Administrative tasks

Evaluate and adapt



Developing AI regulations in Higher education

Collaboration, coordination, and **consistency** on AI regulation across the education and professional sectors is crucial.


1. Universities will support students and teachers to become AI-literate.
2. Staff & academics should be equipped to support students to use generative AI tools effectively and appropriately in their learning experience.
3. Universities will adapt teaching and assessment to incorporate the ethical use of generative AI and support equal access.
4. Universities will ensure academic rigour and integrity is upheld.
5. Universities to work collaboratively to share best practice as the technology and its application in education evolves.



Welding

A complicated process, with rules
Used by people with training
Create simple industrial things
Create wonderful things
Create art





Co-create to control and benefit from Generative AI in Education

Regulation

Adopt

Use cases

Learn

Teach



2024 EDEN R13 Research Workshop & PhD Masterclass

Emerging technologies, challenges and opportunities in education and research

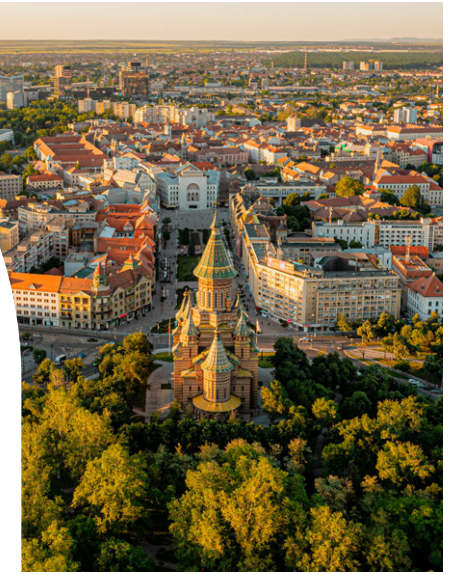
Timisoara, Romania 16-18 October 2024



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