



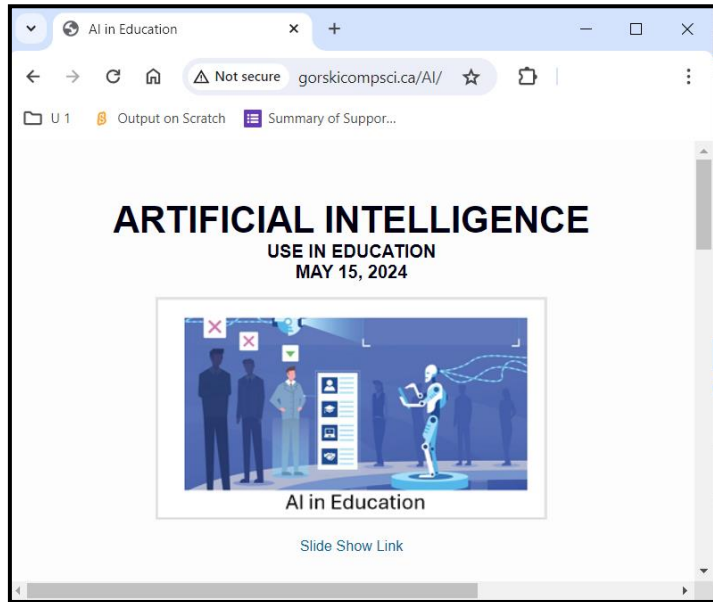
AI Use in Education

Uses, Benefits & Cautionary Tales

Amanda Gorski, Brampton Centennial, Computer Science.

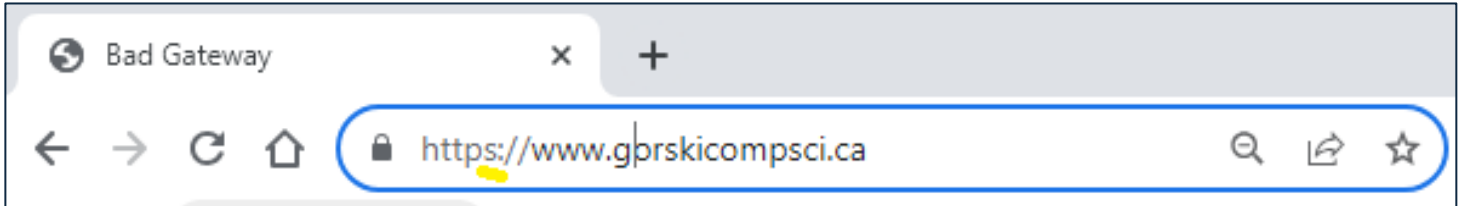
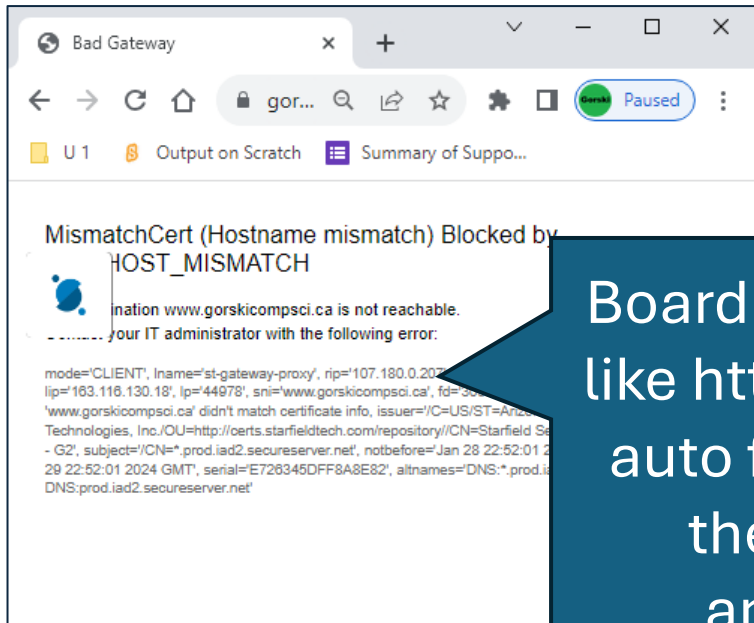
May 15, 2024

<http://www.gorskicompsci.ca/AI/>



The Powerpoint is here:

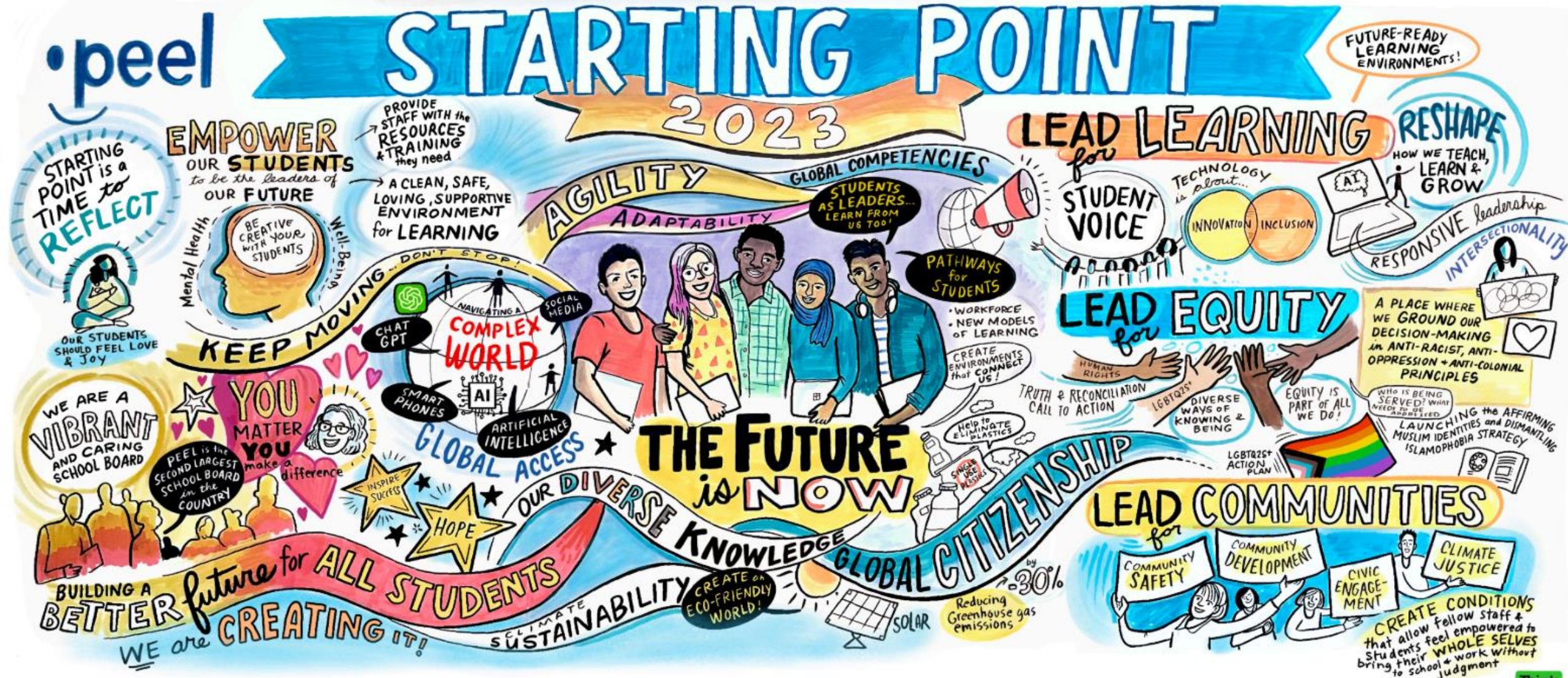
<http://www.gorskicompsci.ca/AI/>



Board computers don't like http websites. They auto fix it. Just go into the address bar and fix it back.

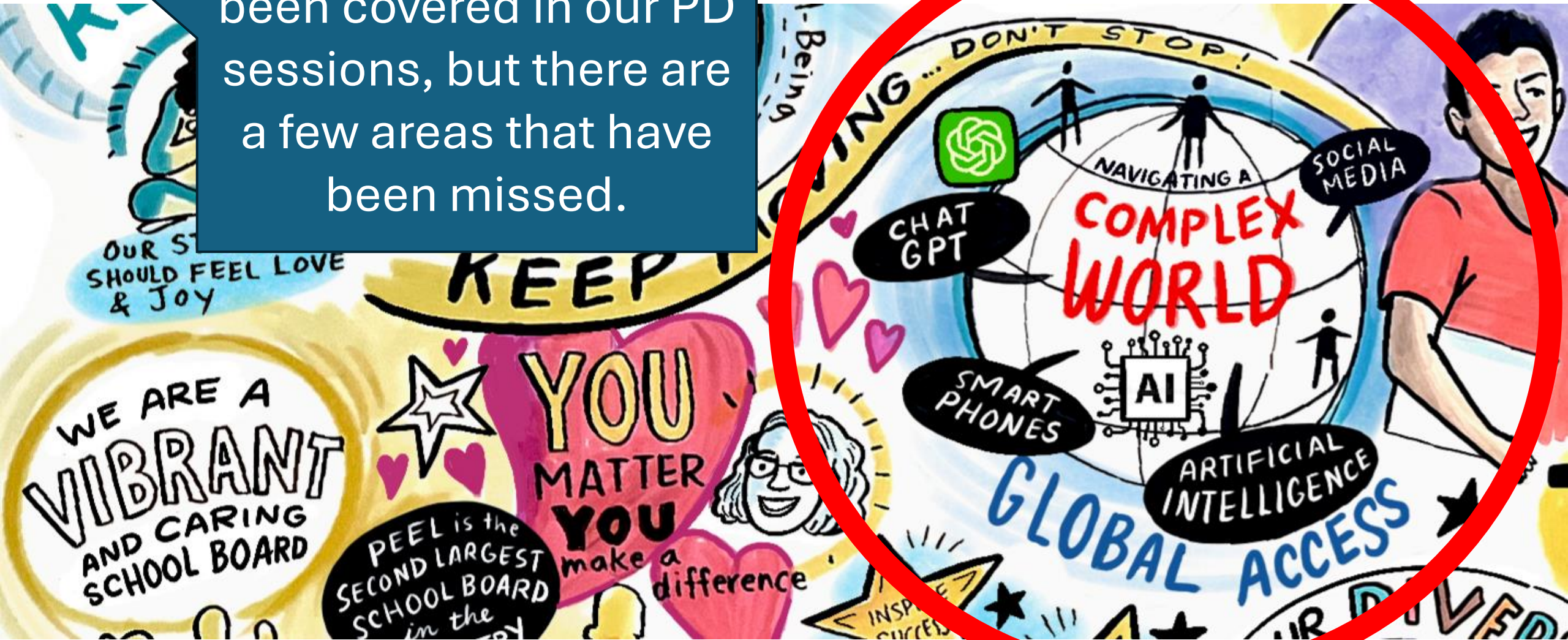
Switch <https://www.gorskicompsci.ca/>
To <http://www.gorskicompsci.ca/>

At the beginning of the year in my school, we watched the director's video:



August 29th, 2023 - Pearson Convention Centre

Much of the list has been covered in our PD sessions, but there are a few areas that have been missed.



How do we help students navigate the complex world including self-learning AI?

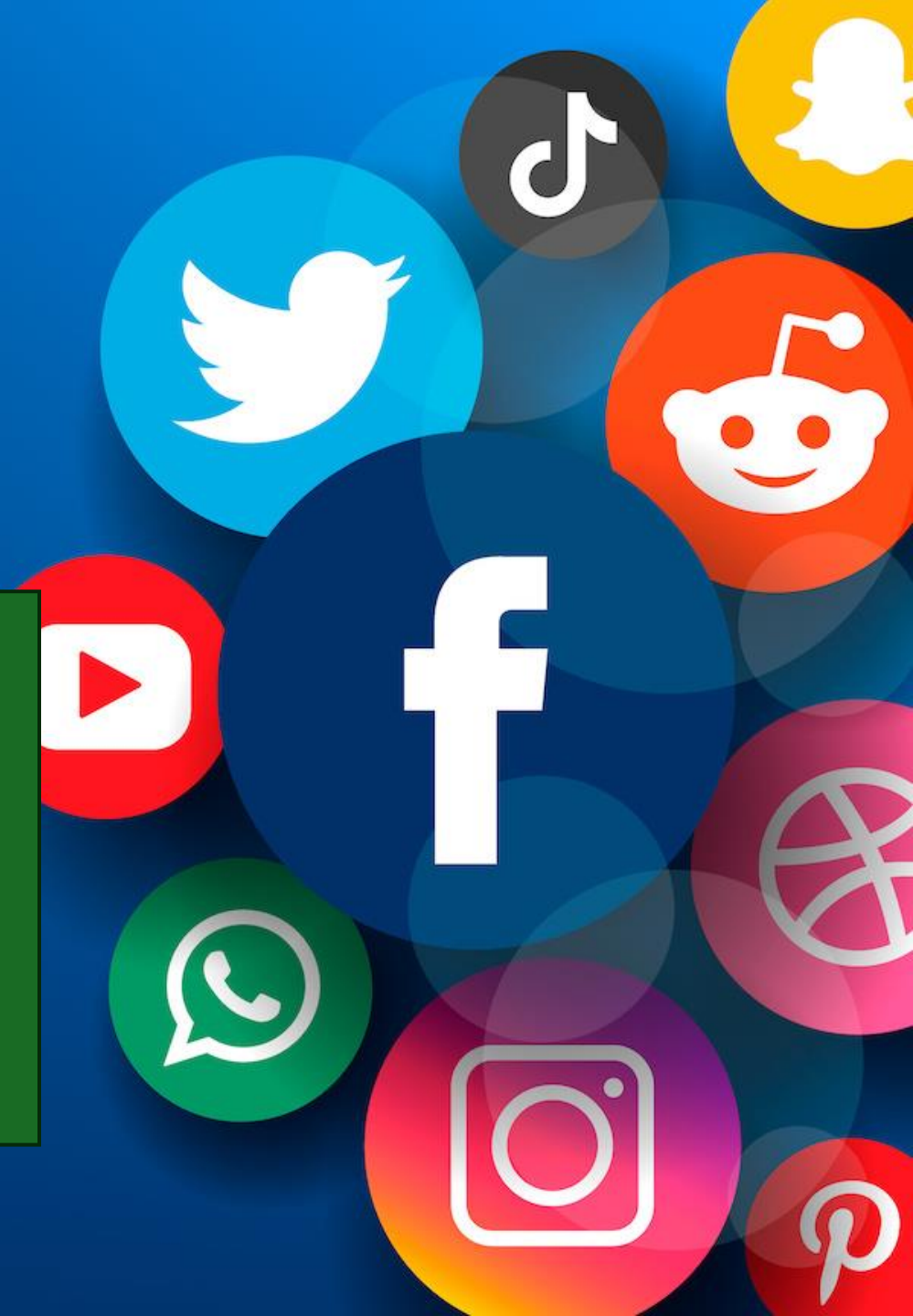
How does AI reshape how we teach, learn and grow?

