

Generative AI and Education: Challenges and Opportunities

Dr Julia Chen, Director

Mr Leo Chon, Assistant Educational
Development Officer

Mr Dick Chan, Educational
Development Officer
(Educational Development Centre)

EdCity L&T Expo 2023-12-13

HKCEC Main Stage



Established in **1937**

86 Years of history in propelling knowledge, nurturing students & growing with Hong Kong

477,733 Alumni around the world

6,000+ Full-time staff

80 Research Centres/
Facilities

About 20%
Undergraduates with non-
local learning experiences

160+ Programmes

9 Faculties/Schools

28,400+ Students

(Doctoral / Research Postgraduate / Taught Postgraduate / Undergraduate / Sub-degree)

Main Areas of Work



1. Policies and strategies

2. Culture of teaching excellence

3. Capacity building

4. Evidence-based improvement

5. Sector-wide contributions

Mission: To inform the development and facilitate the implementation of learning-and-teaching-related policies, guidelines, and strategic initiatives in the University

1. Policies and strategies

2. Culture of teaching excellence

3. Capacity building

4. Evidence-based improvement

5. Sector-wide contributions

Mission: To promote a culture of learning and teaching excellence, grounded in impactful pedagogies, the innovative use of educational technologies and scholarly approaches to learning and teaching

1. Policies and strategies

2. Culture of teaching excellence

3. Capacity building

4. Evidence-based improvement

5. Sector-wide contributions

Mission: To build capacity for members of the University involved in teaching or supporting learning and teaching

1. Policies and strategies

2. Culture of teaching excellence

3. Capacity building

4. Evidence-based improvement

5. Sector-wide contributions

Mission: To champion an evidence-based approach to quality enhancement in learning and teaching

1. Policies and strategies

2. Culture of teaching excellence

3. Capacity building

4. Evidence-based improvement

5. Sector-wide contributions

Mission: To contribute to sector-wide learning-and-teaching-related initiatives and exercises

πάντα χωρεῖ καὶ οὐδὲν μένει

(Everything changes and nothing stands still)

Heraclitus of Ephesus, ~535 BC – 475 BC, Greek philosopher

Change is the everlasting constant



Success is not final, failure is not fatal: it is the courage to continue that counts.

Winston Churchill

all great changes
are preceded
by chaos

YOUR LIFE DOES NOT
GET BETTER BY CHANCE,
IT GETS BETTER BY CHANGE.

- JIM ROHN (1930-2009) -
InspirationBoost.com

CHANGE
BEFORE
YOU
HAVE
TO.

Jack Welch

Change is **INEVITABLE**.
Progress is **OPTIONAL**.

~ Tony Robbins

the **change** blog . com

"To fear change is to
fear being Challenged.

To fear being Challenged
is to fear growth
and new possibilities."

~ Ty Howard

CHANGE

To improve is to change;
to be perfect is to change often. ~ Winston Churchill

Change

*"If there is no struggle, there is no
progress."* - Frederick Douglass

Usage of GenAI among students



How I memorised 400 pages of notes in 24 hours using AI (ChatGPT)

fayefilms ✓ 366K views

In this video, I discuss how to study using Ai and how to memorise FAST // Go to <https://brilliant.org/fayefilms> to get a 30-day free trial + the first 200 people will get 20% off their annual...

<https://youtu.be/-wX-d95BhSc?si=JqTtNkmV2YTQzl1Z>



How to Become a Top 1% Student using AI (it's not cheating!)

UnJaded Jade ✓

92K views • 4 weeks ago

<https://youtu.be/kbhG1alb dg?si=6lwqBrCTHRW5aDVx>

nature

Explore content ▾ About the journal ▾ Publish with us ▾ Subscribe

[nature](#) > [career feature](#) > article

CAREER FEATURE | 16 October 2023

How ChatGPT is transforming the postdoc experience

Around one in three respondents to *Nature's* global postdoc survey are using AI chatbots to help to refine text, generate or edit code, wrangle the literature in their field and more.

[Linda Nordling](#)

How often do you use AI chatbots in your work?*



©nature

*Percentages don't add up to 100 owing to rounding.

HOW POSTDOCS USE AI CHATBOTS

A little less than one-third of the postdoctoral researchers polled said that they use artificial-intelligence (AI) chatbots, such as ChatGPT, for everything from translating text to fixing code and overcoming writer's block.

How has the evolution and rapid adoption of AI chatbots changed your day-to-day work or career plans, if at all?



Do you use AI chatbots, such as ChatGPT, in your work?



What do you use AI chatbots for?

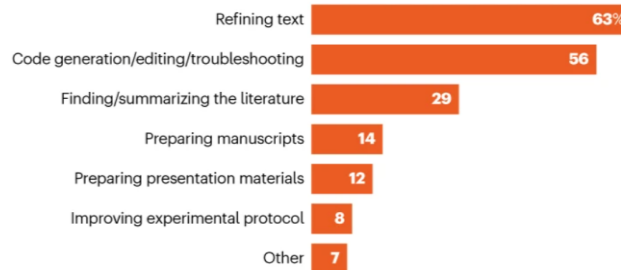
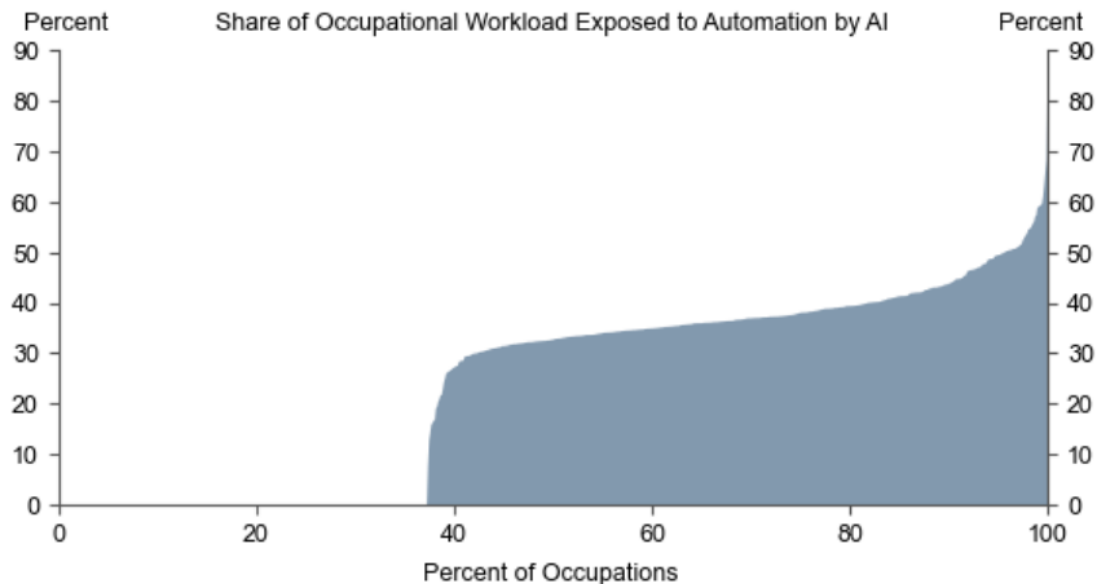


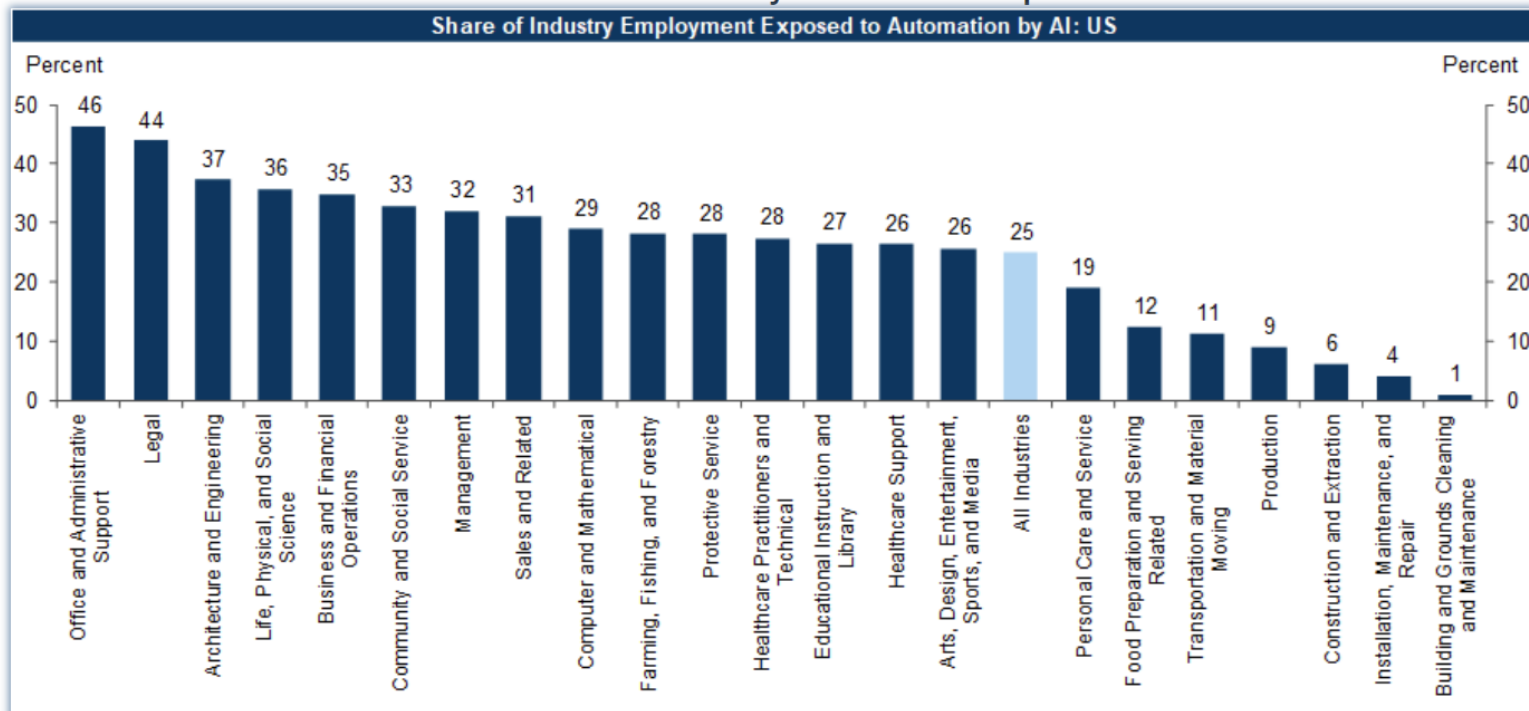
Exhibit 4: Two-Thirds of Current Occupations Could be Partially Automated by AI



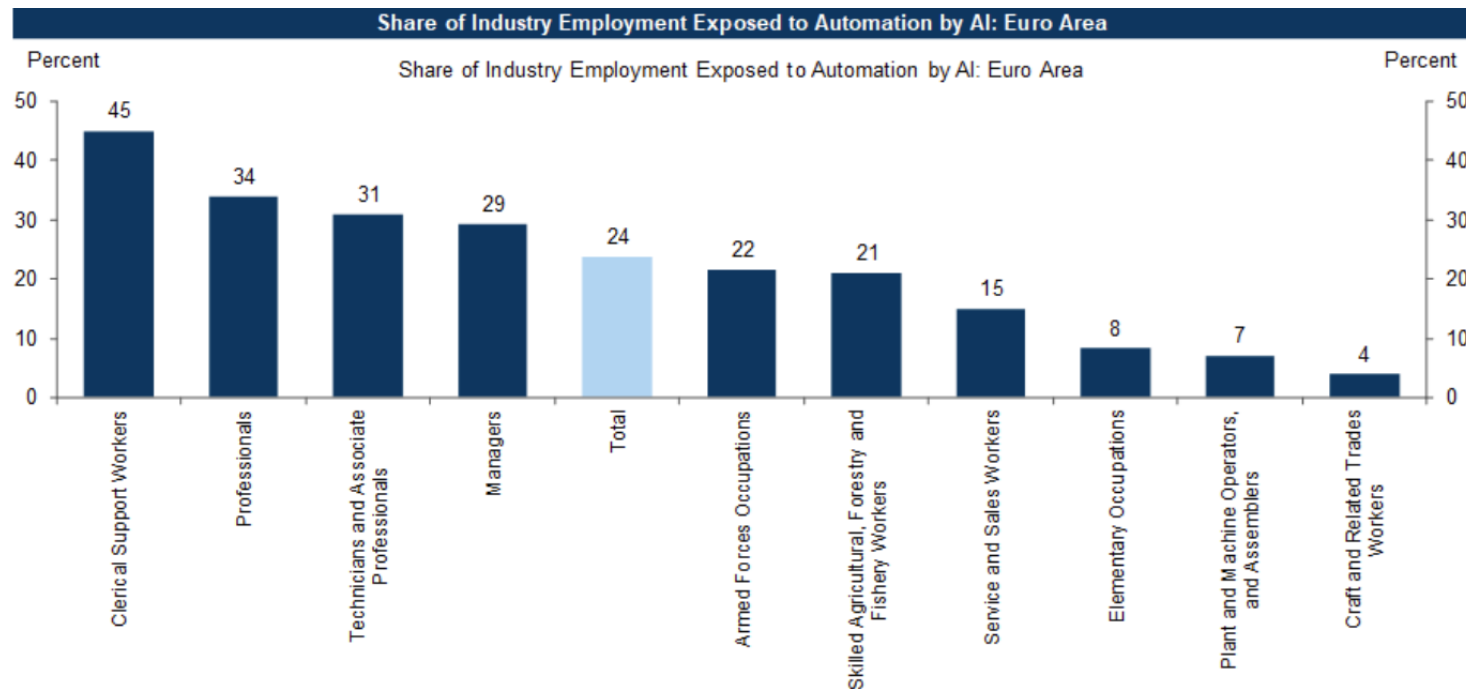
Source: Goldman Sachs Global Investment Research

[Extracted from: Global Economics Analyst, Goldman Sachs 26 March 2023](#)

Exhibit 5: One-Fourth of Current Work Tasks Could Be Automated by AI in the US and Europe



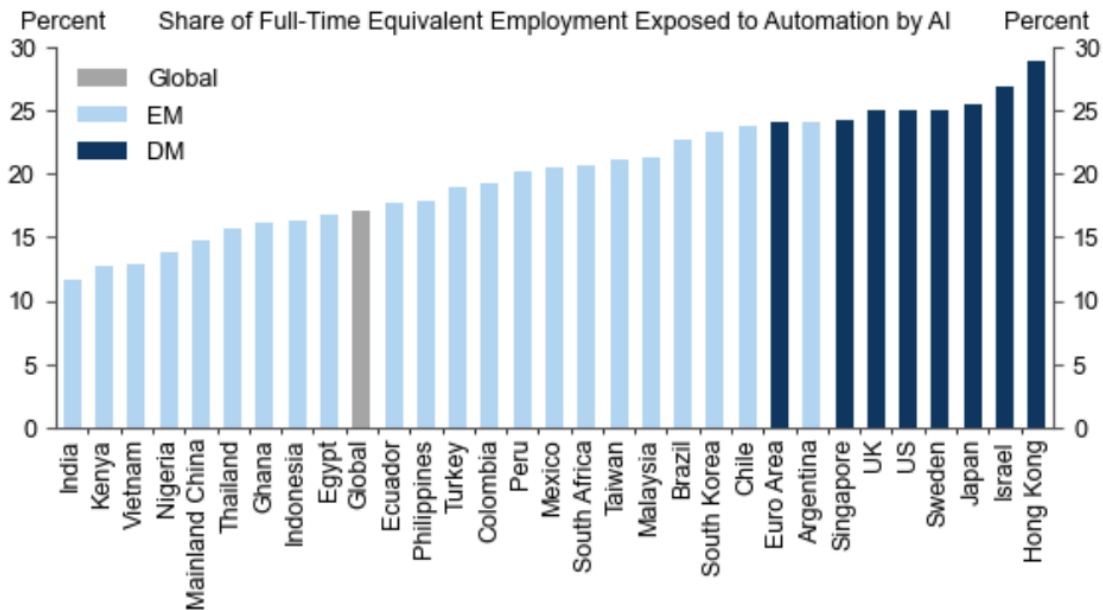
Extracted from: [Global Economics Analyst, Goldman Sachs 26 March 2023](#)



Source: Goldman Sachs Global Investment Research

[Extracted from: Global Economics Analyst, Goldman Sachs 26 March 2023](#)

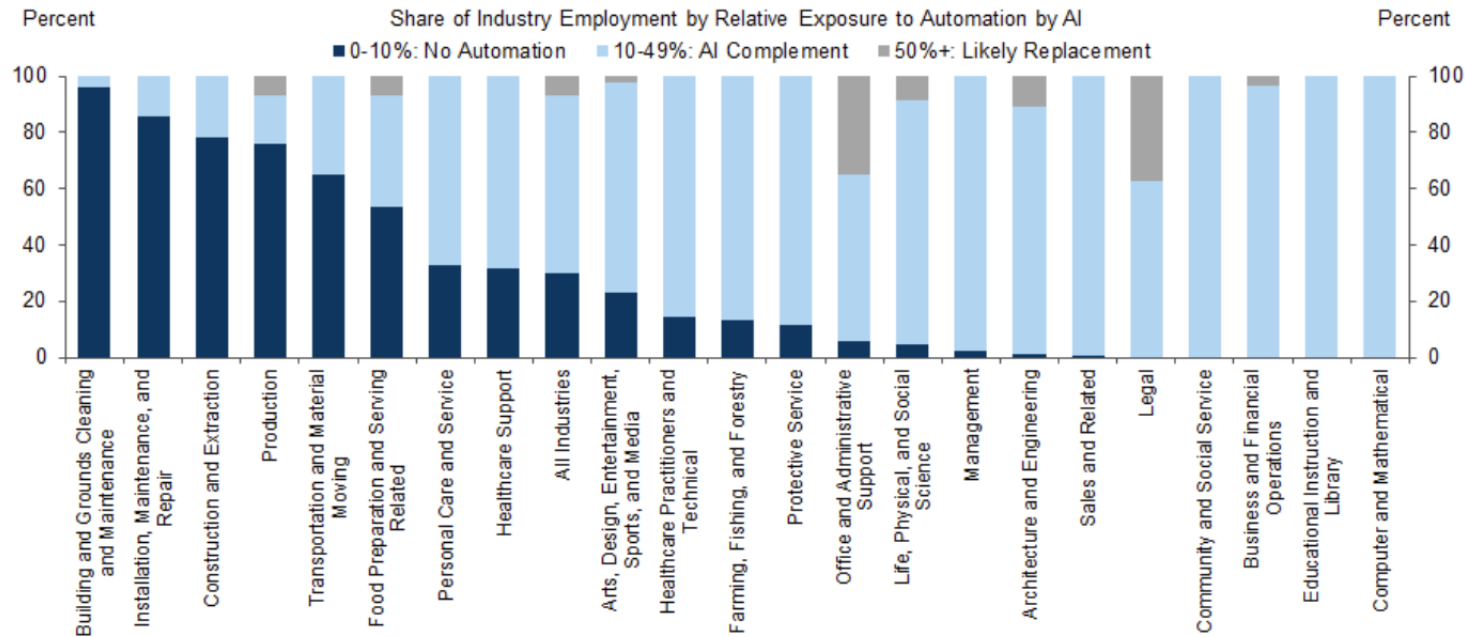
Exhibit 6: Globally, 18% of Work Could be Automated by AI, with Larger Effects in DMs than EMs



Source: Goldman Sachs Global Investment Research

[Extracted from: Global Economics Analyst, Goldman Sachs 26 March 2023](#)

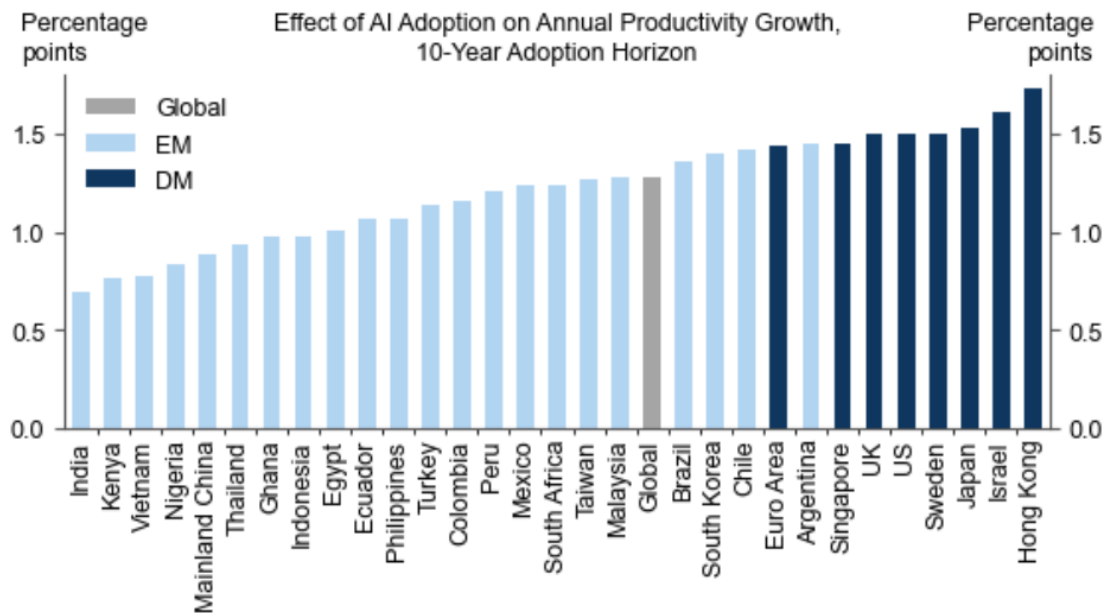
Exhibit 8: Replacement in Legal and Administrative Fields, Little Effect in Manual and Outdoor Jobs, and Productivity-Enhancement Everywhere Else



Source: Goldman Sachs Global Investment Research

[Extracted from: Global Economics Analyst, Goldman Sachs 26 March 2023](#)

Exhibit 14: Productivity Growth Boosts Could Be Sizable in Other Countries As Well; We Estimate Widespread AI Adoption Could Boost Global Annual Productivity Growth by 1.4pp Over a 10-Year Period



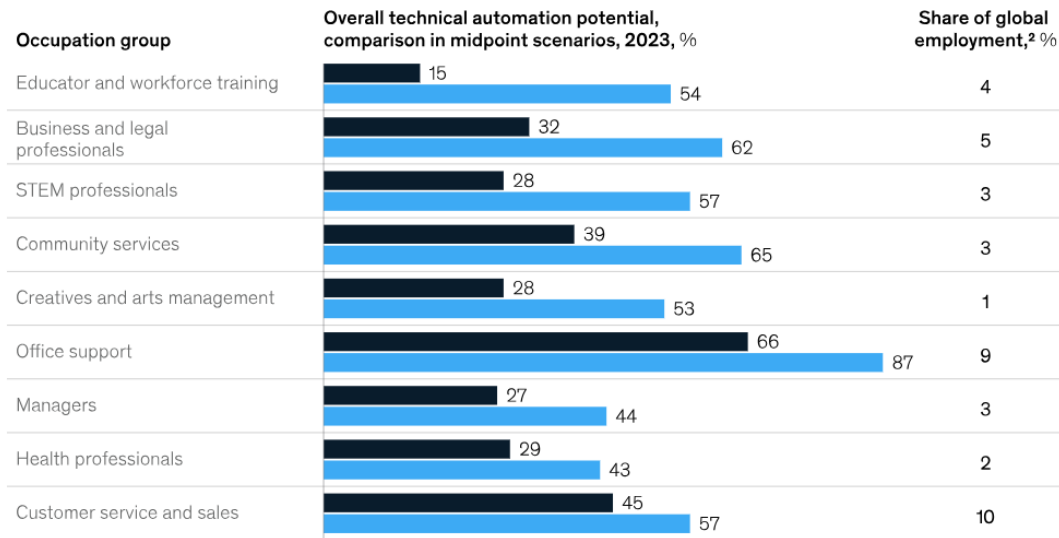
Source: Goldman Sachs Global Investment Research

[Extracted from: Global Economics Analyst, Goldman Sachs 26 March 2023](#)

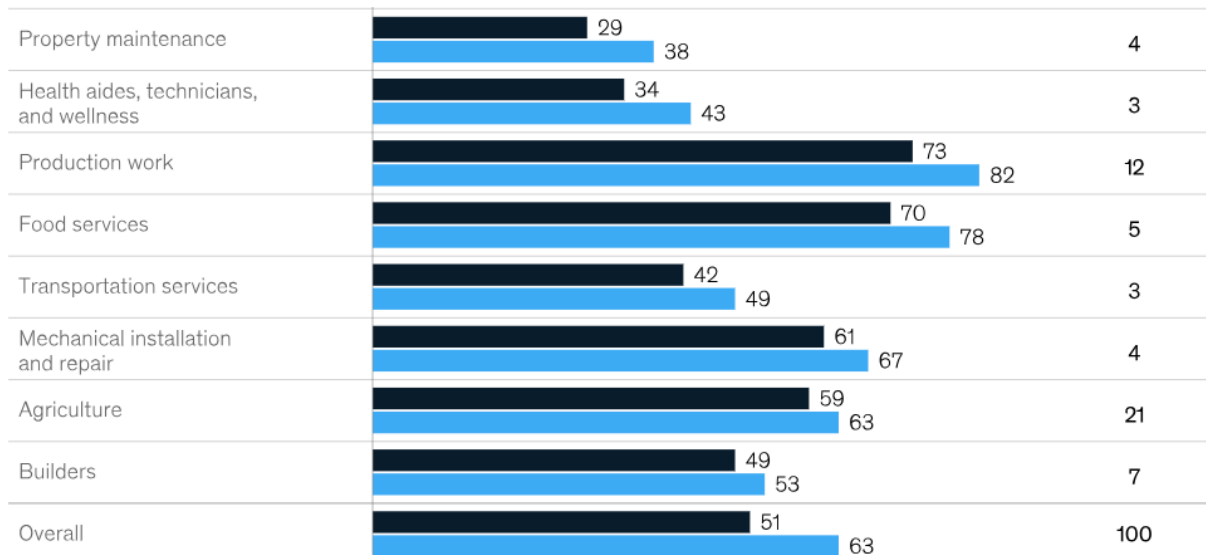
Advances in technical capabilities could have the most impact on activities performed by educators, professionals, and creatives.