What is a future-ready learning environment?



I think that before we start with AI, we need to remember the adoption of social media.

10 years ago, the board told us it was imperative that we build social media into student learning because it was critical for their future development.





Turned out, the hype was unfounded.

No one needed lessons to learn social media, it was user-friendly.


And, as every teacher, everywhere, instantly noticed, social media is addictive.

Schools say kids are compulsive x +

← → ↻ 🏠 cbc.ca/news/canada/social... ☆ 📄 🔍 📁

U 1 Output on Scratch Summary of Suppor...

WATCH | TDSB chair says social media giants are knowingly harming children:



Social media giants 'knowingly' harming children, TDSB chair says in wake of lawsuit

1 month ago | 5:53

Four of Ontario's largest school boards, including the Toronto District School Board (TDSB), have launched lawsuits against social media giants behind Meta, Snapchat and TikTok for allegedly causing harm to students. Metro Morning host David Common spoke with TDSB chair Rachel Chernos Lin about the action.

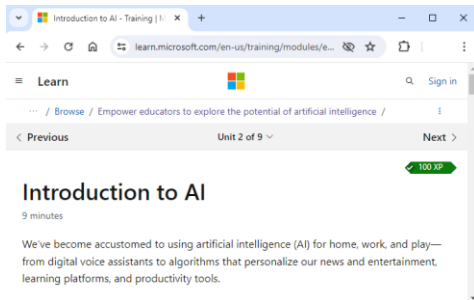
Now, Peel is suing social media giants.

We can learn from Peel's mistakes and try to make better decisions about AI.

There is another important angle to consider:

“And just like with any new technology, educators should equip learners with the skills needed to effectively use AI tools and evaluate their outputs. As AI technologies continue to advance, it’s important for educators to be engaged and prepared to **ensure all learners have the opportunity to develop these skills and access AI resources.**

AI can empower educators to create engaging, innovative, and inclusive learning environments for learners while helping them prepare for the future. **Embrace the possibilities!”**



Microsoft’s Learning Center, <https://learn.microsoft.com/en-us/training/modules/empower-educators-explore-potential-artificial-intelligence/introduction-ai>

Microsoft Copilot for Microsoft 365

microsoft.com/en-au/microsoft-365/enterprise/copilot-for-microsoft-365

Overview Features Pricing Resources Responsible AI FAQ

PRICING

Copilot for Microsoft 365 pricing

Copilot for Microsoft 365

AU\$44.90

user/month with an annual subscription

Pay yearly, AU\$538.80 user/year¹

Prices shown here and on following pages do not include GST. The "Payment and Billing" page will show amounts payable including GST (if applicable) before you purchase.

Achieve more than ever before using AI.

- Integrated with Teams², Word, Outlook, PowerPoint, Excel, Edge for Business, and other Microsoft 365 apps
- AI-powered chat with Microsoft Copilot
- Create plugins to your data and automation using Copilot Studio
- Enterprise-grade security, privacy, and compliance

Why might Microsoft want us to “ensure all learners have the opportunity to develop these skills and access AI resources”?

If the language sounds like marketing material, that might be what it is.

“Future-ready learning environments”,
“reshaping how we teach, learn and grow”.....

Influenced by AI marketing? I don't know, it is suspicious to me.



Some things
educators need
to know about AI

(1) AI Tools in use by Students/Schools

(2) How AI Tools Work

(3) Future of AI Development

(4) Lessons about AI for Use

(5) Further Cautionary Tales of AI





22 years teaching computer science = 22 years of research into AI to teach students.

Some examples of Self-Learning AI



ChatGPT

Text



DALL-E

Via MS



Copilot

Images



OpenAI

Sora

Video



ChatGPT

<https://chat.openai.com/>

A screenshot of the ChatGPT website in a browser. The browser tab is labeled 'ChatGPT' and the address bar shows 'chat.openai.com'. The page header includes 'ChatGPT 3.5' and a 'Sign up' button. The main content area features the OpenAI logo and the question 'How can I help you today?'. Below this are four suggestion cards: 'Dive into history' (choose a historical figure), 'Plan an itinerary' (for a literary tour of England), 'Recommend a dish' (to impress a date), and 'Brainstorm names' (for a fantasy football team). At the bottom is a text input field with the placeholder 'Message ChatGPT...' and a send button. A footer note states 'ChatGPT can make mistakes. Consider checking important information. Read our Terms and Privacy Policy.'

Enter your request



ChatGPT

<https://chat.openai.com/>

A screenshot of the ChatGPT web interface. The browser address bar shows 'chat.openai.com'. The page title is 'ChatGPT 3.5' with a 'Sign up' button. The user's prompt is 'Write me a 5 paragraph essay about the book the Kite Runner by Khaled Hosseini'. The AI's response is a paragraph about the book. A blue callout box points to the prompt with the text 'Prompt', and another blue callout box points to the AI response with the text 'Answer'. At the bottom, there is a text input field with the placeholder 'Message ChatGPT...' and an upward arrow button. A footer note states: 'ChatGPT can make mistakes. Consider checking important information. Read our Terms and Privacy Policy.'

“Prompt”

Answer



ChatGPT

<https://chat.openai.com/>

Student's most beloved button

A screenshot of the ChatGPT web interface. The browser address bar shows 'chat.openai.com'. The page title is 'ChatGPT 3.5' with a 'Sign up' button. The main content area displays a paragraph of text about 'The Kite Runner' and a 'Copy' button. Below the text is a disclaimer: 'By sending a message, you agree to our Terms. Read our Privacy Policy. Don't share sensitive info. Chats may be reviewed and used to train our models. Learn about your choices.' At the bottom is a text input field 'Message ChatGPT...' and a disclaimer: 'ChatGPT can make mistakes. Consider checking important information. Read our Terms and Privacy Policy.'



The essay ChatGPT produced:

"The Kite Runner" by Khaled Hosseini is a captivating novel that delves into the complexities of friendship, betrayal, redemption, and the haunting legacy of the past. Set against the backdrop of Afghanistan's tumultuous history, the story follows the life of Amir, a privileged Pashtun boy, and his servant's son, Hassan, as they navigate the intricacies of their relationship amidst the backdrop of societal and political turmoil. The novel opens in Kabul in the 1970s, portraying the innocence of childhood and the unbreakable bond between Amir and Hassan, who share a love for kite running. However, their friendship is tested by jealousy, cowardice, and ultimately, betrayal.

Hosseini masterfully weaves together the personal and political, as the characters' lives are profoundly impacted by the changing landscape of Afghanistan. Against the backdrop of the Soviet invasion, the rise of the Taliban, and the exodus of refugees, the characters are forced to confront the consequences of their actions and the weight of their past. The novel explores themes of guilt and redemption, as Amir grapples with the choices he made as a child and seeks to atone for his sins. His journey to seek forgiveness and redemption forms the heart of the narrative, illustrating the power of love and sacrifice to overcome even the deepest wounds.

Moreover, "The Kite Runner" sheds light on the enduring legacy of trauma and violence, as the characters struggle to reconcile their personal histories with the broader collective memory of their nation. Through Hosseini's vivid prose and evocative storytelling, the reader is transported to the streets of Kabul, where the echoes of the past reverberate through every alleyway and marketplace. The novel serves as a poignant reminder of the human cost of conflict and the resilience of the human spirit in the face of adversity.

Furthermore, the characters in "The Kite Runner" are intricately drawn, with each possessing their own flaws, fears, and desires. From the flawed protagonist Amir, burdened by guilt and regret, to the noble Hassan, whose unwavering loyalty and courage inspire admiration, the characters leap off the page with authenticity and depth. Through their experiences, the novel explores the complexities of identity, class, and ethnicity, challenging stereotypes and highlighting the common humanity that unites us all.

In conclusion, "The Kite Runner" is a powerful and thought-provoking novel that resonates with readers long after the final page. Through its richly drawn characters, vivid setting, and timeless themes, Hosseini's masterpiece offers a poignant meditation on the nature of love, forgiveness, and the enduring power of redemption. It is a story of hope amidst despair, of friendship amidst betrayal, and ultimately, of the triumph of the human spirit over adversity.



Write me a 5 paragraph essay **about the nature of friendship** in the book the Kite Runner by Khaled Hosseini. **Write as a grade 8 student would write.** Use **3 quotations from the book** and **reference each one with a page number.**

In "The Kite Runner" by Khaled Hosseini, friendship is like a rollercoaster ride with lots of ups and downs. Amir and Hassan are best friends who do everything together. Amir says, "But in none of his stories did Baba ever refer to me as his friend. The curious thing was, I never thought of Hassan and me as friends either" (Hosseini, 25). This quote from page 25 shows that even though they're really close, Amir doesn't always see Hassan as his friend. It's kind of confusing, but it shows that friendship is different for everyone.

Then, something bad happens that makes their friendship get all messed up. Amir sees Hassan being hurt, but he does nothing to help him. After that, things change between them. Amir feels really guilty about what happened, and he says, "I actually aspired to cowardice because the alternative, the real reason I was running, was that Assef was right: Nothing was free in this world" (Hosseini, 77). This quote from page 77 shows how Amir feels like a coward for not standing up for Hassan. It's sad because it shows that sometimes friendship can be really hard.

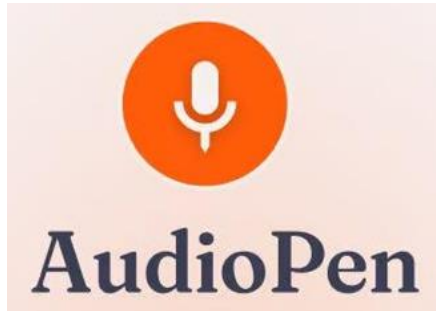
But even though their friendship goes through a rough patch, Hassan still forgives Amir and stays loyal to him. When Amir feels bad about what he did, Hassan says, "For you, a thousand times over!" (Hosseini, 67). This quote from page 67 is really touching because it shows how much Hassan cares about Amir. It's like he's saying that he would do anything for him, no matter what. It's a reminder that even when things get tough, true friends stick together.

In the end, "The Kite Runner" teaches us that friendship is complicated but also really special. It's about being there for each other, even when things are tough. Amir and Hassan's friendship may have its ups and downs, but it's a reminder that true friends always find their way back to each other in the end.

You can also refine your prompt to improve the answer



Other AI generative tools



Bing has an image creator

Choose create to get the Dall-e generator

You need to sign in to use it

They are saving prompts and data-mining you.

Microsoft Bing

amanda.gc

Create

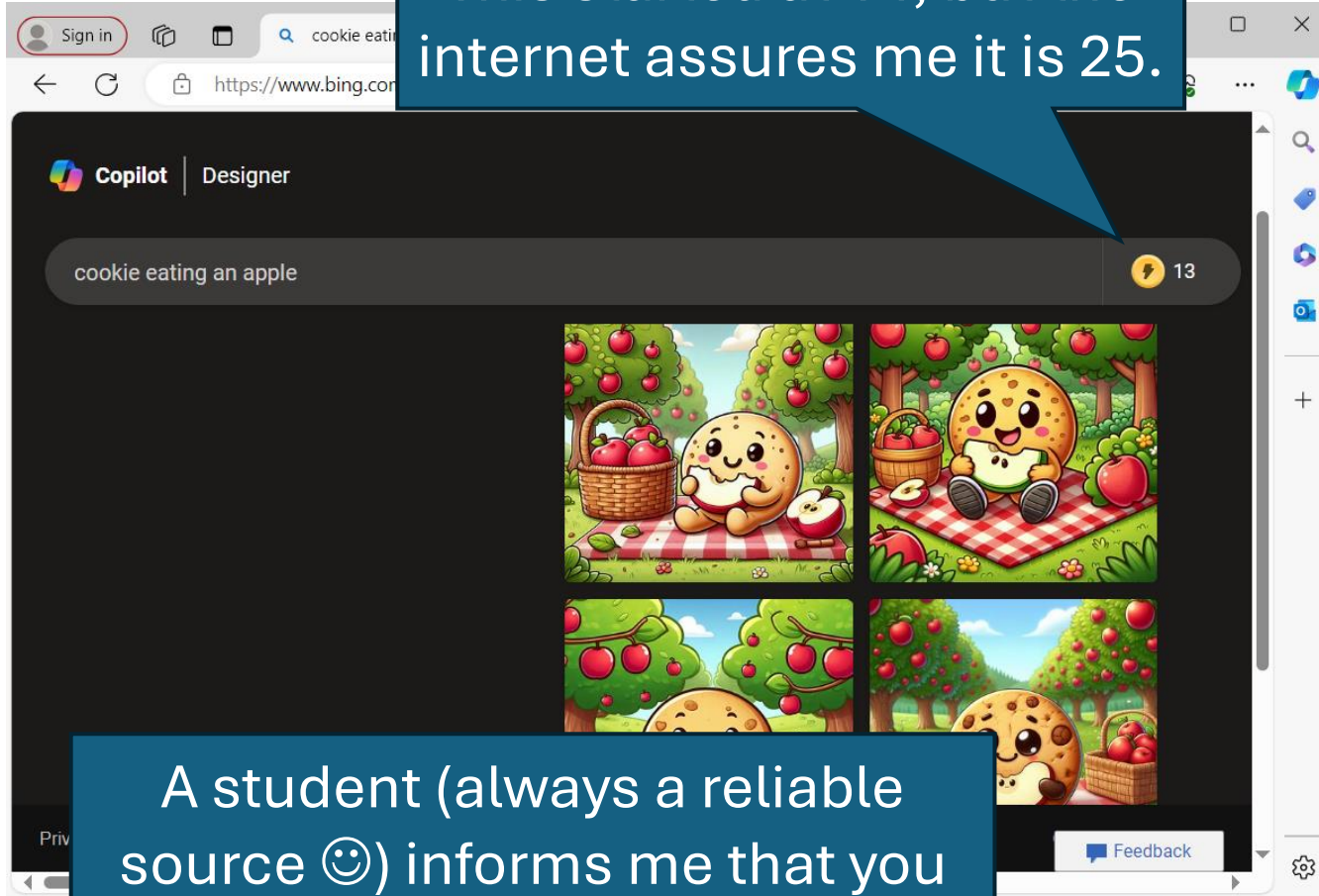


Using Edge

<https://www.bing.com/images/create?FORM=IRPGEN>



You are limited to a certain number of images per day. This started at 14, but the internet assures me it is 25.