Impact of generative AI on technical automation potential in midpoint scenario, 2023

■ Without generative AI¹
■ With generative AI



[Extracted from: McKinsey Blog, 25 August 2023](#)



Note: Figures may not sum, because of rounding.

¹Previous assessment of work automation before the rise of generative AI.

²Includes data from 47 countries, representing about 80% of employment across the world.

Source: McKinsey Global Institute analysis

McKinsey & Company

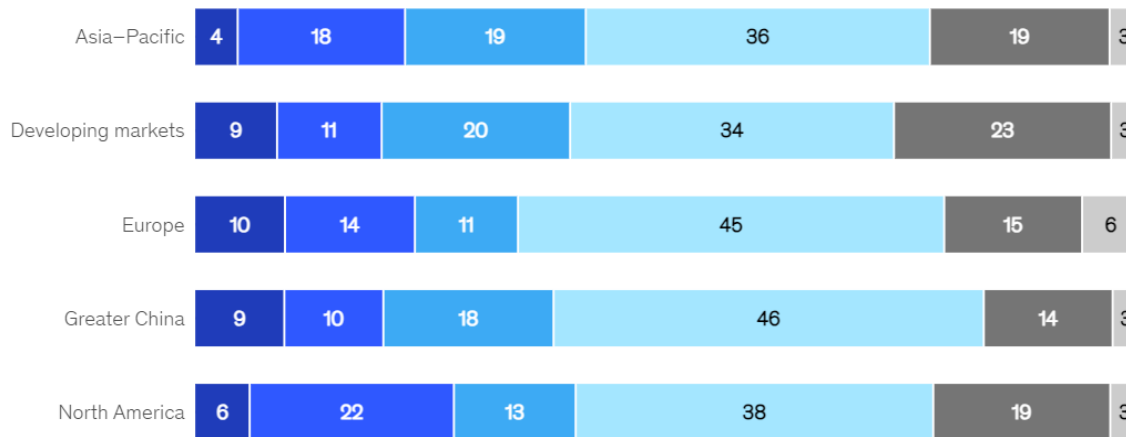
[Extracted from: McKinsey Blog, 25 August 2023](#)

Respondents across regions, industries, and seniority levels say they are already using generative AI tools.

Reported exposure to generative AI tools, % of respondents

Select demographic

■ Regularly use for work ■ Regularly use for work and outside of work ■ Regularly use outside of work
■ Have tried at least once ■ No exposure ■ Don't know



[Extracted from: McKinsey Blog, 25 August 2023](#)



- Text applications
- Image applications
- Video applications
- Audio applications
- Coding applications
- Data applications
- Bots
- Other applications

<https://www.datacamp.com/cheat-sheet/the-generative-ai-tools-landscape>

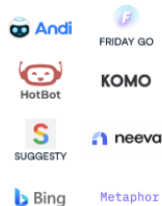


Text applications

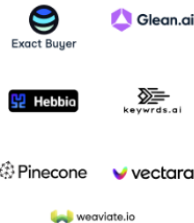
TEXT APPLICATIONS

SEARCH

Search internet



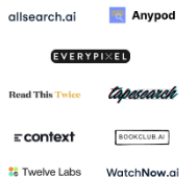
Search: Enterprise, sales, marketing & accounting



Search: Jobs



Search: Books, images, podcasts, videos & TV



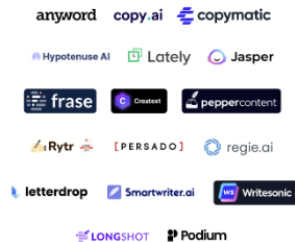
Search: Research



Search: Programming Software Development



SALES & MARKETING COPY GENERATION



EMAIL GENERATION



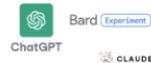
NOTE TAKING & DOCUMENT SUMMARIZATION



WRITING ASSISTANCE & TRANSLATION



CHAT



OTHER COPY GENERATION



Text applications



Microsoft Bing SEARCH CHAT

Get creative inspiration

"Write a haiku about crocodiles in outer space in the voice of a pirate"

Let's learn together. Bing is powered by AI, so surprises and mistakes are possible. Make sure to check the facts, and [share feedback](#) so we can learn and improve!

[Terms of Use](#) | [Privacy Statement](#)

Choose a conversation style

More Creative More Balanced **More Precise**

bing

Stop Responding

Ask me anything...

Feedback



I'm Bard, your creative and helpful collaborator. I have limitations and won't always get it right, but your feedback will help me improve.

Not sure where to start? You can try:

- [Draft a packing list for my weekend fishing and camping trip](#)
- [Help me understand if lightning can strike the same place twice](#)
- [Outline my blog post about summer mocktail recipes](#)

Enter a prompt here

Bard may display inaccurate or offensive information that doesn't represent Google's views.



New chat

Capabilities

- Remembers what user said earlier in the conversation
- Allows user to provide follow-up corrections
- Trained to decline inappropriate requests

Limitations

- May occasionally generate incorrect information
- May occasionally produce harmful instructions or biased content
- Limited knowledge of world and events after 2021

Send a message.

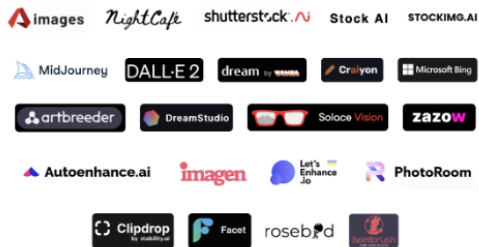
Free Research Preview. ChatGPT may produce inaccurate information about people, places, or facts. [ChatGPT May 3 Version](#)

Image applications



IMAGE APPLICATIONS

IMAGE EDITING, ENHANCEMENT & STYLE TRANSFER



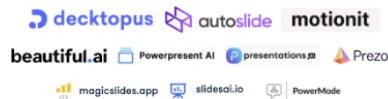
WEB DESIGN, COLOR PALETTE GENERATION



AD GENERATION



PRESENTATIONS



3D IMAGE GENERATION



DIGITAL PEOPLE GENERATION



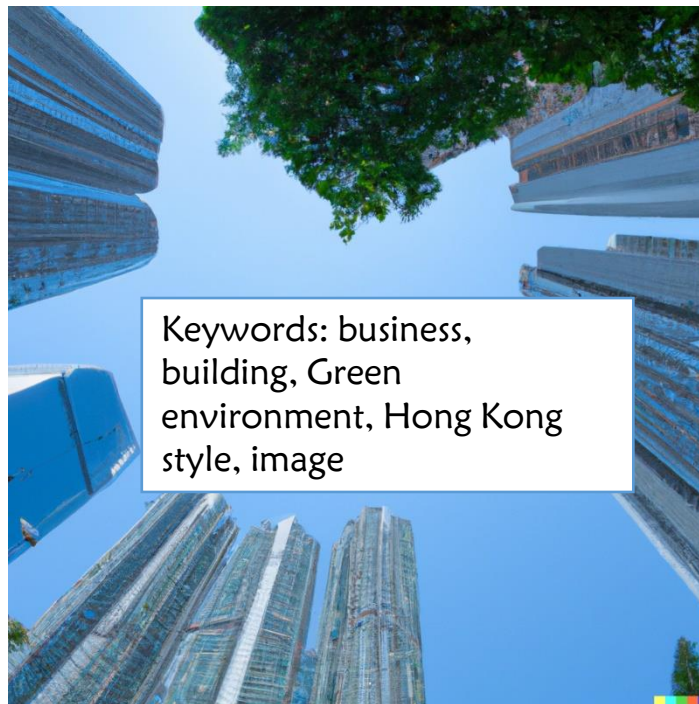
Text-to-Image generation



DALL·E 2



https://www.reddit.com/r/midjourney/comments/11s9n3w/rainy_day_in_hongkong/



Keywords: business,
building, Green
environment, Hong Kong
style, image

Image-to-Text generation



Hi, I'm Bard

Tell me what's on your mind or pick a suggestion.

L

Describe the photo.



View other drafts



The photo shows a small village in the mountains with snow covered mountains in the background.

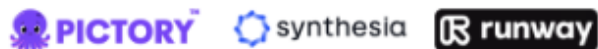
The village is nestled in a valley, with a river running through it. The houses are made of wood and stone, and have peaked roofs. There is a church in the center of the village, with a tall steeple. The mountains in the background are snow-capped and jagged. There are trees scattered throughout the village, and the snow is falling lightly.

The overall impression of the photo is one of peace and tranquility. It is a beautiful winter scene that is sure to evoke feelings of nostalgia and warmth.



VIDEO APPLICATIONS

VIDEO GENERATION FROM TEXT



VIDEO PERSONALIZATION & DERIVATIVE CONTENT GENERATION



VIDEO EDITING





[Santa introduces EDC AI Playground!?](#)



<https://research.runwayml.com/gen2>

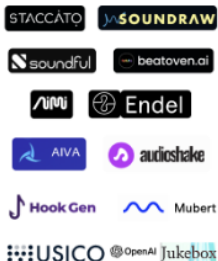
Audio applications



AUDIO APPLICATIONS

MUSIC

Music Generation



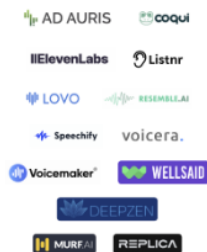
TRANSCRIPTION

Subtitles generation



SPEECH TO TEXT

Text to speech

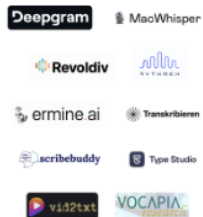


Other



TRANSCRIPTION

General

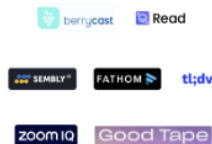


PRODUCTION

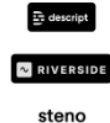
Dubbing



Note taking



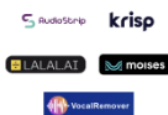
Podcast



Speech Editing & Processing



Music Editing & Processing



Coding and data applications



CODING APPLICATIONS

WEBSITE GENERATION FROM TEXT

Aspen durable

Debuild Enzyme

Galileo AI STUDIO AI

SITEKICK

WEBSITE GENERATION FROM FIGMA DESIGNS

Codis

Dhikise

Locofy

WEBSITE PERSONALIZATION & OPTIMIZATION

Aidaptive Intellimize

The.com ukit AI

DOCUMENT GENERATION

DocumentationLab DocuWriter Figlock

MINTLIFY Stenography

CODE GENERATION COMPLETION

AI Xcoder Workspace CodeAssist mutable.ai

Bito codeium GitHub COPILOT Codel CodeComplete

CodeGPT repl.it tabnine warp

CODE ANALYSIS AND DEV OPS INTELLIGENCE

Adrenaline AI Code Reviewer

Codeball Codebaud Codiga

COCKEY Metabob

What The Diff Whinger AI

DATA APPLICATIONS

AUTOMATED ANALYSIS & INSIGHTS

AI 2sql

Channel

Chat2Stats

consensus

DATAHERALD

Defog

Finale.ai

GenerativeBI

Kanaries

Lookup

ProbeAI

STRING

MAYA

QueryGenie

SQL Genius (beta)

syml.ai

TableTalk

windsor.ai

SYNTHETIC TRAINING DATA GENERATION

datagen

gretel

Mirry.AI

SYNTEGRA

Synthesis AI

MOSTLY AI

MACHINE LEARNING & DATA OPS

airOps

aporia

beam

featureform

deepset

GANTRY

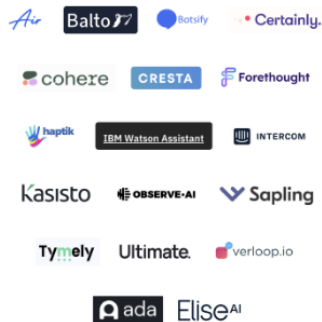
lang.ai

Bots and other applications



BOTS

CHATBOTS



PERSONAL ASSISTANTS & AI AGENTS



OTHER APPLICATIONS

GAMING



LANGUAGE LEARNING



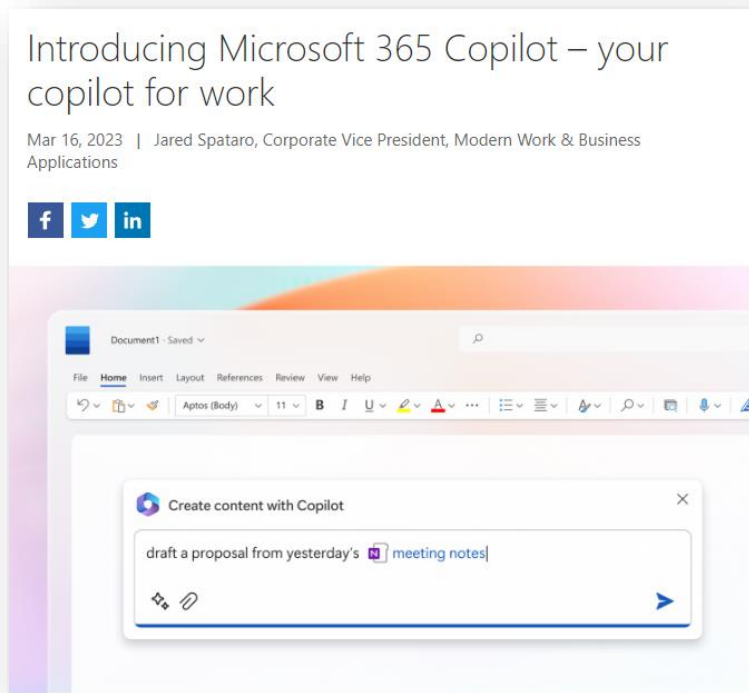
MISCELLANEOUS



DRUG DEVELOPMENT



Foreseeable Usage of GenAI Tools in the Workplace



<https://blogs.microsoft.com/blog/2023/03/16/introducing-microsoft-365-copilot-your-copilot-for-work/>



Introducing Microsoft 365 Copilot with Outlook, PowerPoint, Excel, and OneNote

Microsoft
998K subscribers

Subscribe

7.5K

Share

468K views · 3 weeks ago

Planning a grad party? Microsoft 365 Copilot has you covered. Learn how Microsoft 365 Copilot seamlessly integrates into the apps you use every day to turn your words into the most powerful productivity tool on the planet.

Show more

<https://www.youtube.com/watch?v=ebls5x-gb0s>



Topics related to work	Start	End
Brief introduction on how MS 365 Copilot will be used in business	5:18	5:32
Case 1: Writing a proposal		
• Use the contents from OneNote and another Word to create a proposal • Format the proposal based on the format of another Word • Add summary at the top and FAQ at the bottom of the proposal	5:43	6:38
Case 2: Creating a PPT presentation		
• Create slides based on the contents of a word doc • Add a specific slide by a prompt • Modify and animate a slide • Generate speaker notes	6:39	8:00
Case 3: Analysing some sales data		
• Use prompt to ask Excel to analyse the data • Create a summary worksheet • Assist you to analyse the data (format the colour of the data and create tables and charts for further analysis using prompt)	8:00	9:34
Case 4: Enhancing the user experience in using Outlook		
• Highlight and prioritise some important emails • Summarise the long email • Draft a reply based on the contents from an Excel file	9:34	10:44

Google I/O: Recap Video



Google I/O '23 in under 10 minutes



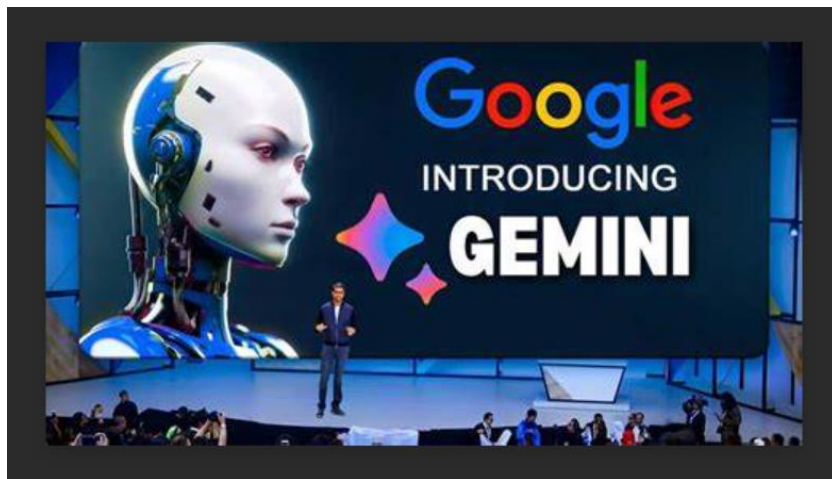
	Topics related to work	Start	End
Google Bard	- Voice feature - Coding	1:42	2:39
Google Workspace	AI integration in Gmail, Google Docs, Google Slides, Google Sheets e.g. creating slides with prompts	2:39	3:04
	Creating texts with prompts	3:04	3:30
Google Search	Enhancement	3:30	4:22

<https://www.youtube.com/watch?v=QpBTM0GO6xI>

Image-to-speech -> Multimodal conversation



Last Wednesday 2023-12-06 Google launched AI model Gemini, built to be multimodal and multisensory: operate across a combination of information in the form of text, code, audio, image and video.



Gemini: Explaining reasoning in math and physics

<https://youtu.be/K4pX1VAxaAI?si=uV9Xg4Q8Ja1ggORi>

Hands-on with Gemini: Interacting with multimodal AI

<https://youtu.be/UIZAiXYceBI?si=hRVazzQySQi92xU3>

Artificial Intelligence Act: deal on comprehensive rules for trustworthy AI

Press Releases IMCO LIBE 09-12-2023 - 00:04

- 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

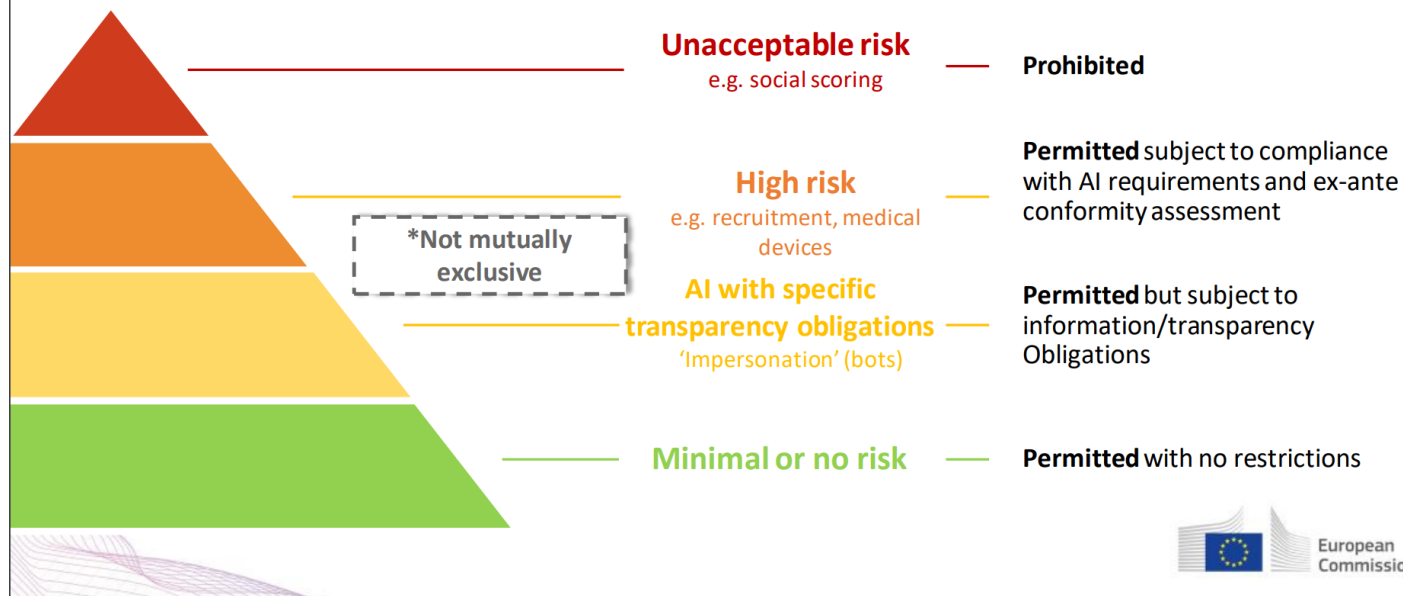
Banned applications

Recognising the potential threat to citizens' rights and democracy posed by certain applications of AI, the co-legislators agreed to prohibit:

- biometric categorisation systems that use sensitive characteristics (e.g. political, religious, philosophical beliefs, sexual orientation, race);
- untargeted scraping of facial images from the internet or CCTV footage to create facial recognition databases;
- emotion recognition in the workplace and educational institutions;
- social scoring based on social behaviour or personal characteristics;
- AI systems that manipulate human behaviour to circumvent their free will;
- AI used to exploit the vulnerabilities of people (due to their age, disability, social or economic situation).

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

A risk-based approach to regulation





Pitfalls of GenAI Tools



can you solve the equation: $4x+3=15$

Sure! To solve the equation $4x + 3 = 15$, we can start by subtracting 3 from both sides to get $4x = 12$. Then, we can divide both sides by 4 to get $x = 3$. So the solution to the equation is $x = 3$.

1 of 20 ●

how about $4x^2 + 4x + 1 = 0$

Sure! The given equation is a quadratic equation of the form $ax^2 + bx + c = 0$, where $a = 4$, $b = 4$, and $c = 1$. We can use the quadratic formula to solve for x :

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Substituting the values of a , b , and c into the formula, we get:

$$x = \frac{-4 \pm \sqrt{4^2 - 4 \cdot 4 \cdot 1}}{2 \cdot 4}$$

Simplifying this expression, we find that x can take on two values: -0.5 and -1 . So the solutions to the equation are $x = -0.5$ and $x = -1$.

2 of 20 ●

Accuracy issues



solve $5x^3 - 3x^2 + 2x - 1 = 0$



This is a cubic equation and it doesn't have a simple solution. The solutions can be found using Cardano's method, but it's quite complex and involves a lot of steps.

However, we can use a numerical method to find the approximate solutions. Using a calculator or a computer program, we can find that the solutions are approximately:

$$x \approx 0.201639675723404$$

$$x \approx -0.280819837861702$$

$$x \approx 0.979180162138298$$

Please note that these are approximate solutions. The exact solutions are complex and involve roots of complex numbers.



solve $5x^3 - 3x^2 + 2x - 1 = 0$



This is a cubic equation and it doesn't have a simple solution. The solutions can be found using Cardano's method, but it's quite complex and not usually taught until college-level math.

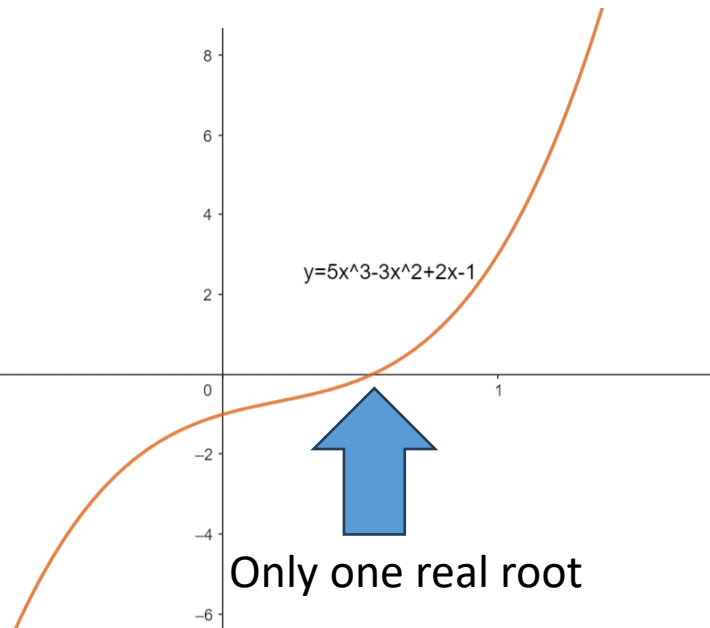
However, we can use a numerical method to find the approximate solutions. Using a calculator or software, the solutions are approximately:

$$x \approx 0.201, x \approx -0.652, \text{ and } x \approx 0.951.$$

Please note that these are rounded to three decimal places. The exact solutions are irrational numbers that can't be expressed exactly as finite decimals.



GeoGebra



Forbes

FORBES > BUSINESS

BREAKING

Lawyer Used ChatGPT In Court— And Cited Fake Cases. A Judge Is Considering Sanctions

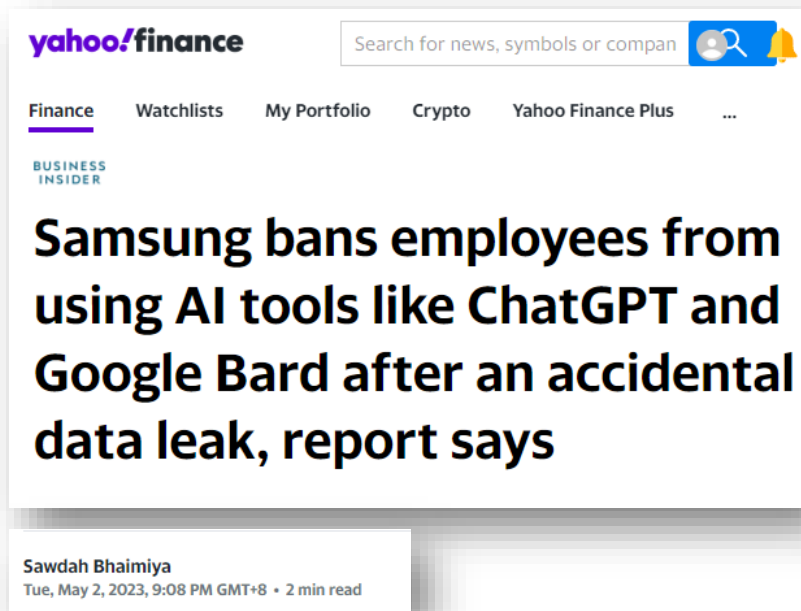
Molly Bohannon Forbes Staff

I cover breaking news.