A student (always a reliable source 😊) informs me that you more you use Bing, the more images you can create.

Prompt: Cookie Eating an Apple



Refined prompt to:
pictures of a cookie
eating an apple,
painted in an
impressionist style.

Copilot | Designer

A pictures of a cookie eating an apple, painted in an impressionist style.

Other Image Generators:

- Midjourney
- Stability.ai
- Craiyon



A painting of a cookie eating an apple, painted in a cubist style.

Not as successful

A painting of a cookie eating an apple, painted as Picasso would.



A more
successful
refinement.



Copilot | Designer

A cookie eating an apple, photo realistic.

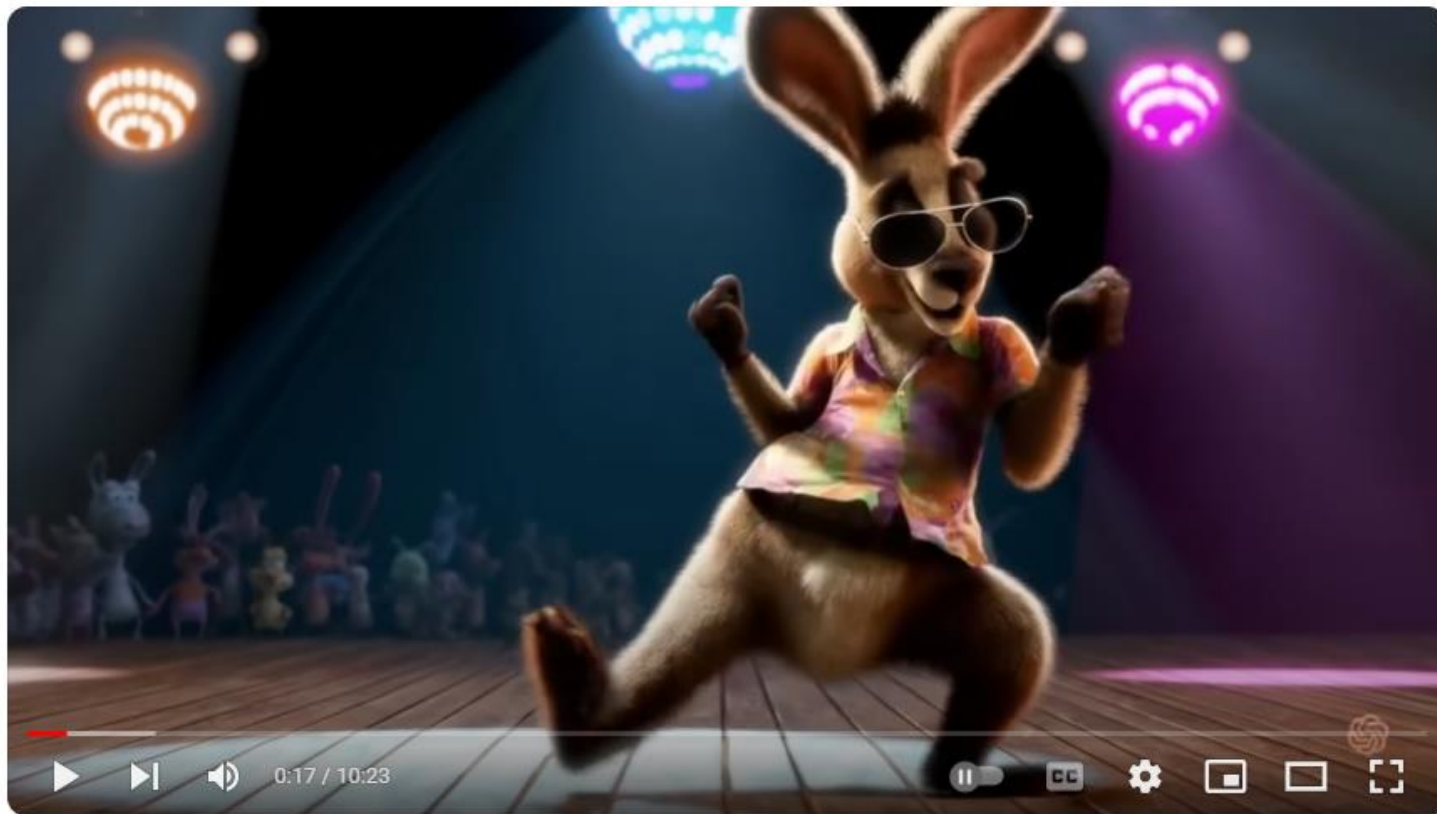


Open AI is also working on a text to video generator – Sora.

<https://openai.com/sora>

The demo video:

https://www.youtube.com/watch?v=HK6y8DAPN_0



Introducing Sora – OpenAI's text-to-video model



OpenAI
877K subscribers

Subscribe

49K



Share

Save



Prompt: A cartoon kangaroo that disco dances

The demo video's introduction says that all video was produced by Sora using only the prompts given and is unedited.



Introducing Sora – OpenAI’s text-to-video model



OpenAI
877K subscribers

Subscribe

49K



Share

Save




Prompt: A cat waking up its sleeping owner demanding breakfast. The owner tries to ignore the cat, but the cat tries new tactics and finally the owner pulls out a secret stash of treats from under the pillow to hold off the cat a little longer.



Prompt:
Photorealistic
closeup video
of two pirate
ships battling
each other as
they sail inside
a cup of
coffee.


Introducing Sora – OpenAI’s text-to-video model

 OpenAI
880K subscribers

Subscribe

 50K



 Share





Introducing Sora — OpenAI's text-to-video model



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50K



Share



Prompt: Beautiful, snowy Tokyo city is bustling. The camera moves through the bustling city street, following several people enjoying the beautiful snowy weather and shopping at nearby stalls. Gorgeous Sakura petals are flying through the wind along with snowflakes.



Play (k)



Introducing Sora — OpenAI's text-to-video model

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880K subscribers

Subscribe

50K



Share



Prompt: Drone view of waves crashing against the rugged cliffs along Big Sur's Garay Point Beach. The crashing blue waters create white-tipped waves, while the golden light of a setting sun illuminates the rocky shore. A small island with a lighthouse sits in the distance, and green shrubbery covers the cliff's edge. The steep drop from the road down to the beach is a dramatic feat, with the cliff's edges jutting out over the sea. This is a view that captures the raw beauty of the coast and the rugged landscape of the Pacific Coast highway.

How does self-learning AI work?

<https://youtu.be/R9OHn5ZF4Uo>

The screenshot shows a web browser displaying the YouTube channel page for CGP Grey. The browser's address bar shows the URL <https://youtu.be/R9OHn5ZF4Uo>. The YouTube interface includes a search bar, navigation icons, and the channel header for CGP Grey, which has 6.26M subscribers and 189 videos. The video player shows a video titled "How AIs, like ChatGPT, Learn" with 9,655,461 views, posted 6 years ago. The video thumbnail features a stick figure sitting at a desk with a computer, and a colorful grid of pixels on the screen. The video player controls show a progress bar at 0:00 / 8:54. To the right of the video player, there is a description of the video, a footnote with a link, and a thank you message to Patreon supporters.

YouTube CA

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CGP Grey

@CGPGrey · 6.26M subscribers · 189 videos

More about this channel >

cgpgrey.com

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Home Videos Playlists Community Store