Follow

Jun 8, 2023, 02:06pm EDT

<https://www.forbes.com/sites/mollybohannon/2023/06/08/lawyer-used-chatgpt-in-court-and-cited-fake-cases-a-judge-is-considering-sanctions/?sh=70ecd2a87c7f>



<https://finance.yahoo.com/news/samsung-bans-employees-using-ai-130806711.html>



March 20 ChatGPT outage: Here's what happened

An update on our findings, the actions we've taken, and technical details of the bug.

March 24, 2023

Authors
OpenAI ↓

Upon deeper investigation, we also discovered that the same bug may have caused the unintentional visibility of payment-related information of 1.2% of the ChatGPT Plus subscribers who were **active** during a specific nine-hour window. In the hours before we took ChatGPT offline on Monday, it was possible for some users to see another **active** user's first and last name, email address, payment address, credit card type and the last four digits (only) of a credit card number, and credit card expiration date. Full credit card numbers were not exposed at any time.

<https://openai.com/blog/march-20-chatgpt-outage>

Poe Privacy Policy

This Poe Privacy Policy ("Privacy Policy") describes how your personal information is processed when you use Poe, a platform that lets you communicate with bots powered by LLMs. This Privacy Policy applies to activities by Quora, Inc. and its affiliates and subsidiaries (collectively "Quora," "we" or "us"). The [Quora Privacy Policy](#) is incorporated by reference. Quora Inc. is the data controller of your personal information and is responsible for providing you with this

Keep in mind, any information you provide to the bots on Poe will be shared with third party LLM providers and developers powering the bots, and there is no need to share sensitive personal information with the bots (e.g., credit card information, social security information, etc.). For more information about the LLM providers and bot developers, please see the respective bot profiles.

which they may process in their legitimate business interests. Your Poe user account information (e.g., username and email) is not shared with any third party LLMs or developers. Third party developers who create bots on Poe using APIs may view and store your chats on their servers in order to train their models.

Keep in mind, any information you provide to the bots on Poe will be shared with third party LLM providers and developers powering the bots, and there is no need to share sensitive personal information with the bots (e.g., credit card information, social security information, etc.). For more information about the LLM providers and bot developers, please see the respective bot profiles.

For more information about our privacy and data protection practices, including how to exercise your privacy rights, please visit the [Quora Privacy Policy](#).

Contact Us

Please contact our Data Protection Officer at privacy@quora.com if you have questions about this Privacy Policy.

Last Updated: May 4, 2023

Last Updated: May 4, 2023

Please contact our Data Protection Officer at privacy@quora.com if you have questions about this Privacy Policy.

Contact Us

Intellectual Property

Generative AI Has an Intellectual Property Problem

by Gil Appel, Juliana Neelbauer, and David A. Schweidel

April 07, 2023

<https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem>

US Copyright Office: AI Generated Works Are Not Eligible for Copyright



BY SHANTI ESCALANTE-DE MATTEI  March 21, 2023 11:48am



<https://www.artnews.com/art-news/news/ai-generator-art-text-us-copyright-policy-1234661683/>



Q: How is AI affecting education?

A: AI is transforming the educational sector in real time. This new class of tool is reshaping how students learn, educators teach, and institutions function, requiring each of these stakeholders to grapple with both the positive and negative implications of AI in multiple domains."

(Hughes, 2023, p.2)

Q: Is using GenAI the same as using Google search?

A: Using GenAI tool for learning "is **different** to the **use of search engines**, where learners are given options and critical thinking skills are applied to **synthesise information from a variety of sources** (Knight & Littleton, 2015).

When learners interact with ChatGPT, **the information is already synthesised**, without attribution to sources (unless specifically requested)." (Lodge et al, 2023, p.4)

As Jeff Maggioncalda, CEO of Coursera states that “**people using ChatGPT will not only outsource writing but also the thinking**”,

and outsourcing critical thinking to the technology can be **vulnerable to manipulation and misinformation** and harmful to the whole society (HR Observer, 2023).

Q: How much is GenAI used in higher education?

A: In a poll conducted by Muscanell and Robert (2023), which involved **1,070 HE educators and member organisations** in EDUCAUSE Community Groups:

54% of staff : GenAI has already impacted **one or more areas of teaching and learning**

37% : influenced undergraduate teaching

30% : impacted graduate teaching and faculty development

24% : integrated GenAI in in-class activities

22% : used in course assignments

21% : implemented or are planning to implement GenAI tools in writing reports, manuscripts, and proposals

Challenges Posed by GenAI on Higher Education



Institutions are facing roadblocks in their work related to AI.

When planning to respond to the impacts of AI in higher education, institutions must consider the risks of being faced with certain challenges, such as:

- An uncoordinated response at the institutional level;
- A rapid pace of change and a lack of familiarity with tools;
- Polarized views around AI;
- Competing needs of faculty, and lack of alignment across programs and academic departments;
- Limited capacity to develop policies and guidelines, or quickly adapt courses and assessments.

[HESA's AI Roundtable: Governance and policy \(August 28, 2023\)](#)

Challenges Posed by GenAI on Higher Education



Very few institutions have yet managed to develop comprehensive policies governing the use of GenAI beyond teaching and learning (Usher & Desforges, 2023)

The most pressing tasks for many tertiary education is to make sense of what GenAI is among teachers and students;

- explore the role of GenAI in learning and teaching, especially on personalised and adaptive learning;
- consider the effects of GenAI on assessment integrity; and
- beware of the ethical pitfalls of GenAI

(Lodge et al., 2023)

Fostering AI literacy in staff and students is recognised as a pivotal goal and an essential graduate outcome (Liu et al., 2023)

Challenges Posed by GenAI on Higher Education

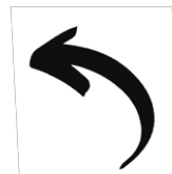


Fostering AI literacy in staff and students is recognised as a pivotal goal and an essential graduate outcome (Liu et al., 2023)



Draft AI competency frameworks for teachers and for school students

Aspects	Progression		
	Acquisition	Deepening	Creation
Human-centred mindset	Benefit-risk analysis	Human accountability	AI society responsibility/ Social human agency
Ethics of AI	Ethical principles	Safe and responsible uses	Co-creating commons of AI ethics
AI foundations & applications	Basic AI technique and applications	Application skills	Creating with AI
AI pedagogy	AI-assisted teaching	AI-pedagogy integration	AI-enhanced pedagogical transformation
AI for professional development	AI as enabler of lifelong professional learning	AI to enhance organizational learning	AI to support professional transformation



**AI competency
framework for
teachers
(AI CFT)
under
development**

https://www.unesco.org/sites/default/files/medias/fichiers/2023/12/UNESCO-Draft-AI-competency-frameworks-for-teachers-and-school-students_0.pdf

Challenges Posed by GenAI on Higher Education



Draft AI competency frameworks for teachers and for school students

AI competency
framework for
school students
(AI CFS)
*under
development*



Aspects	Progression		
	Understand	Apply	Create
Human-centred mindset	Human agency	Human advancement	Citizenship in the AI era
Ethics of AI	Critical reflections on AI	Safe and responsible Use	Ethics by design
AI techniques and applications	AI foundations	Application skills	Creating with AI
AI system design	Problem scoping	Architecture design	Iteration and feedback loops



Recall

Q: How is AI affecting education?

A: AI is transforming the educational sector in real time. This new class of tool is

reshaping how students learn,

educators teach, and

institutions function,

requiring each of these stakeholders to grapple with both the positive and negative implications of AI in multiple domains."

(Hughes, 2023, p.2)

For staff

POLYU'S STANCE

PolyU takes an open and forward-looking stance on the use of GenAI tools as a positive and creative force in education, and the incorporation of such use in innovative learning, teaching, and assessment practices. It is expected that the usage of GenAI will become a normal part of learning, teaching, and assessment from 2023/24 Semester One. While embracing the use of new technology in education, PolyU upholds the principle that students should be accountable for their own work. It is recognised that there are circumstances where the use of AI tools can defeat the purpose of authentic learning or assessment. In such cases, the department, the programme, and the subject concerned have the responsibility to inform students of the need to ensure academic integrity, the relevant requirements, and the consequences of breaching these requirements.

https://www2.polyu.edu.hk/lte/4_POLICY/files/GAI/Guidelines_on_the_use_of_generative_AI.pdf

GUIDELINES ON THE USE OF GENERATIVE AI IN ASSESSMENT

From the 2023/24 academic year onwards, the university community should be prepared to integrate GenAI in learning, teaching, and assessment. The guidelines below apply to assessments in all subjects at all levels.

1. Students may use GenAI in assessment unless they have been told otherwise before the assessment. Notwithstanding, PolyU upholds the principle that students should be accountable for their own work. While using GenAI in assessment may be acceptable, claiming any piece of work, large or small, generated by AI as one's own is not. Such behaviour will be considered as an act that violates academic integrity (see also Point 3 below). AI output used in assessment tasks should be properly referenced¹.

2. Assessment tasks and rubrics (including assessment criteria and descriptors) should be designed to assess student learning outcomes in ways that will not be undermined by the use of GenAI by students. Where the use of AI tools can defeat the purpose of authentic learning or assessment (e.g. due to the nature of the learning outcome being assessed), the department, the programme, and the subject concerned have the responsibility to inform students of the need to ensure academic integrity, the relevant requirements, and the consequences of breaching these requirements.

and a statement should be included in the subject and assessment documents to make this clear to students

3. For assessments in which reasonable use of GenAI tools is deemed acceptable, students can be required to declare the use of GenAI in their work, using a template such as this:

- ☐ I/We declare that Generative AI tools have not been used to produce the submitted work.
- ☐ I/We declare that Generative AI tools have been used to prepare the submitted work. The Generative AI tools used and the manner in which they were used are as follows:



For students

Guidelines for Students on the Use of Generative Artificial Intelligence

(Effective from 2022/23 Summer Term)

PolyU's stance

PolyU takes an open and forward-looking stance on the use of generative artificial intelligence (GenAI) tools (such as ChatGPT) as a positive and creative force in education, and the incorporation of such use in innovative learning, teaching, and assessment practices. While embracing the use of new technology in education, PolyU upholds the principle that students must adhere to high standards of academic integrity in all forms of assessments. The Student Code of Conduct and the policy on academic integrity apply to the use of GenAI in student work.

Using GenAI
critically

Using GenAI
ethically

Using GenAI
wisely

Respect your own work and the work of others

In accordance with the above stance, the University emphasises that:

- students are accountable for their own work; and
- the use of GenAI (if permitted) in student work should be properly acknowledged.

The following guidelines apply to all subjects and levels of assessment:

1. The use of GenAI tools may or may not be allowed in a subject, depending on the nature of the subject and the objectives of the assessment tasks. You should refer to your subject and assessment documents to check if you may use GenAI tools in your assessments.



2. All the work you submit for assessment should be **YOUR OWN ORIGINAL** work. Asking GenAI to do the assignment for you and submitting the work generated by GenAI, in part or in whole, as your own (even in paraphrased form) constitute an act of academic dishonesty; it is no different from asking another person to write your assignment or claiming others' ideas as your own.
3. For assessments that permit the use of GenAI tools, you may be required to declare the use of such tools and how they have been used in a form similar to the following:

I/We declare that Generative AI tools have been used to prepare the submitted work. The Generative AI tools used and the manner in which they were used are as follows:

4. If you use AI-generated materials in your work, you must reference them in accordance with accepted academic conventions (e.g. APA or MLA styles).
5. For assessments where any use of AI-generated materials is not permitted, students who are found to have submitted AI-generated materials as their own work or part of their work constitute an act of academic dishonesty. Students who are found committing academic dishonesty will face disciplinary actions.

Immediate considerations

Help teachers and students to

- make sense of what GenAI is and
- beware of the ethical pitfalls of GenAI

Recognise and consider the effects of GenAI on assessment integrity

Redesign assessment so that whatever GenAI tools are used, academic integrity will still not be compromised

Longer-term planning

What skills or knowledge should our future graduates possess in order to participate ethically and actively in a society pervaded with AI? How can we enhance their AI literacy to create and tailor AI products?

What is the role of GenAI in learning and teaching (and assessment)? What are the long-term impacts of GenAI on teaching and learning – and beyond?

What (inter-institutional) policies should be developed to govern the use of GenAI in higher education?

United Kingdom

•In the UK, the **Russell Group**, a consortium of 24 world-class research-intensive universities, announced a **joint statement in July 2023** acknowledging the **risks and opportunities associated with GenAI in education** and affirmed its commitment to supporting responsible and ethical use of GenAI among students and staff (The Russell Group, 2023).

The **five principles** set out in the Russell Group's joint statement are:

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

PolyU-led 8-university project in HK



Curriculum design at times of VUCA/TUNA



https://finance.yahoo.com/news/millennials-or-get-z-who-is-doing-the-most-job-hopping-112733374.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLnVvbS8&guce_referrer_sig=AQAAAB-PexDoTjd2u_paqFcBvV49yHz3J9a95h-nkjk4p8xLU03Mdw_r-MDP0_ztbLtx4Ahtv56xjpY8SKGAwRAoDJuxnkt9FxBNldpi1N-QIVQuDr9nklVmdgd0yQInI4vkRH-x8ZCk5gRTWdzDBjYEazSiDEmGj0qvdh7zc3Najq

- Expect to see more frequent job changes in the future
- Need knowledge/skills different from what they are studying in university
- Need communication skills, persuasion skills, empathy

Curriculum design at times of VUCA/TUNA



VUCA = ?
TUNA = ?



<https://ocwildseafood.com/blogs/recipes/ahi-tuna-sashimi>

VUCA = volatility, uncertainty,
complexity, ambiguity

TUNA = turbulence, uncertainty,
novelty, ambiguity

Keynote speech:
National University of
Singapore conference

**Curriculum innovations:
preparing students for VUCA/TUNA**

Teaching English and Communication
in Higher Education



Centre for English
Language Communication

6TH CELC SYMPOSIUM 6TH CELC SYMPOSIUM PROCEEDINGS

FUTURE-LOOKING PRINCIPLE-BASED CURRICULUM
INNOVATIONS by Julia CHEN

[LINK TO NUS CELC WEBSITE](#)

Keywords: Pandemic, VUCA, principle-based, curriculum innovation, new literacies, English Across the Curriculum

<https://blog.nus.edu.sg/celcblog/2022/11/09/future-looking-principle-based-curriculum-innovations-by-julia-chen-2/>

Professional development for teaching staff



1st professional development workshop for teaching staff
among UGC-funded universities

ChatGPT: Challenges, Opportunities and Responses to AI in University Education

Facilitators (in order of appearance):
16 February 2023
Thursday
12:45-14:15
Online via Zoom

Facilitators (in order of appearance):
Dr Julia Chen (EDC)
Mr Darren Harbutt (EDC)
Mr Dick Chan (EDC)
Mr Adam Forrester (ELC)
Prof Song Guo (COMP)
Dr Melody Lu (CPCE)
Prof Eric Fingal (ENGL)

Importance of
hearing student
voices



STUDENT VOICES ON CHAT GPT: LEARNERS' VIEWS ON GENERATIVE AI TOOLS

Thursday 23 March 2023
12.30 - 14.00
BC401 & Online via Zoom

Honourable moderator for Q&A session:
Prof David Shum, Dean (FHSS)

Speakers:
Students from different disciplines

Examples of GenAI-expected assessment that deepen students' learning experience

Speakers (in order of appearance):
Dr Julia Chen, EDC
Dr Rodnev Chiu, APSS
Prof. Dr. J. C. ABC
Prof. Dr. ELC

Generative AI in Teaching, Learning and Assessment: Issues and Opportunities

Presenter
Simon Bates
Provost and Associate Vice-President, Teaching and Learning, Pro Tem, School of Teaching, Department of Physics and Astronomy, University of British Columbia (UBC), Canada

Assessment re-designs for the generative AI era

22 August 2023
Tuesday
2:30pm - 4:00pm
BC401 and Online via ZOOM

Presenter
Prof. David Carless

A conversation with **DIRECTORS**:

HOW UGC-FUNDED INSTITUTIONS ARE ADDRESSING **GENERATIVE AI** IN **LEARNING, TEACHING,** AND **ASSESSMENT**

Monday 8 May 2023
3.00-4.30pm
Hybrid

HK PolyU Global Student Hub (T core podium) and online via zoom

Join a panel of the Directors of the educational development/enhancement centres in UGC-funded institutions in this hybrid seminar in which they explain their respective institutions' stance and actions towards the use of Generative AI in learning, teaching and assessment.

It is our honour that the UGC Secretary-General will facilitate the panel discussion.

Examples of how assessment and learning activities are re-designed in different institutions to leverage the use of Generative AI will be presented, with sharing from teachers and students.

WELCOME
ADDRESS:



Prof. Robert T. L. Shuk
Associate Vice President
Undergraduate Programme
The Chinese University of Hong Kong

FACILITATOR:



Prof. James Tang
Secretary-General, UGC
University Grants Committee Secretariat

SPEAKERS:



Prof. Kenneth Luk
Director
Centre for Learning Innovation
The Hong Kong Baptist University



Dr. Cecilia Leung
Director
Centre for Learning Innovation
The Hong Kong Baptist University



Prof. Chan Ho Wai, Cecilia
Director
The Centre for Learning Innovation
The Chinese University of Hong Kong



Prof. King Sit Cheung
Director
The Centre for Learning Innovation
The Chinese University of Hong Kong



Prof. James Tang
Secretary-General, UGC
University Grants Committee Secretariat



Dr. Julia Chen
Director
The Hong Kong Baptist University



Dr. Simon McMan
Director
The Hong Kong Baptist University



Dr. Cecilia KY Chan
Associate Director
The Centre for Learning Innovation
The Chinese University of Hong Kong

And sharing from teachers and students

REGISTRATION:



For staff and students



For staff and students



Developing GenAI literacy



Re-designing text-based questions in response to generative AI

EDC, PolyU



EDC Educational Development Centre
教學發展中心

Home / [Explore a topic](#) / Generative AI

Generative AI



Find booking link to AI Playground from <https://www.polyu.edu.hk/en/edc/explore-a-topic/generative-ai/>

PolyU GenAI

ChatGPT

Model: gpt-3.5-turbo (0613)

You can steer chat conversation towards a desired length, format, style, level of details and language used. Please refer to [Hints & Tips on using ChatGPT](#) for details.

GPT-4

Model: gpt-4 (0613)

Model has more trained data compared with ChatGPT and can handle conversation with increased accuracy and precision.

Microsoft Bing Chat

Launched Feb 2023, the new search engine built into Microsoft Edge browser includes conversational AI chatbot running a version of OpenAI model enhanced by Microsoft. Please refer to [Microsoft Bing Chat User Guide](#) for details.

Image To Text

Service leverages Azure Cloud Cognitive Image AI models and ChatGPT to provide textual response based on your upload image and input prompt. Please refer to [Hints & Tips on image to generate text](#).

Text To Image

Service leverages Stability.ai Cloud Stable Diffusion SDXL model to generate image based on your input prompt. Please refer to [Hints & Tips on text to generate image](#).

2023 EdTech Heroes Award

2023/10/13



<https://edtech-heroes.hk/>

edtech heroes award [HOME](#) [THE AWARD](#) [ASSESSMENT](#) [WHO WE ARE](#) [EN](#)

Congratulations to the Award Winners!

Congratulations to the Award Winners!

Learning Experience Award
Educational Development Centre, The Hong Kong Polytechnic University

Po Leung Kuk Choi Kai Yau School	MTR Operations Training Department
Choice of Solution Award BrainX Training Center	Stakeholder Engagement Award Law, Innovation, Technology & Entrepreneurship Lab, Faculty of Law, The University of Hong Kong
Implementation Award Fukien Secondary School Affiliated School	Choice of Solution Award Soruki EdTech Limited, The University of Hong Kong
Learning Experience Award Kowloon Bay St. John The Baptist Catholic Primary School	Implementation Award HKUST Digital MBA for Global Leaders, The Hong Kong University of Science and Technology
Learning Experience Award Educational Development Centre, The Hong Kong Polytechnic University	

[Home](#)[Admitted in 2021/22 or before](#)[Admitted from 2022/23](#)

The GUR Subjects Library is a database of subjects that can fulfil the General University Requirements.



2021
2022

Admitted in 2021/22 or before +

Admitted from 2022/23 -

Artificial Intelligence and Data
Analytics Requirement

Innovation and Entrepreneurship
Requirement

Language & Communication
Requirements

Leadership Education and
Development

Cluster-Area Requirements

Service-Learning

Healthy Lifestyle

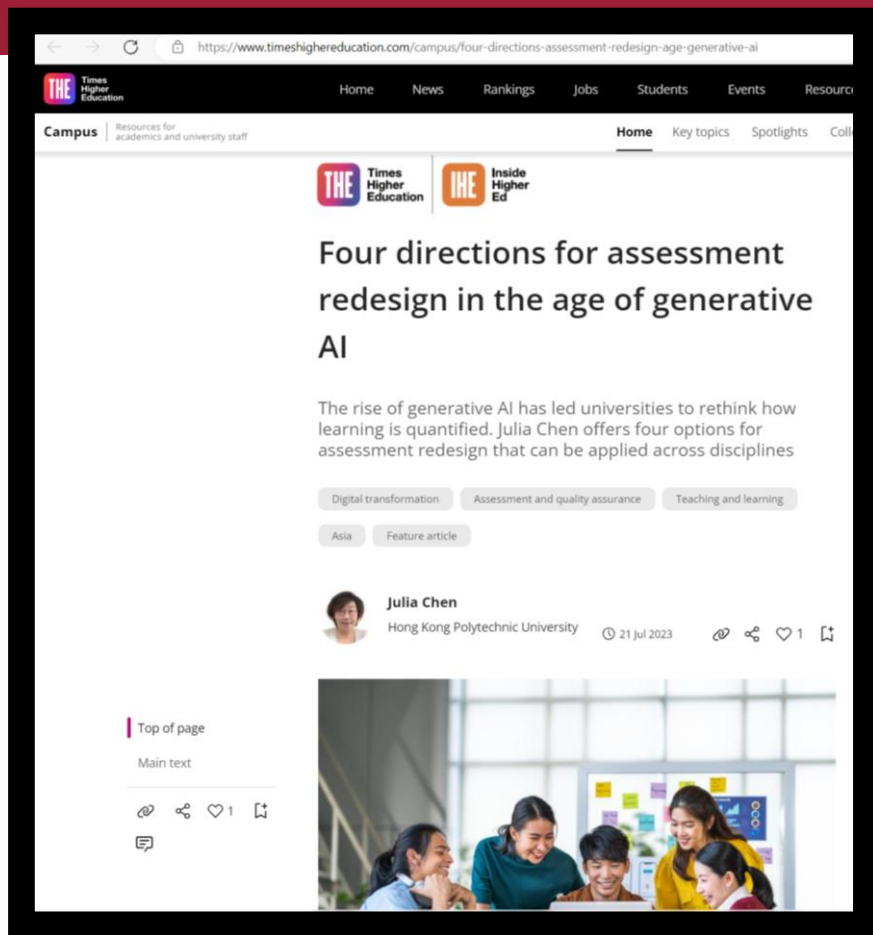
Essential Components of General
Education (for Senior Year Intakes and
Articulation Degree Programme
Students)

Curriculum Structure for students admitted from 2022/23:

General University Requirements 30 Credits		Major Study 66-102 Credits	
CAR	Credit	Capstone Projects	
Cluster-Area Requirements	12	Work-Integrated Education (WIE)	
LCR		Common underpinning subject(s) for the Broad Discipline	
Language and Communication Requirements	9	Discipline-Specific subjects for Major Study	
SL		Include a minimum of 4 credit Discipline-Specific Language Requirements (2 credits in English and 2 credits in Chinese)	
Service-Learning	3		
LEAD			
Leadership Education and Development	3		
AIDA		Secondary Major/ Minor Study/ Free Electives	
Artificial Intelligence and Data Analytics Requirement	2	Remaining Credits	
IE			Credit
Innovation and Entrepreneurship Requirement	1	Secondary Major (Optional)	36
Healthy Lifestyle	Non-Credit bearing	Minor Study (Optional)	18
		Free Electives	

- All UG students need to complete a two-credit subject on Artificial Intelligence and Data Analytics (AIDA)
- Students can also apply for a Secondary Major in Artificial Intelligence and Data Analytics (AIDA)

*"By integrating within the major discipline of the student, this secondary major aims to produce the **next generation of graduates skilled with AI computational thinking and data analytics** acumen in their chosen discipline to meet the needs of society, help improve efficiencies and augment human capabilities." (AIDA Programme Document)*