How AIs, like ChatGPT, Learn

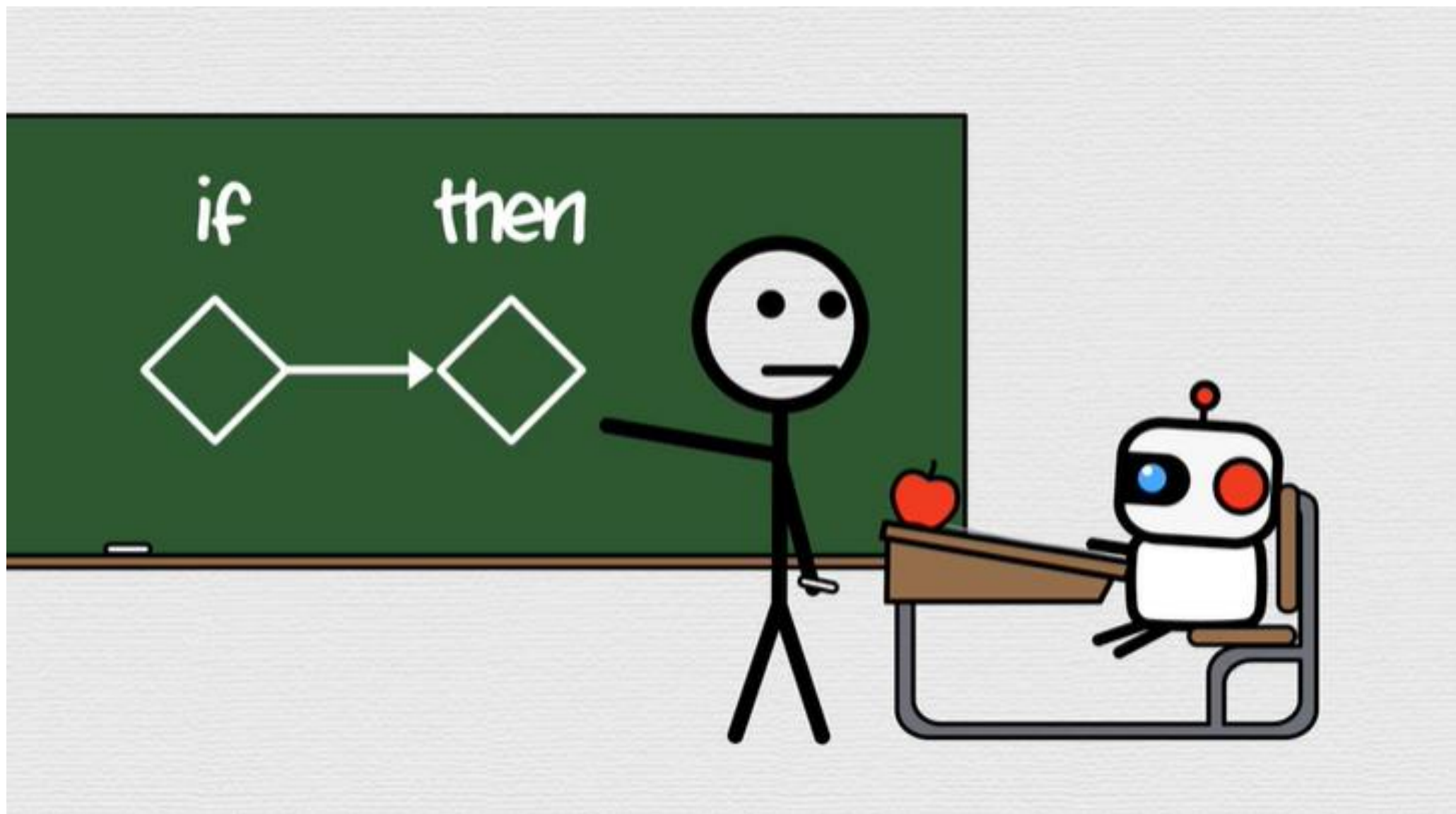
9,655,461 views · 6 years ago

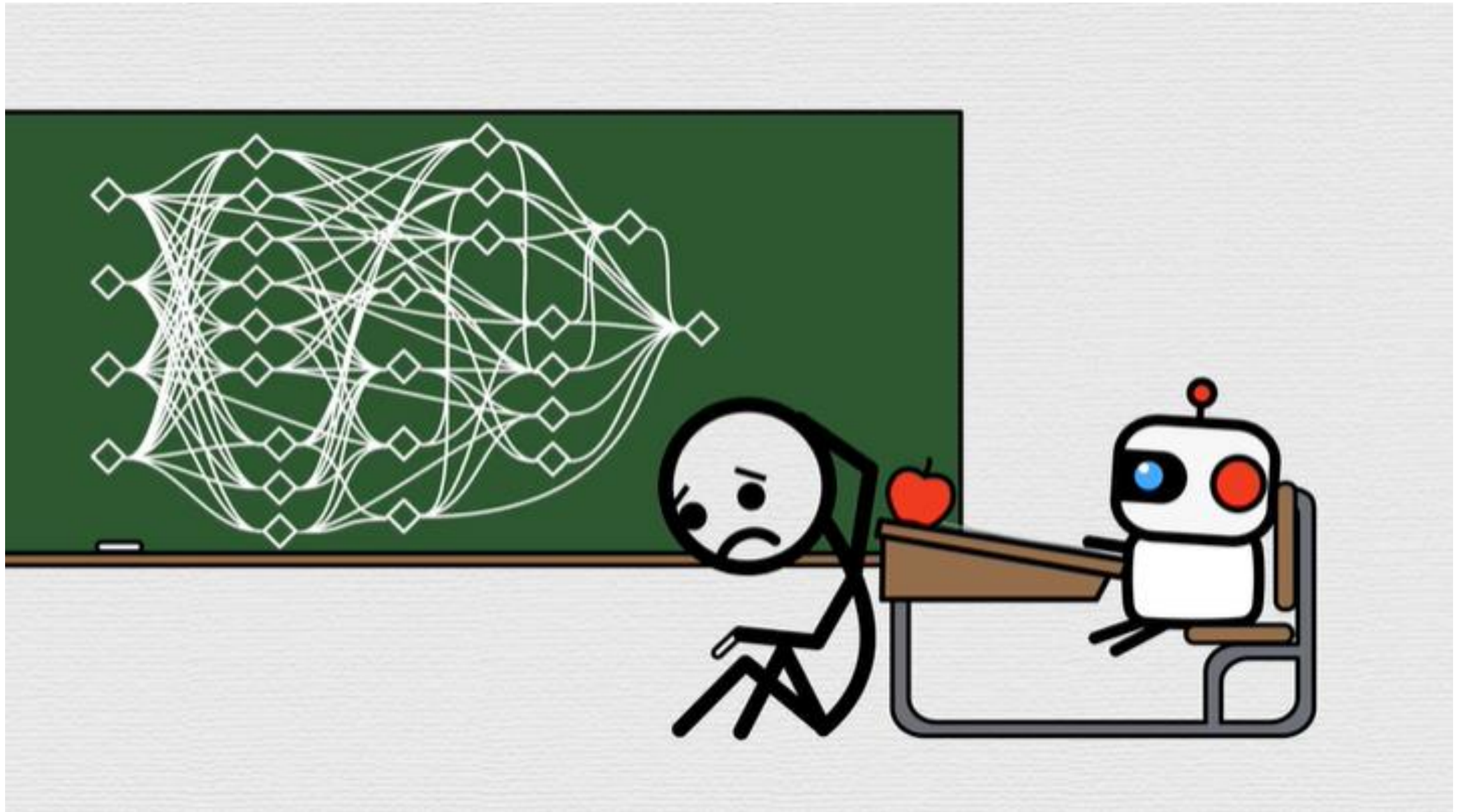
How do all the algorithms, like ChatGPT, around us learn to do their jobs?

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

Thank you to my supporters on Patreon:

...
READ MORE







Released Nov 2010



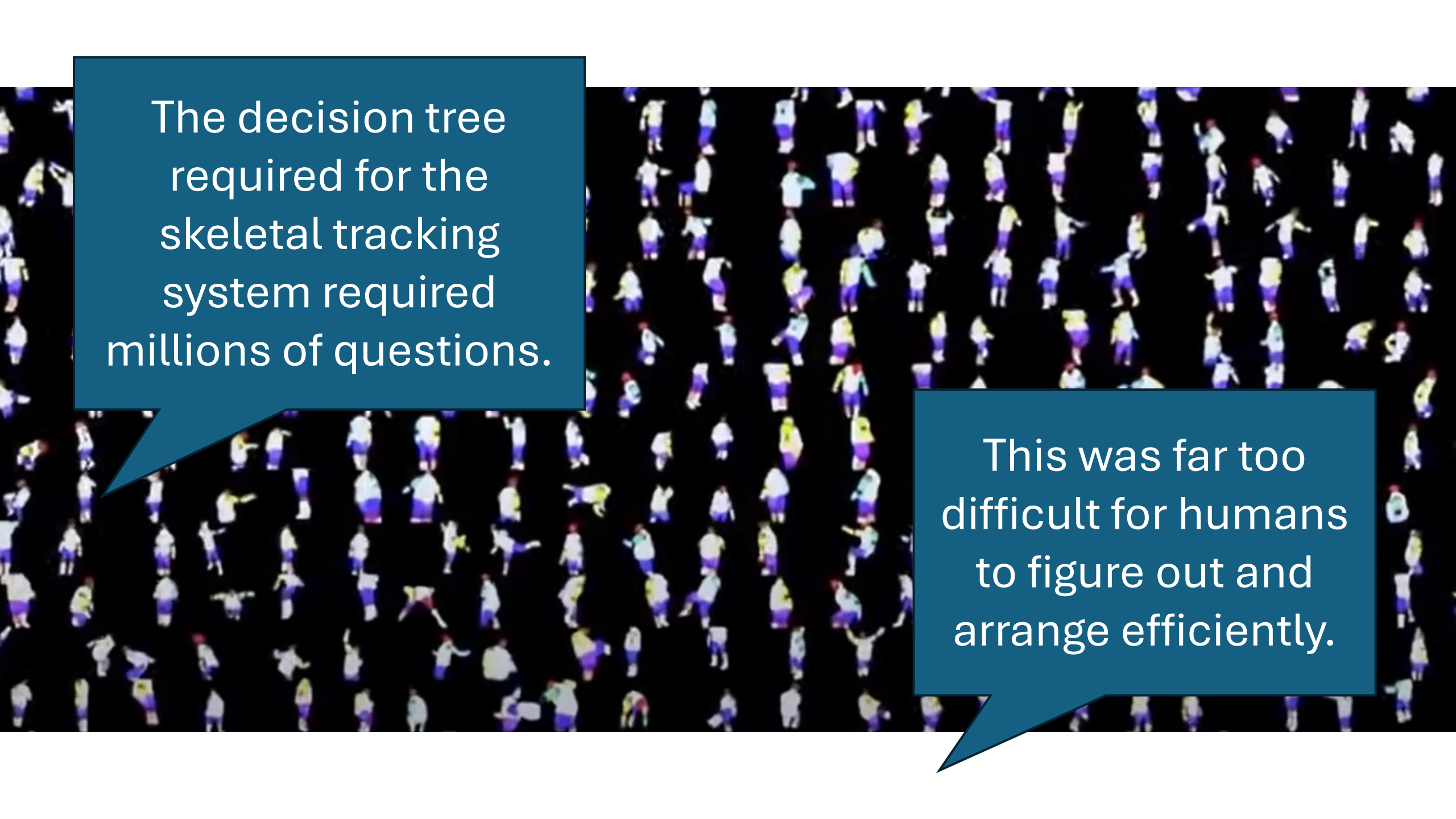
2009 Microsoft
Problem: How to get
the sensor to classify
human movement?



From: <https://www.youtube.com/watch?v=kiFfp-HAu64>

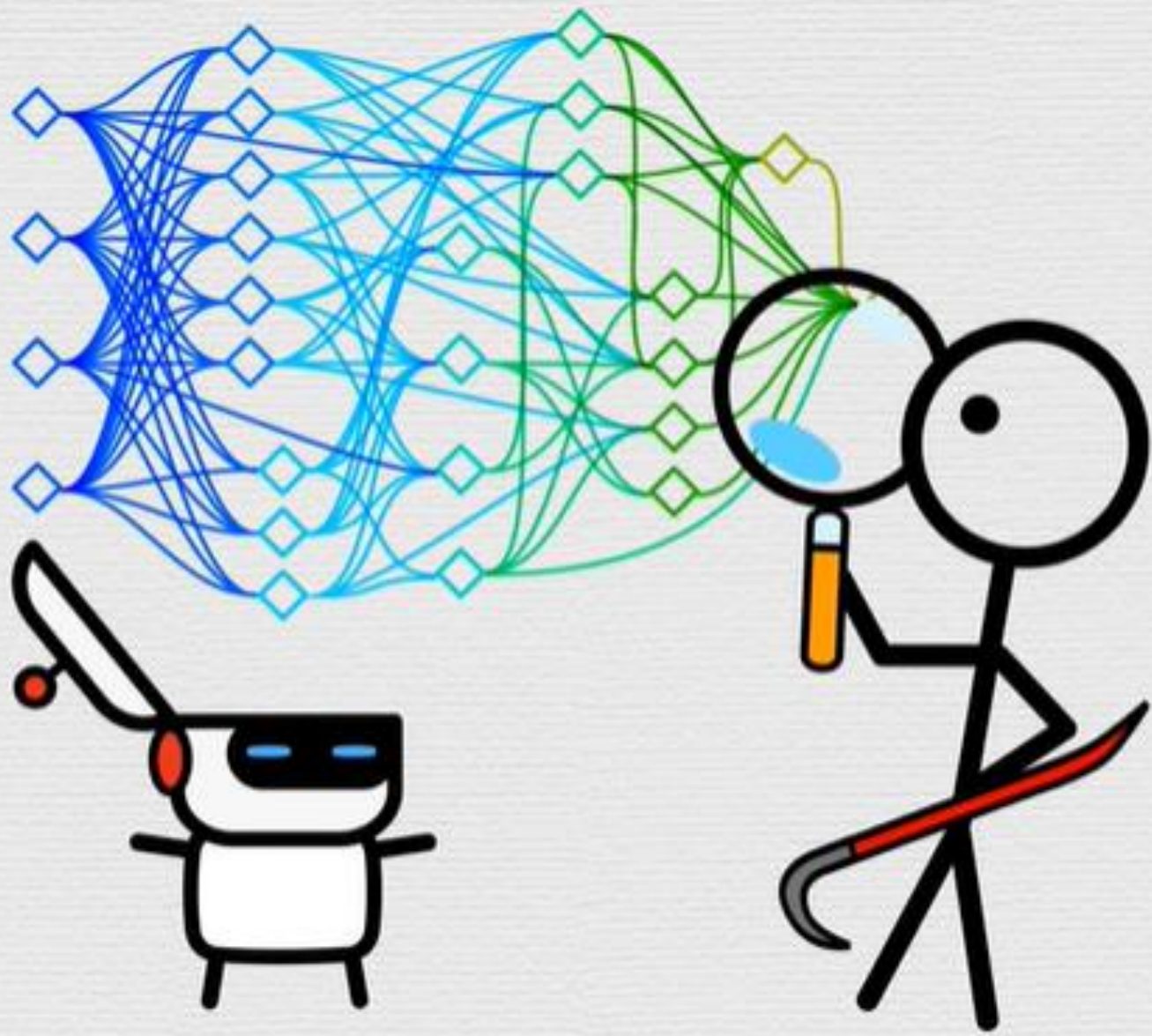
"The Secret Rules of Modern Living Algorithms" - Documentary.

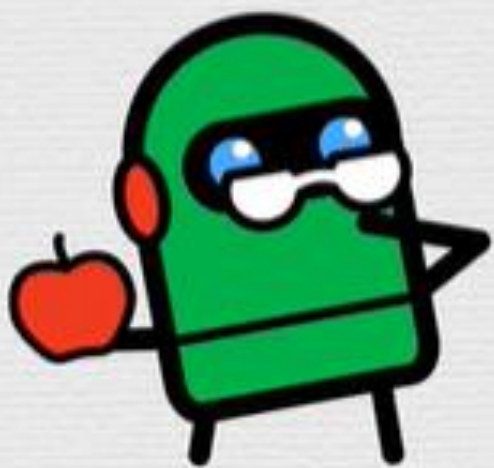


An aerial view of a large crowd of people, each with a colorful skeletal tracking overlay. The people are scattered across a dark background, and their movements are captured in various poses, illustrating the complexity of the skeletal tracking system.

The decision tree
required for the
skeletal tracking
system required
millions of questions.

This was far too
difficult for humans
to figure out and
arrange efficiently.







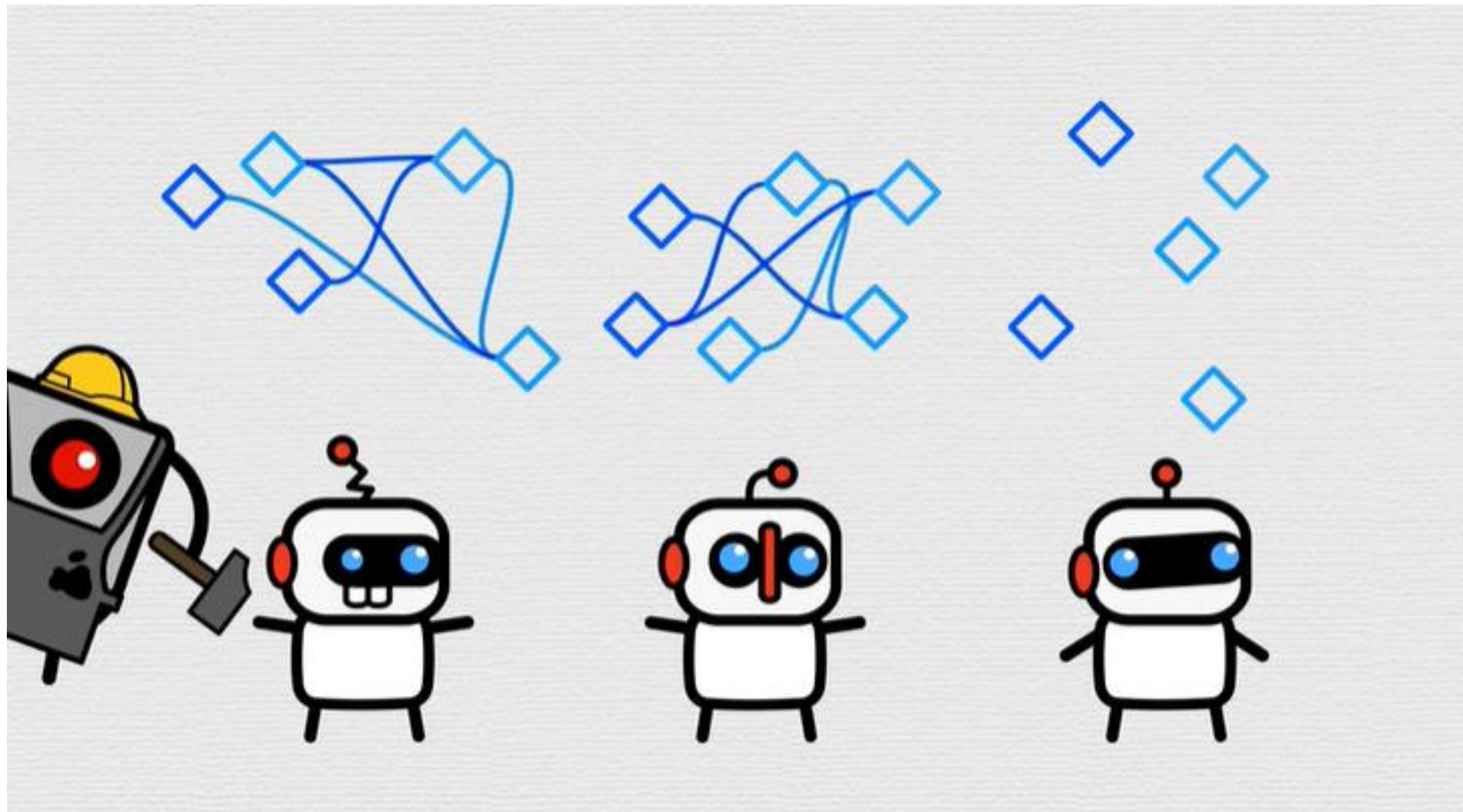


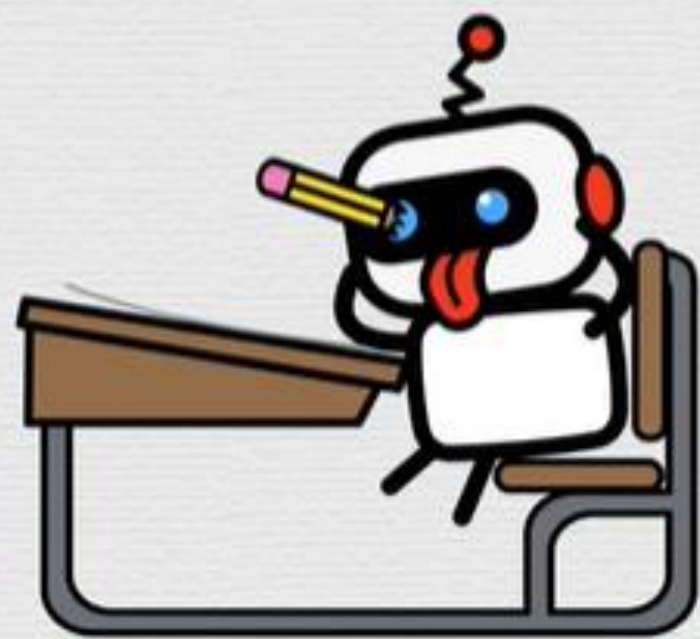
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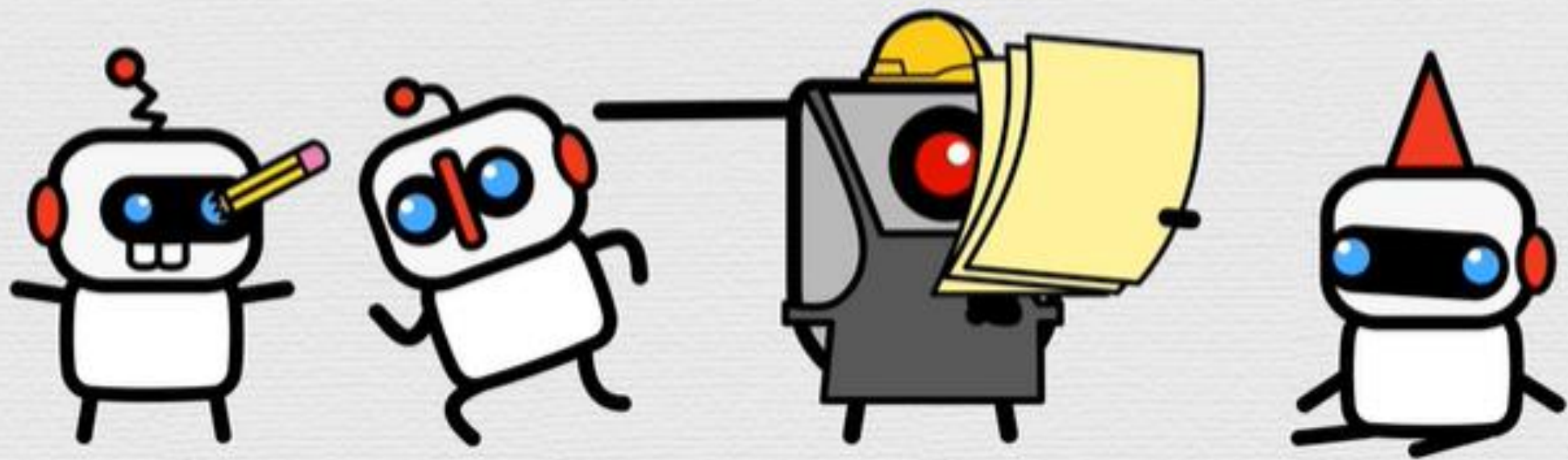


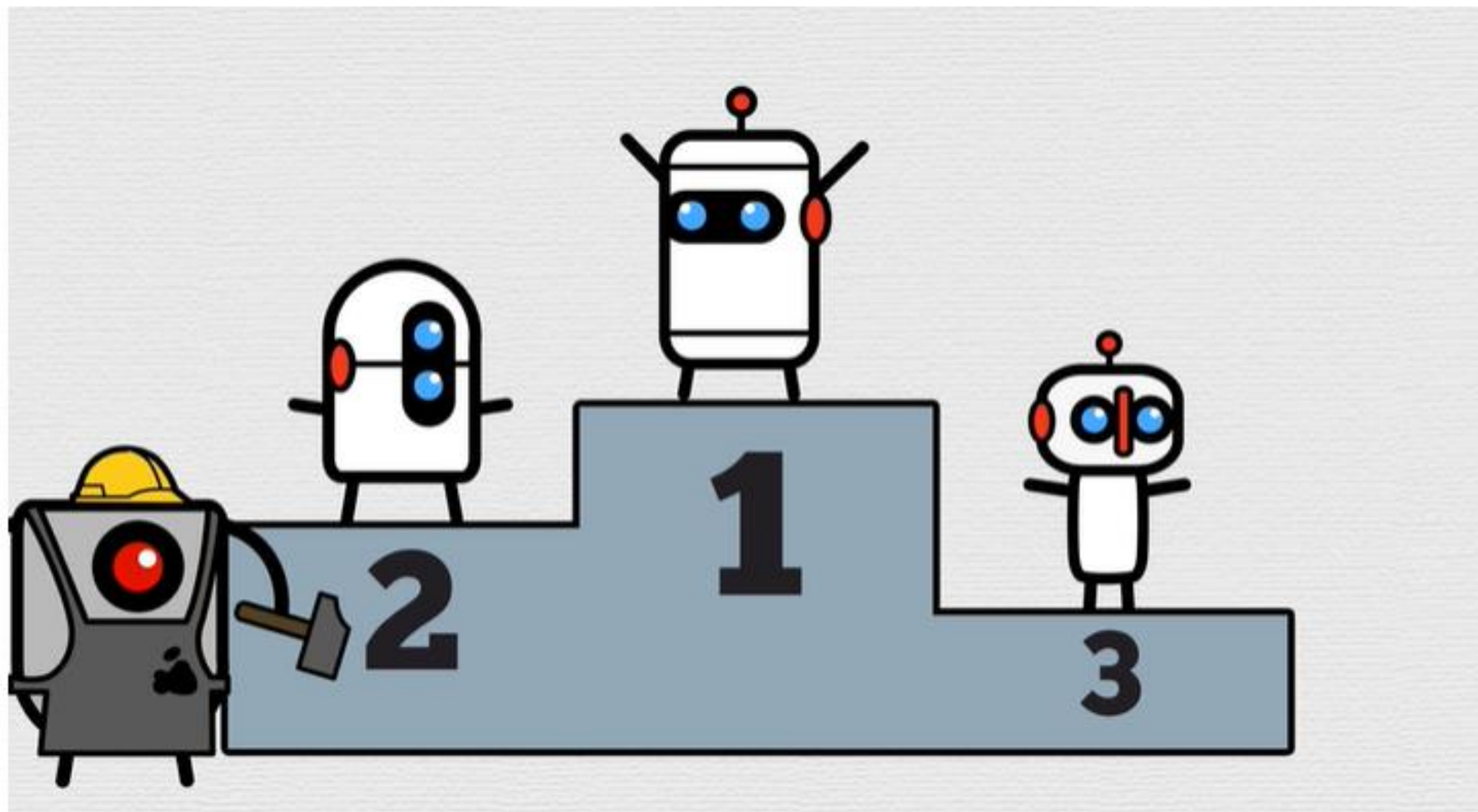
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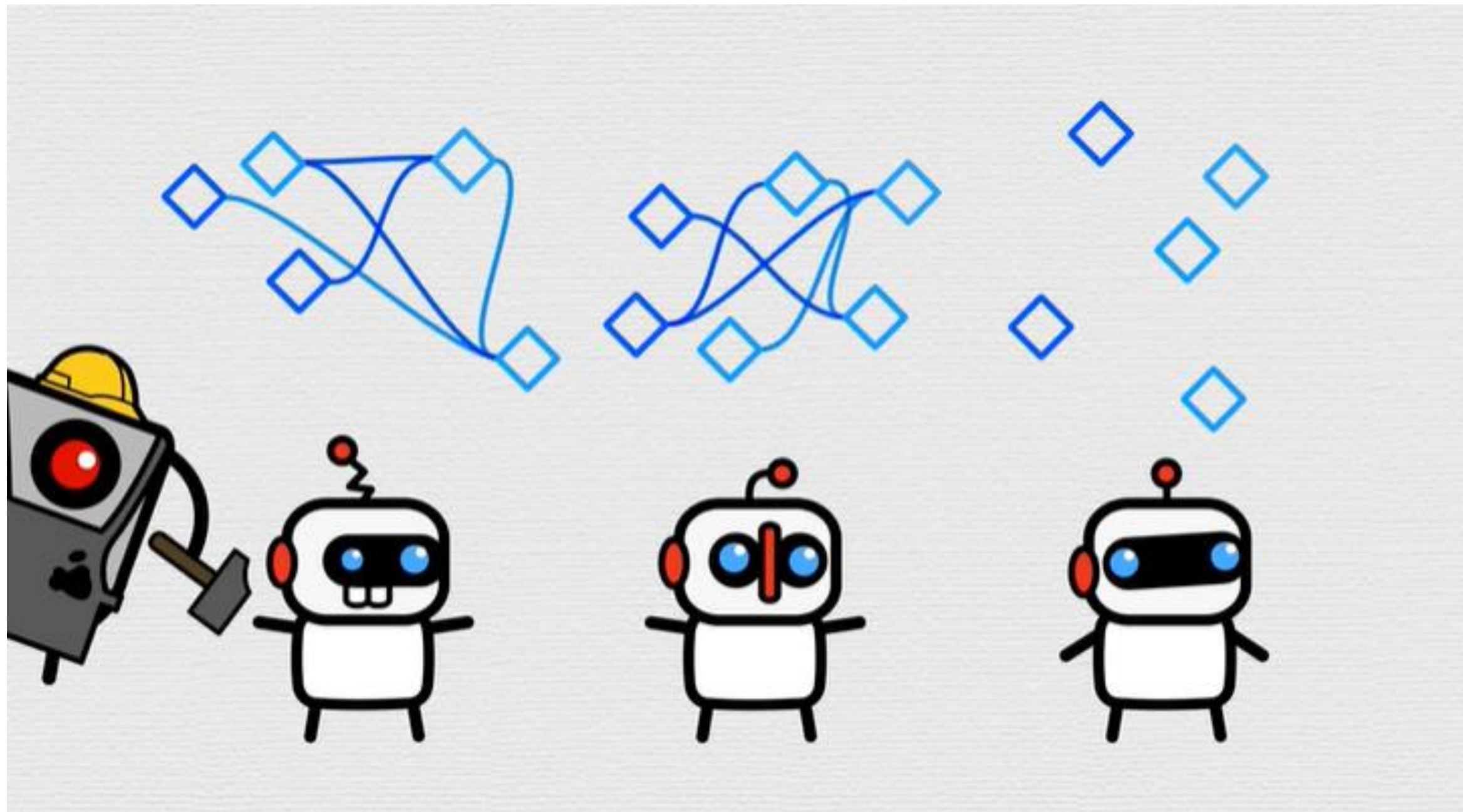