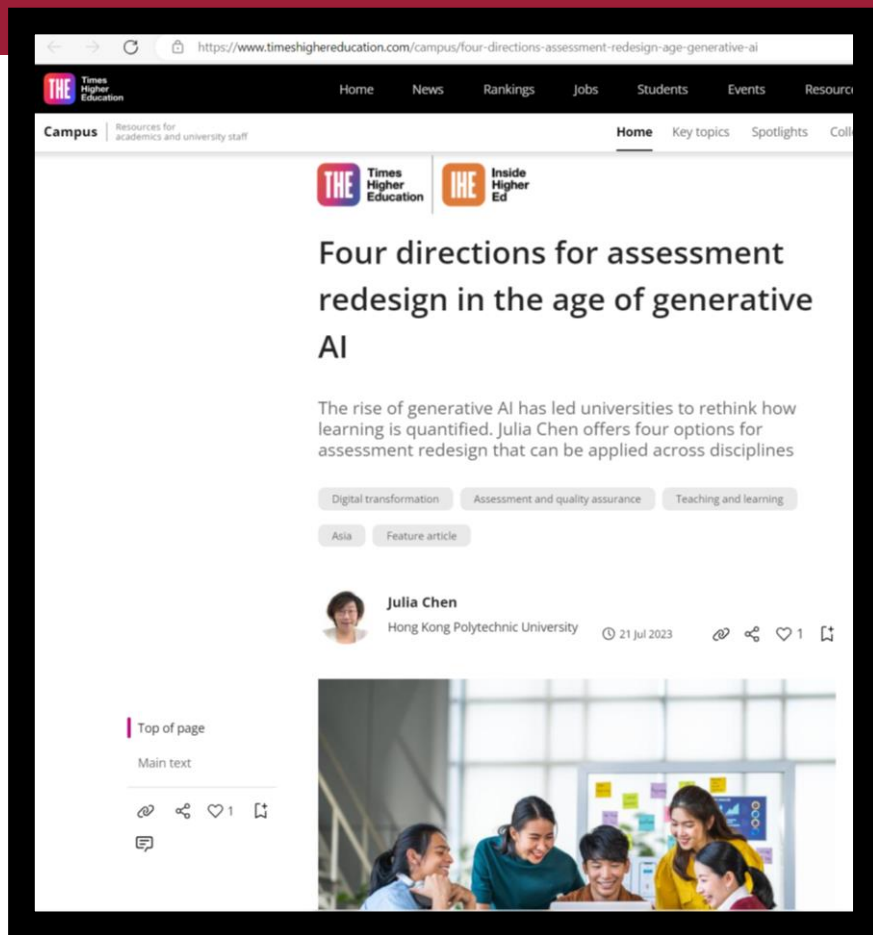
***THE Campus* article:**

A paradigm shift in higher education:
Four directions for assessment
redesign in the age of Generative AI

<https://www.timeshighereducation.com/campus/four-directions-assessment-redesign-age-generative-ai>

Two major guiding principles:

- (a) The assessment cannot be completed mostly or wholly by GenAI
- (b) Students need to demonstrate their understanding of the concepts/skills they have learned



4 directions

1. From written description to multimodal explanation and application
2. From literature review alone to referencing lectures
3. From presentation of ideas to defence of views
4. From working alone to student-staff partnership

And I would now add:

5. From summative assessments to multi-stage assessments

Student-Staff Partnership & Learning to Learn



Student-Staff Partnership (SSP) is an innovative approach which can enhance the student experience and learning, teaching and assessment in higher education. Developing authentic partnerships and meaningful interactions can have significant benefits for both students and staff.

SSP can help to:

Enhance the student experience
Students can gain valuable skills and experience, mentorship, and networking opportunities by partnering with staff.

Promote two-way learning
Both students and staff gain new perspectives and insights through collaboration.

Spark creativity
Student-Staff teams often generate innovative ideas, programmes, and solutions that involve diverse and fresh ways of thinking.

Build a sense of community
Meaningful interactions between students and staff that strengthen the PolyU community and increase the spirit of togetherness.



EDC aims to foster an environment where students and staff collaborate as partners to enhance learning, teaching and assessment at PolyU. This includes initiatives such as the Community of Practice on SSP, workshops, consultations for staff and students wishing to engage in partnerships and more.

WHAT IS LEARNING TO LEARN (L2L)?

Learning to learn is a multidimensional ability to engage consciously in a sustained process to become a more autonomous, effective and adaptive learner.

ARE YOU AN EFFECTIVE LEARNER?



Scan this QR code to know more about L2L!

C&S 3: Supporting Ts & Ss in GenAI-allowed assessment

Student Staff Partnership



Department of
Building Environment and Energy Engineering
建築環境及能源工程學系

FACULTY OF CONSTRUCTION
AND ENVIRONMENT
建設及環境學院

Kick off a student-staff partnership (SSP) - Agenda



- Understanding Generative AI (G-AI) and its implications for education
- Identifying assessment components affected by G-AI
- Redesigning assessments to embrace G-AI
- Developing an action plan for implementing G-AI in assessments



Student-Staff Partnership – Re-design of assessment

Any major changes after SSP discussion?

Items	Revised (applying to a real life situation / building in HK, such as based on the building which student is living)
A brief description for the P&D design	No change (+ survey)
A summary of the design calculations for the P&D system	No change (+ G-AI & reflection)
Size of the potable water supply tank and pump	No change (+ G-AI & reflection)
Two A4 size conceptual P&D schematic drawing	No change
Page limit	3 to 4 as individual basis
Appendix	Photos and sketches - not just in the form of text (writing) but multimodal (e.g. video, photos, audio podcast) as G-AI cannot do it for the students
Proper citation (References necessary to support the P&D design)	No change

Note:

For the page limit: from 8-12 pages/group → 3-4 pages/student

For the layout: from AutoCAD drawing → Photos + sketches



Department of
Building Environment and Energy Engineering
建築環境及能源工程學系

Items	Revised
Logbook report	No change (+ G-AI & 15 minutes of presentation / mini defence about the laboratory)
Formal report	Delete

“One of the primary goals we shared with faculty members was to *challenge* students. ... A second goal we encouraged them to pursue was to *engage* students with their courses”
(B. J. ...)

Opportunities for ‘authentic assessment’



Considerations when redesigning
learning, teaching & assessment



Leverage
GenAI to
change for
the better



Think !

01

What does
learning (in HE)
mean?

02

What do you
want students to
learn from you?

03

What skills do
you want
students to
develop?

Revise intended learning outcomes

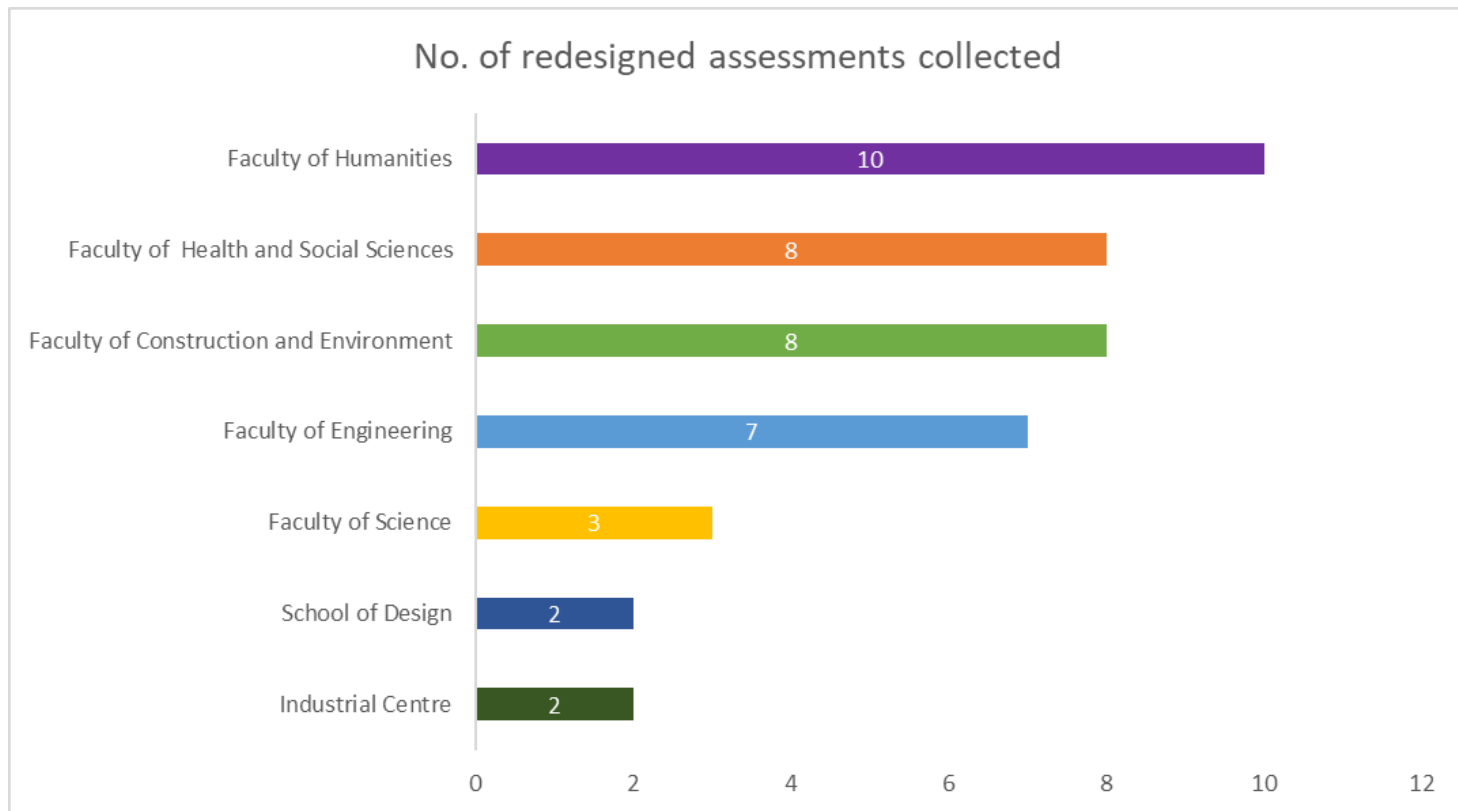
Context of the collection:

- Adopts an **open** and **forward-looking stance** regarding the **use of GenAI in LTA**
- **Expects students to use GenAI in assessments from 2023/24**
- Encourages teachers to **redesign** their **assessments**

- In July 2023, invitation emails were sent to **all academic departments /teaching units**
- **2 or 3 sets of assessments**, with at least one at Ug level
 - Subject description forms
 - Outlining the subject objectives, ILOs and assessment methods
 - Task descriptions
 - Assessment Rubrics, if applicable
- Collection period: **July – August 2023**

- Reviewed and analysed by **assessment consultants** and our colleagues
- Guiding questions based on **two principles** and **four approaches** for redesigning assessment proposed by Chen (2023)
- Added questions related to what **GenAI-related issues** the new tasks aimed to address and **where the changes** were made

- The collected assessment tasks
 - 42 sets of materials were collected
 - 40 sets were included in the analysis
 - All are writing- and speaking-based tasks, open-book and take-home non-invigilated assessments





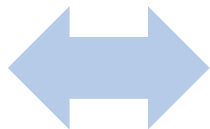
Six observations revealed from our analysis

1. Targeting GenAI-related issues
2. Mitigating the risks of GenAI in assessment
3. Five major approaches of embracing GenAI in assessment
4. Critiquing GenAI output in assessment
5. Assessing GenAI-related competency
6. Areas that need further improvement

Results and Findings – Four dilemmas



On-campus invigilated tests/exams



Authentic/alternative assessments



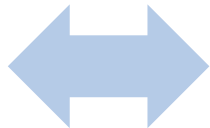
Prescriptive instructions/ guidelines



Descriptive instructions/guidelines



Prohibition of GenAI tools



Encouraging the use of GenAI tools



Minimal/superficial changes



Structural/fundamental changes



It is high time to probe into these much-needed questions:

- What is the purpose of formal institutional education?
- What is learning in (higher) education?
- What should assessment focus on?



- Evaluate traditional assessment methods and policies
- Establish clear policies and guidelines regarding the use of GenAI in assessment
 - i. Outline the ethical and acceptable use of GenAI tools for not only students but also teachers
 - ii. Provide equal access to GenAI tools
 - iii. Determine how GenAI-assisted outcomes should/could be graded

- Periodically (& possibly frequently) **review** and **re-evaluate institutional assessment policies** related to technology-in-education (e.g. GenAI) and consider:

how assessment can help prepare students for the future

- reducing assessment load
- reducing invigilated tests/exams
- increasing multi-phased and multi-modal authentic assessments



A paradigm shift in assessment **requires**:

- not mere adjustments in assessment methods or weightings; but
- a **transformation** in fundamental **beliefs** and **values** about LTA
- a **re-evaluation** of the roles of **teachers**, **students**, and **technology** in LTA; and the relationship between them



Inclusion of GenAI in assessment:

- may initially increase the workload of both teachers and students
- but in the long run, use AI as a time-saving assistance to support and enhance the educational experience

Universities should provide more resources, training, and funding for innovative pedagogy and assessment projects

A paradigm shift in education requires:

- a fundamental change to the core beliefs and values embedded in our education systems, policies, and stakeholders
- deep conversations about the future of learning

Conversations and enhancements at governance, pedagogic and operational levels will need to occur very soon, if not already!