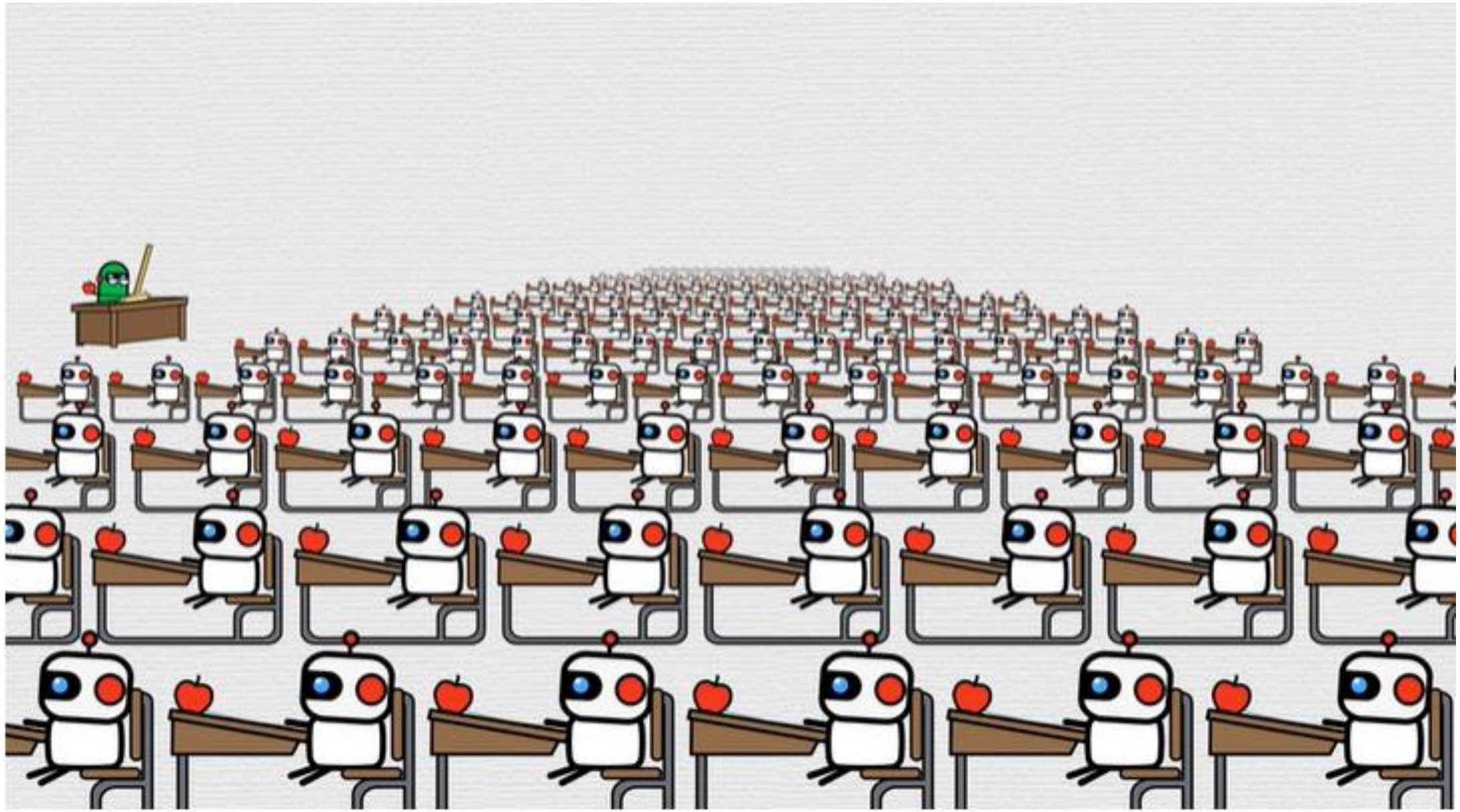






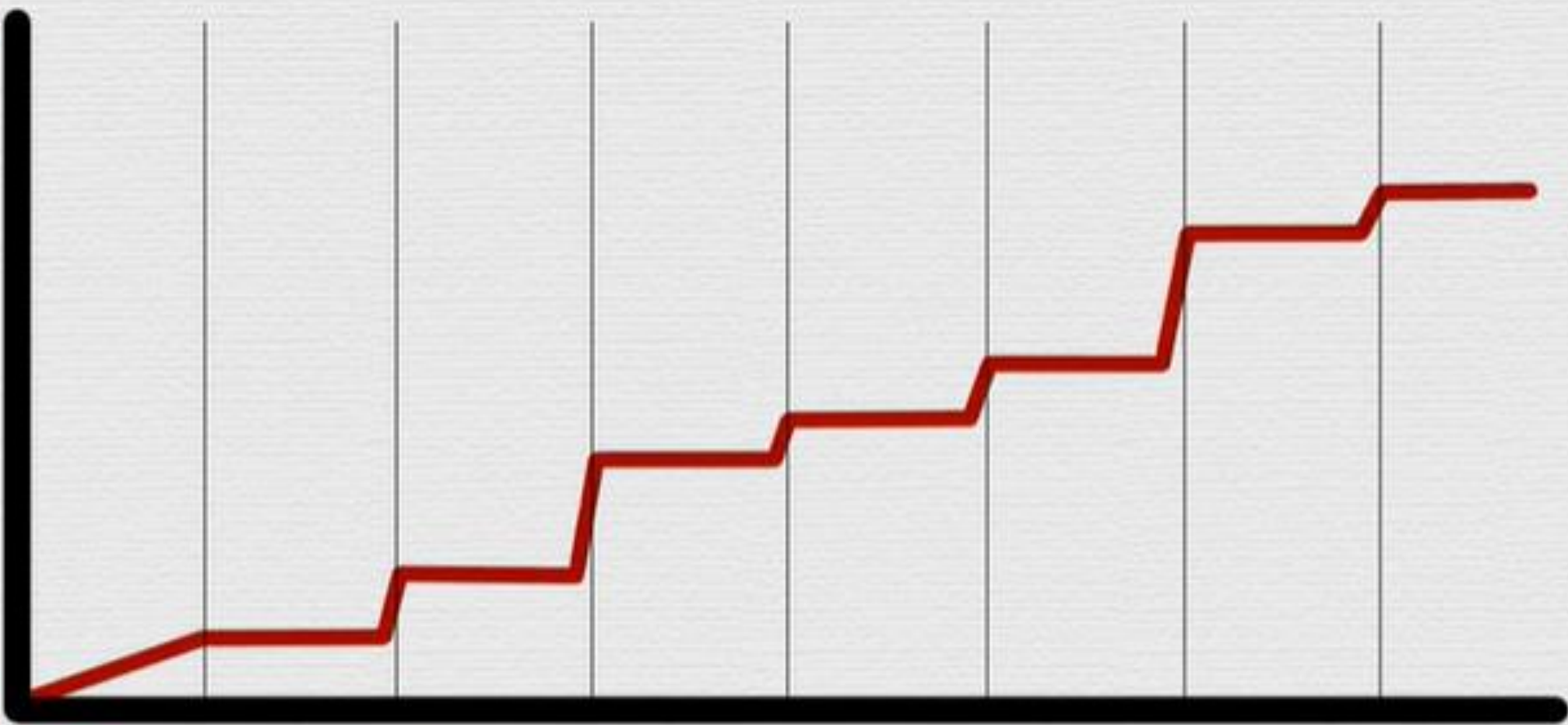
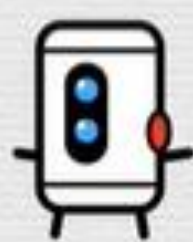
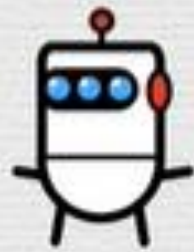
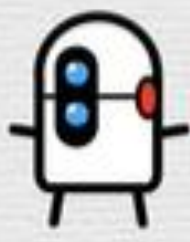
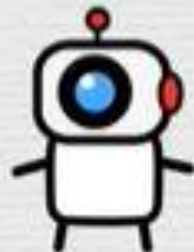






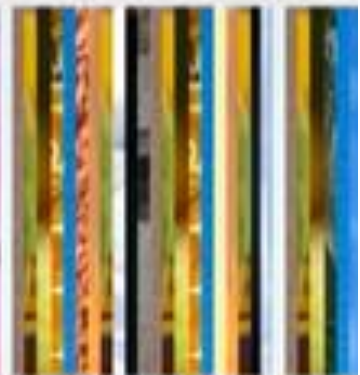
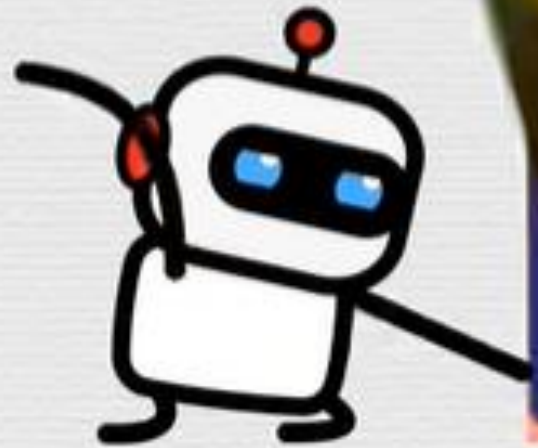
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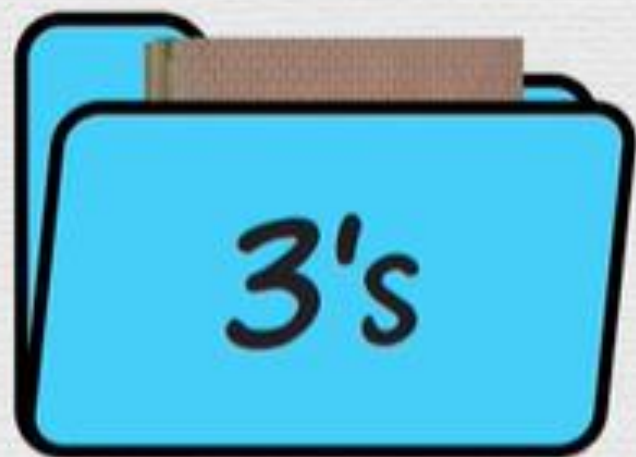
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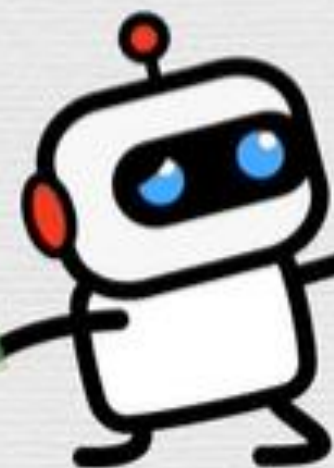
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bees





What?



Bee

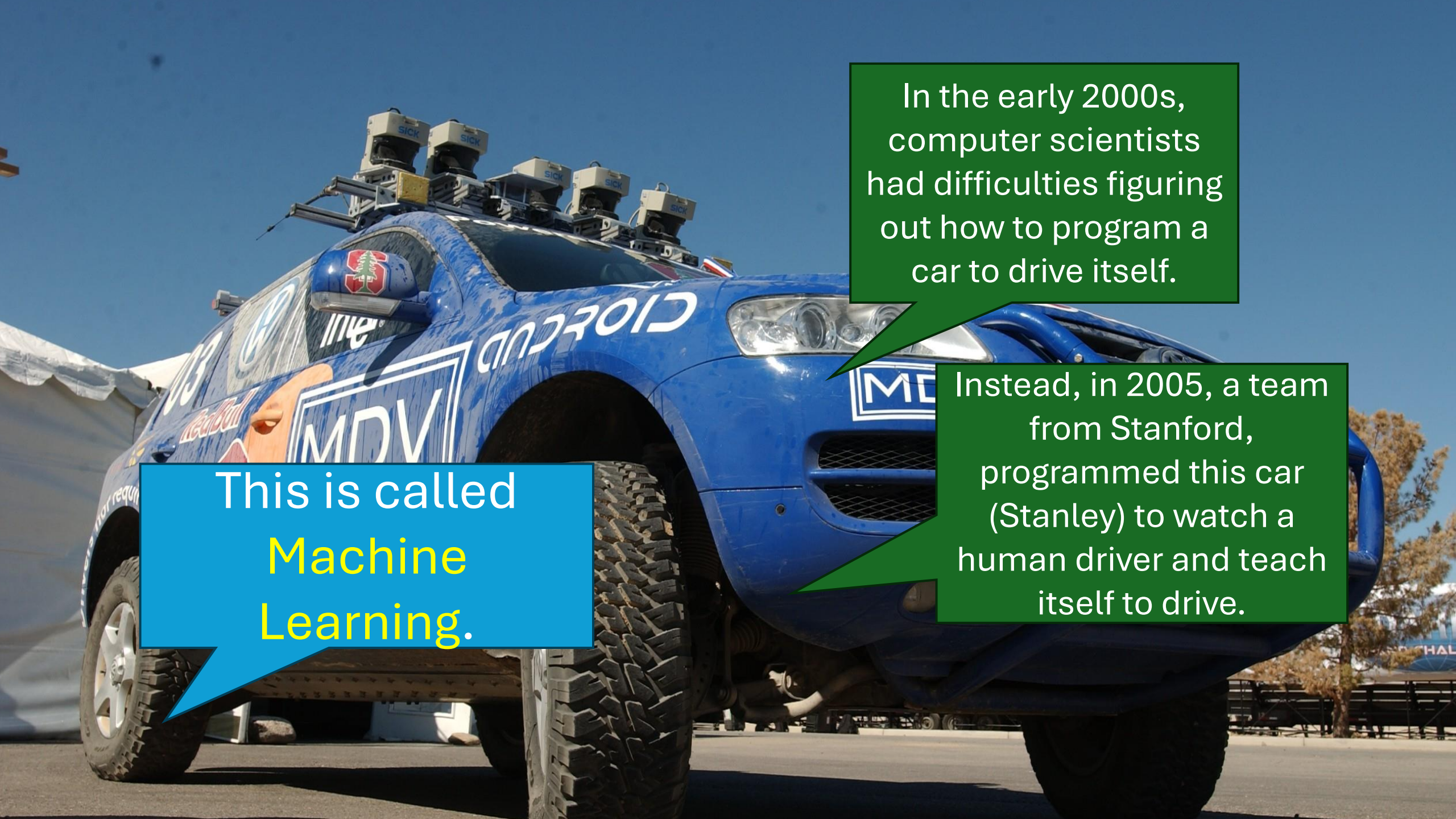
Three

Horse



Waymo is a self-driving car, based on the Google car.



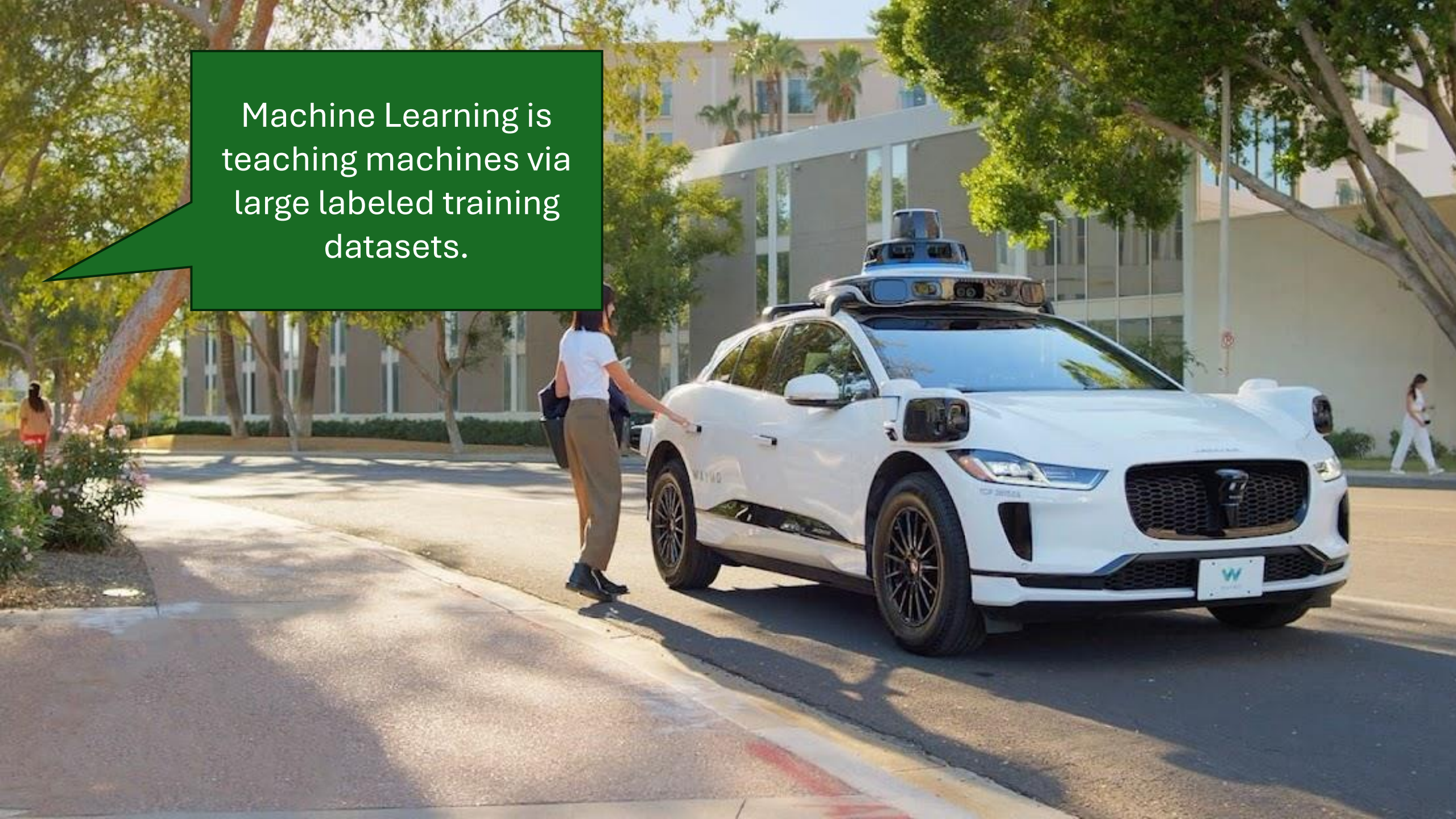


This is called
Machine Learning.

In the early 2000s, computer scientists had difficulties figuring out how to program a car to drive itself.

Instead, in 2005, a team from Stanford, programmed this car (Stanley) to watch a human driver and teach itself to drive.

Machine Learning is teaching machines via large labeled training datasets.



click the road signs



You, likely, have been part of the generation of the large dataset for self-driving cars.



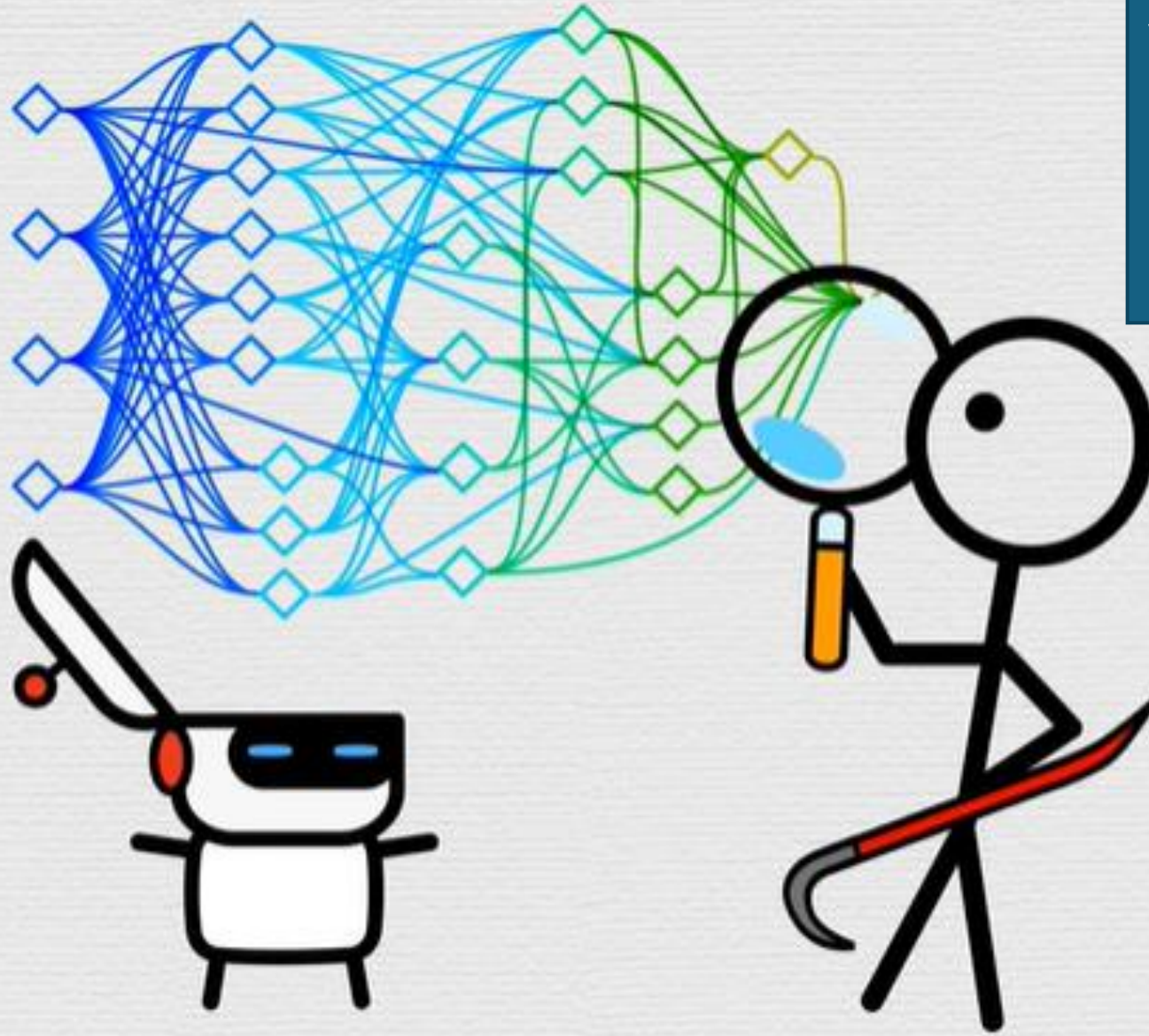
click the road signs



The quality of our source data really matters.

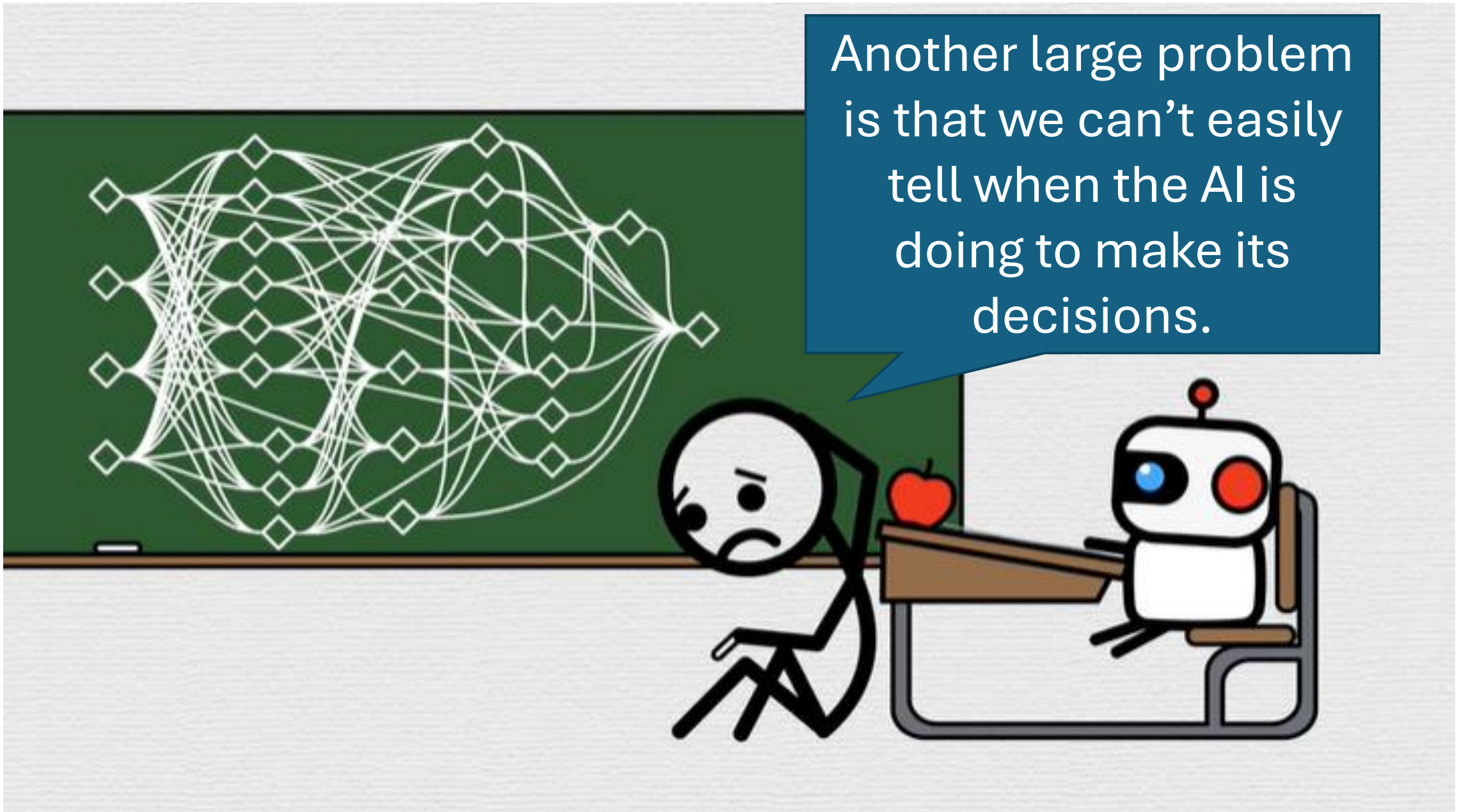


We know the input, we know the output....



We don't know what happens in between.

Another large problem is that we can't easily tell when the AI is doing to make its decisions.

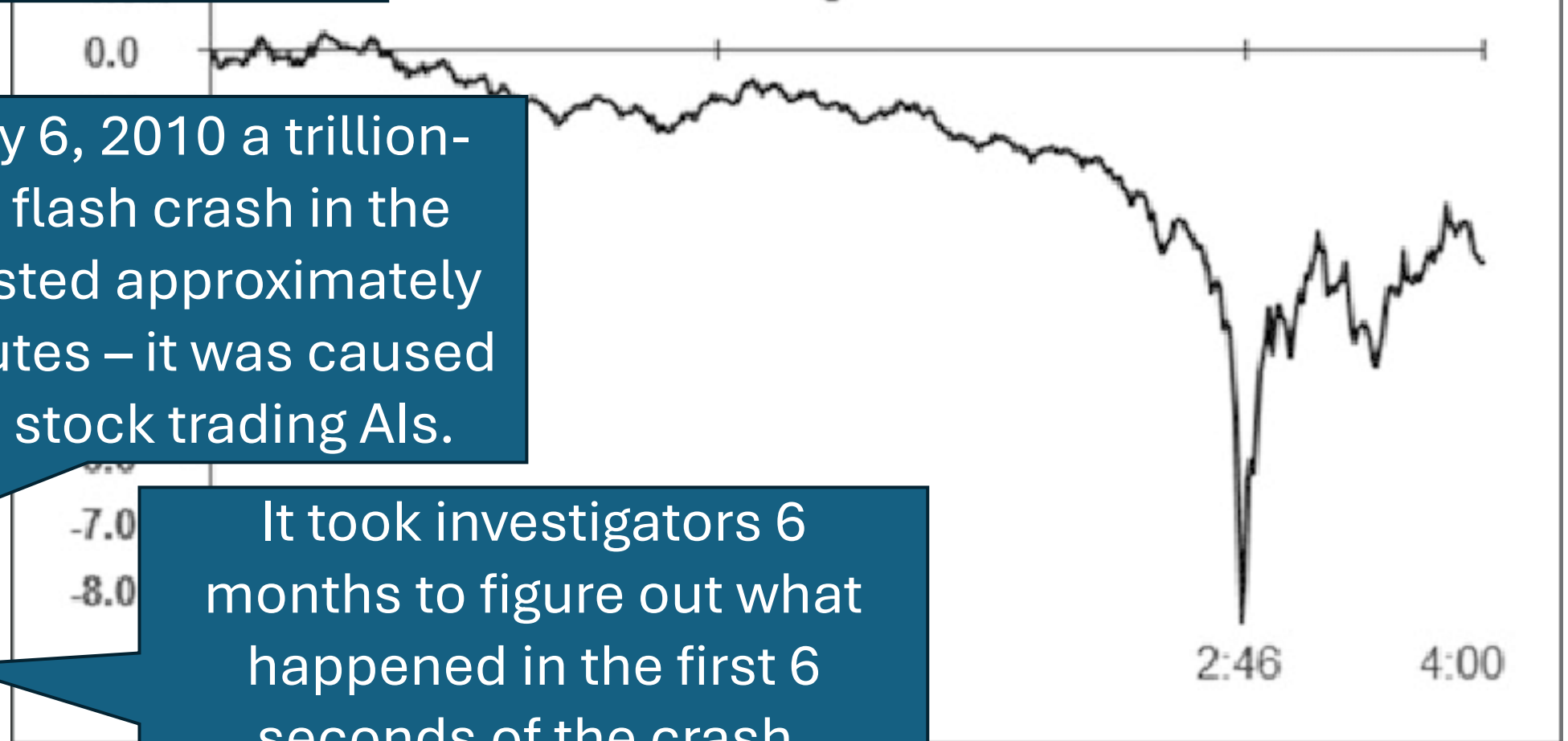


The code the AI is creating is far too complex for humans to easily read it.