From

GenAI clients (beneficiaries of GenAI tools)

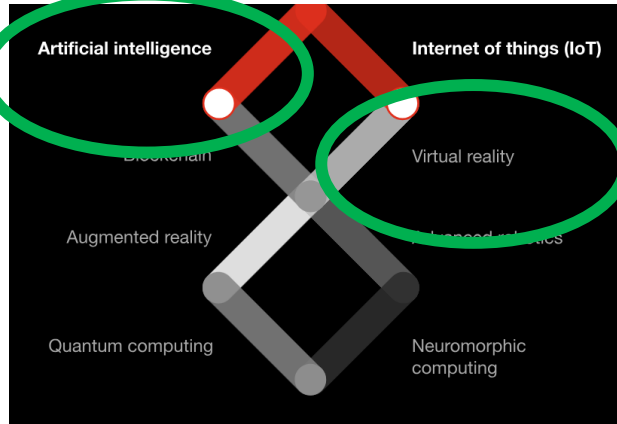
to

GenAI implementers (allowing the use of GenAI in courses and assessments)

to

GenAI entrepreneurs (creating opportunities to make further use of GenAI for quality enhancement)

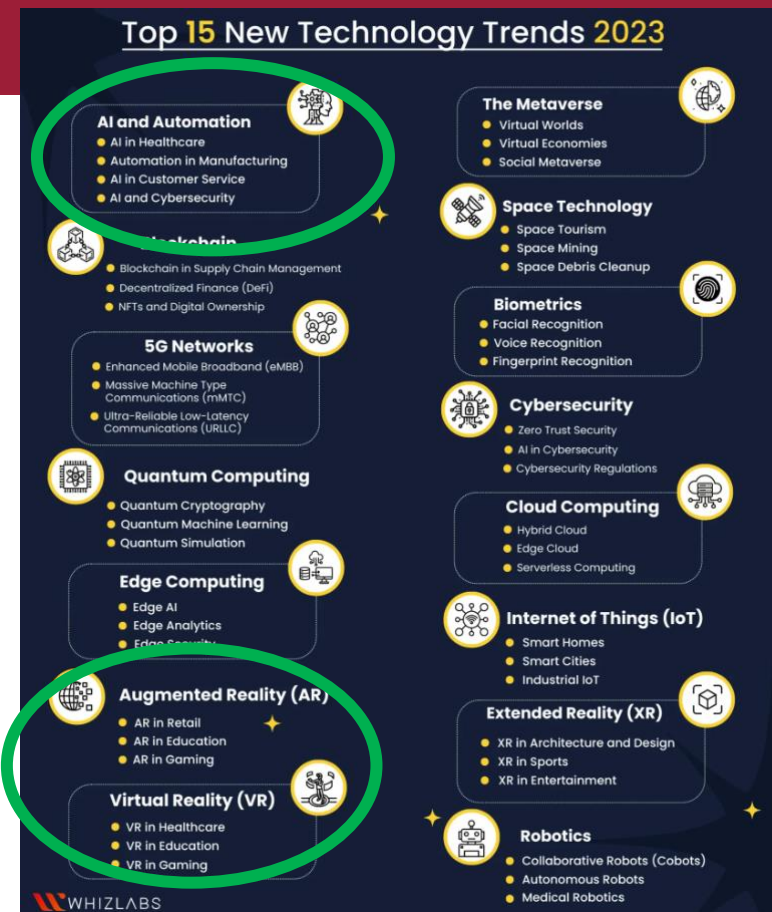
Emerging technologies & education



<https://www.pwc.com/us/en/tech-effect/emerging-tech/essential-eight-technologies.html>



<https://www.founderjar.com/new-technology-trends/>



<https://www.whizlabs.com/blog/new-technology-trends-2023/>

Incorporating HIVE / CAVE exposure

Course: *From Gloom to Bloom: Global New Urbanism*

A PolyU example

<https://youtu.be/TiqvwaShWtg>

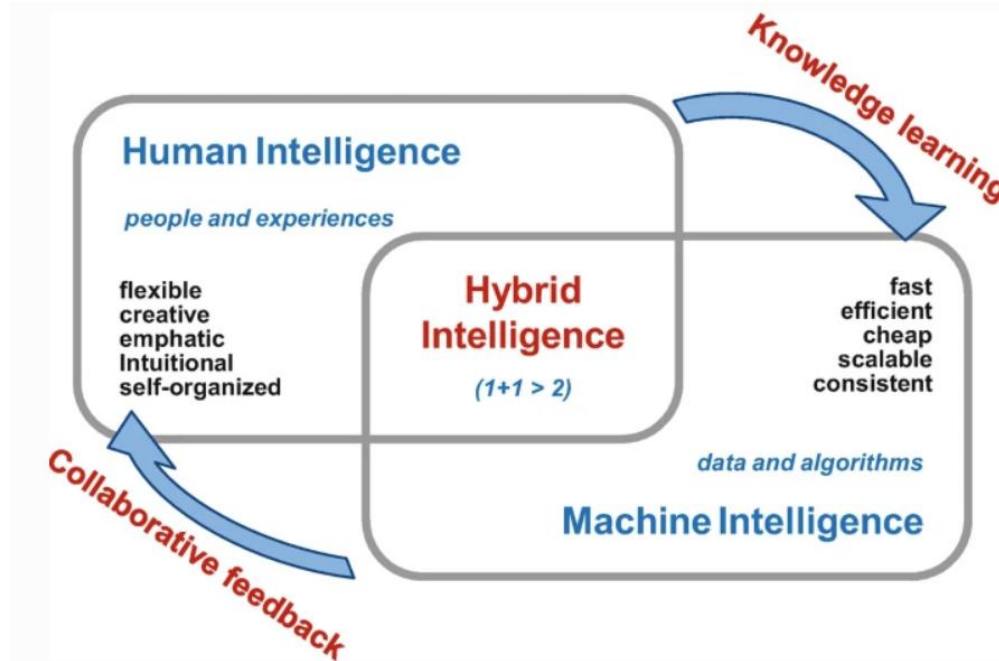


≡ Forbes

18. Merging Physical, Generative And Virtual Realities

In the fourth quarter of 2023, businesses should gear up for the transformative trend of generative AI and metaverse integration. Companies must begin laying foundations for immersive digital environments that merge physical, generative and virtual realities. This trend demands investments in augmented reality, virtual reality and extended reality and generative technologies. - Ranghan Venkatraman, Rezilyens LLC

Hybrid intelligences & education



Hybrid intelligence (HI) aims to combine the best of human intelligence and machine intelligence
[Source: Building on van der Aalst (2021) and Zheng et al. (2017)]

Features





3-way MOU signed between the Hong Kong Polytechnic University, Stanford, and a Beijing education company

Similar to Grammarly:

- Grammar
- Style
- Focus on academic writing
- Target Chinese learners of English



Grammatical Accuracy

The CoNLL-2014 Shared Task was a research event held as part of the Conference on Computational Natural Language Learning

The shared task focused on the topic of "Grammatical Error Correction" and aimed to evaluate and compare automatic error correction systems

The dataset used for this task was based on the Cambridge Learner Corpus, consisting of essays written by non-native English speakers, annotated with error tags and corrections

Participating teams were required to develop systems that could automatically detect and correct errors in these essays

The performance of the systems was evaluated using several metrics, such as precision, recall, and F1-score, with the main evaluation metric being the F0.5-score

Version	Accuracy Rate
Grammarly (Omelianchuk, et al., 2020)	66.5%
<i>WeCheck!</i> (Sept 2021)	66.94%
<i>WeCheck!</i> (June 2023)	67.74%





THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

Let's think big, wide, deep, far



Opening Minds • Shaping the Future
啟迪思維 • 成就未來

<http://www.flickr.com/photos/sportman-runs-jump-into-sky-101661360/>

Thank you



- Barsalou, L. W. (2020). Challenges and Opportunities for Grounding Cognition. *Journal of Cognition*, 3(1):31. <https://doi.org/10.5334/joc.116>
- Bearman, M., & Luckin, R. (2020). Preparing university assessment for a world with AI: Tasks for human intelligence. *Re-imagining university assessment in a digital world*, 49–63.
- Chen, J. (2023, July 21). A paradigm shift in higher education: Four directions for assessment redesign in the age of Generative AI. *Times Higher Education: The Campus*. <https://www.timeshighereducation.com/campus/four-directions-assessment-redesign-age-generative-ai>
- Cook-Sather, A., Bovill, C., & Felten, P. (2014). Engaging students as partners in learning and teaching: A guide for faculty. John Wiley & Sons.
- Gimpel, H., Hall, K., Decker, S., Eymann, T., Lämmermann, L., Mädche, A., Röglinger, M., Ruiner, C., Schoch, M., Schoop, M. and Urbach, N. (2023). *Unlocking the power of generative AI models and systems such as GPT-4 and ChatGPT for higher education: A guide for students and lecturers* (No. 02-2023). Hohenheim Discussion Papers in Business, Economics and Social Sciences.
- Healey, M., Flint, A., & Harrington, K. (2014). *Engagement through partnership: Students as partners in learning and teaching in higher education*. York: Higher Education Academy.
<https://www.heacademy.ac.uk/engagement-through-partnership-students-partners-learning-and-teaching-higher-education>
- HR Observer. (2023). Coursera CEO Says Impact of Linguistic Technology Unclear, *HR Observer*, February 14, 2023. Retrieved from <https://www.thehrobservers.com/talent-management/coursera-ceo-says-impact-of-linguistic-technology-unclear/>
- Hughes, S. (2023). The AI Revolution & Higher Education: Why 21st Century Durable Skills Are Needed More Than Ever. Retrieved from https://www.researchgate.net/publication/370637059_The_AI_Revolution_Higher_Education_Why_21st_Century_Durable_Skills_Are_Needed_More_Than_Ever

- Ibrahim, H., Liu, F., Asim, R., Battu, B., Benabderrahmane, S., Alhafni, B., Adnan, W., Alhanai, T., AlShebli, B., Baghdadi, R., Bélanger, J. J., Beretta, E., Celik, K., Chaqfeh, M., Daqaq, M. F., Bernoussi, Z. E., Fougne, D., Garcia de Soto, B., Gandolfi, A., ... Zaki, Y. (2023). Perception, performance, and detectability of conversational artificial intelligence across 32 university courses. *Scientific Reports*, 13(1), Article 1. <https://doi.org/10.1038/s41598-023-38964-3>
- Imran, M., & Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature. *Contemporary Educational Technology*, 15(4), ep464. <https://doi.org/10.30935/cedtech/13605>
- Knight, S. & Littleton, K. (2015). Thinking, Interthinking, and Technological Tools. In R. Wegerif, L. Li, & J. Kaufman (Eds). *The Routledge international handbook of research on teaching thinking*. Abingdon, New York: Routledge, pp. 467–478.
- Knowles, M. (1980). *The modern practice of adult education: From pedagogy to andragogy*. Englewood Cliffs: Prentice Hall.
- Liu, D., Fawns, T., Cowling, M., & Bridgeman, A. (2023, October 3). Working paper: Responding to Generative AI in Australian Higher Education. <https://doi.org/10.35542/osf.io/9wa8p>
- Lodge, J. M., Thompson, K., & Corrin, L. (2023). Mapping out a research agenda for generative artificial intelligence in tertiary education. *Australasian Journal of Educational Technology*, 39(1), 1–8. <https://doi.org/10.14742/ajet.8695>
- Malmström, H., Stöhr, C., & Ou, A. W. (2023). Chatbots and other AI for learning: A survey of use and views among university students in Sweden. (*Chalmers Studies in Communication and Learning in Higher Education* 2023:1) <https://doi.org/10.17196/cls.cslhe/2023/01>
- Muscaneil, N., & Robert, J. (2023, February 14). *EDUCAUSE QuickPoll Results: Did ChatGPT Write This Report?* <https://er.educause.edu/articles/2023/2/educause-quickpoll-results-did-chatgpt-write-this-report>
- Omelianchuk, K., Atrasevych, V., Chernodub, A., & Skurzshanskyi, O. (2020). GECToR – Grammatical Error Correction: Tag, Not Rewrite. In *Proceedings of the 1st Workshop on Building Educational Applications* (pp. 163-170). <https://doi.org/10.18653/v1/2020.bea-1.16>
- Pond, W. K. (2002). Distributed education in the 21st century: Implications for quality assurance. *Online Journal of Distance Learning Administration*, 5(2) 1–8

- Sarrion, E. (2023). Using ChatGPT to Learn a Language. In E. Sarrion (Ed.), *Exploring the Power of ChatGPT: Applications, Techniques, and Implications* (pp. 117–128). Apress Media. https://doi.org/10.1007/978-1-4842-9529-8_13
- Su, Y., Lin, Y., & Lai, C. (2023). Collaborating with ChatGPT in argumentative writing classrooms. *Assessing Writing*, 57, 100752. <https://doi.org/10.1016/j.asw.2023.100752>
- The Russell Group. (2023, October 17). *New principles on use of AI in education*. <https://russellgroup.ac.uk/news/new-principles-on-use-of-ai-in-education/>
- Usher, A., & Desforges, S. (2023, October 18). *AI in Canadian Higher Education-An Update*. Higher Education Strategy Associates. <https://higheredstrategy.com/ai-in-canadian-higher-education-an-update/>