On May 6, 2010 a trillion-dollar flash crash in the USA lasted approximately 36 minutes – it was caused by the stock trading AIs.

It took investigators 6 months to figure out what happened in the first 6 seconds of the crash.

The "Flash Crash," May 6, 2010
Standard & Poor's 500 Index at one minute intervals
source: Bloomberg Finance L.P.



ALPHAGO
00:05:30

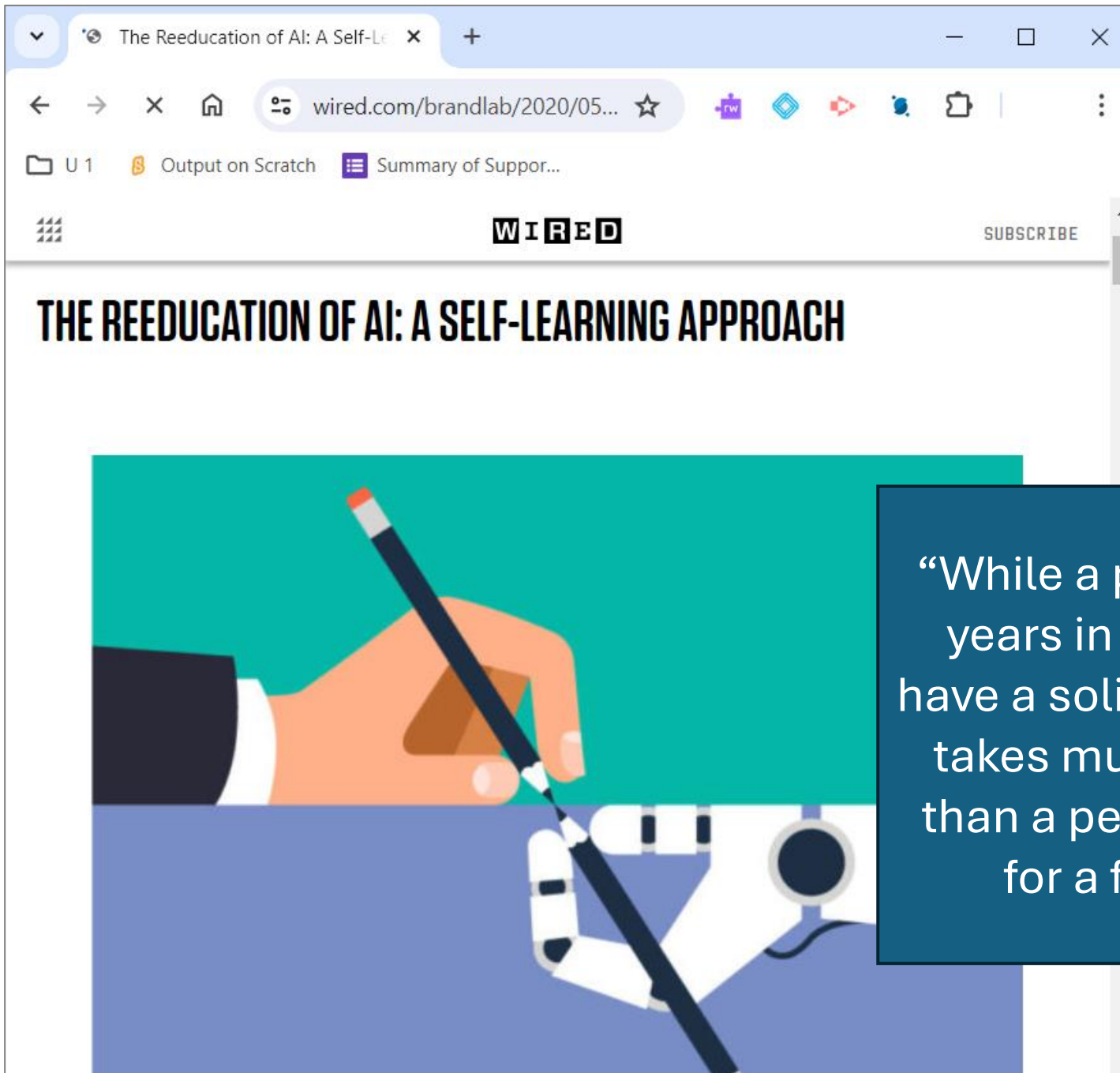


Google DeepMind
Challenge Match

Unsupervised learning, or **self-learning AI**, has an AI take a large data set and figure out patterns for itself.




LEE SEDOL
00:28:28



<https://www.wired.com/brandlab/2020/05/r-education-ai-self-learning-approach/>

This Wired article compares older machine-learning to self-learning using learning a new language.

“While a person who learns Spanish for five years in school [machine learning] might have a solid understanding of the language, it takes much longer for the student to learn than a person who simply moves to Mexico for a few months. [self-learning AI]”



When Alpha Go beat Lee Seidol in 2016, it used its own self-learning of Go to do it.

Some of the strategies that Alpha Go used were previously unknown – humans had never used them.

ChatGPT



ChatGPT uses other key developments: **Large Language Model** and **Generative Text**.

A Large Language Model uses self-learning and a large set of data to figure out trends.

The probabilities that it calculates are used to generate text.

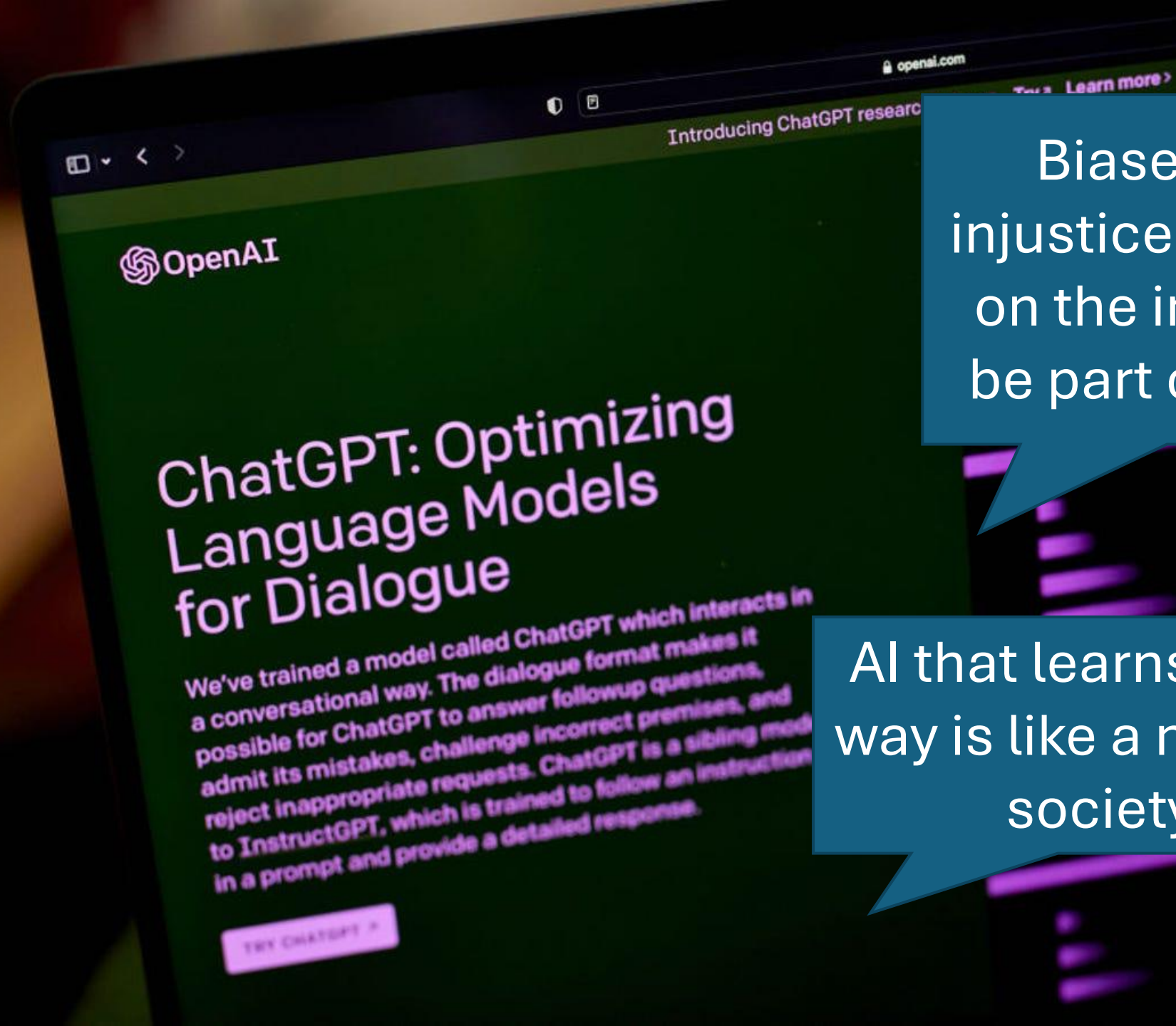
It generates text based on the probability of what occurs in its large data set.

CHATGPT

 OpenAI

ChatGPT's data
comes from the
internet





Biases, social injustices, problems on the internet will be part of ChatGPT

AI that learns in this way is like a mirror of society.



In 2016, Microsoft built a chatbot named Tay.

They wanted it to have twitter conversations.

Its source data was
Twitter.

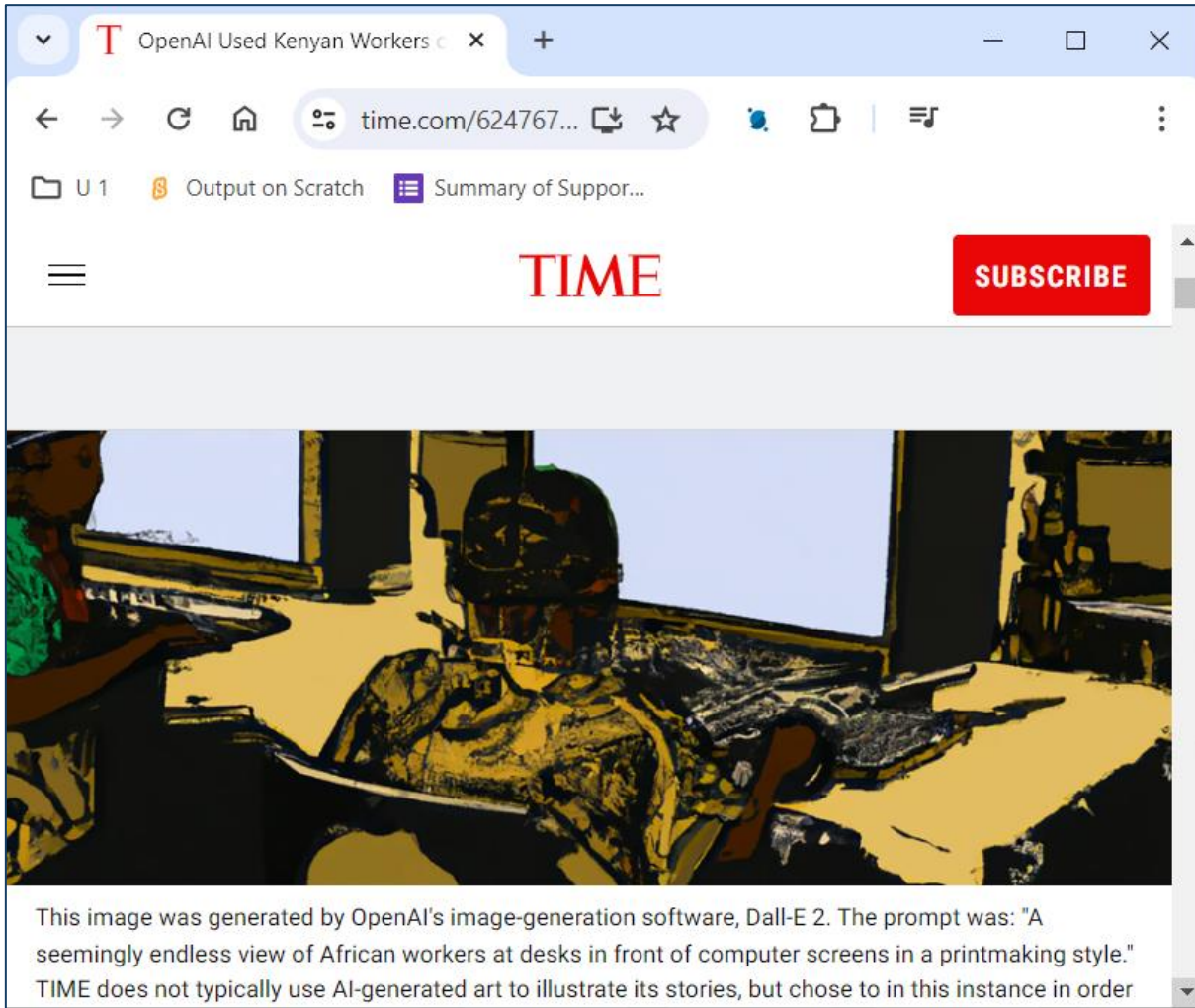


It's first Tweets were about puppies.

Within 24 hours, it moved to Neo-Nazi posts.

Microsoft pulled it.

TIME

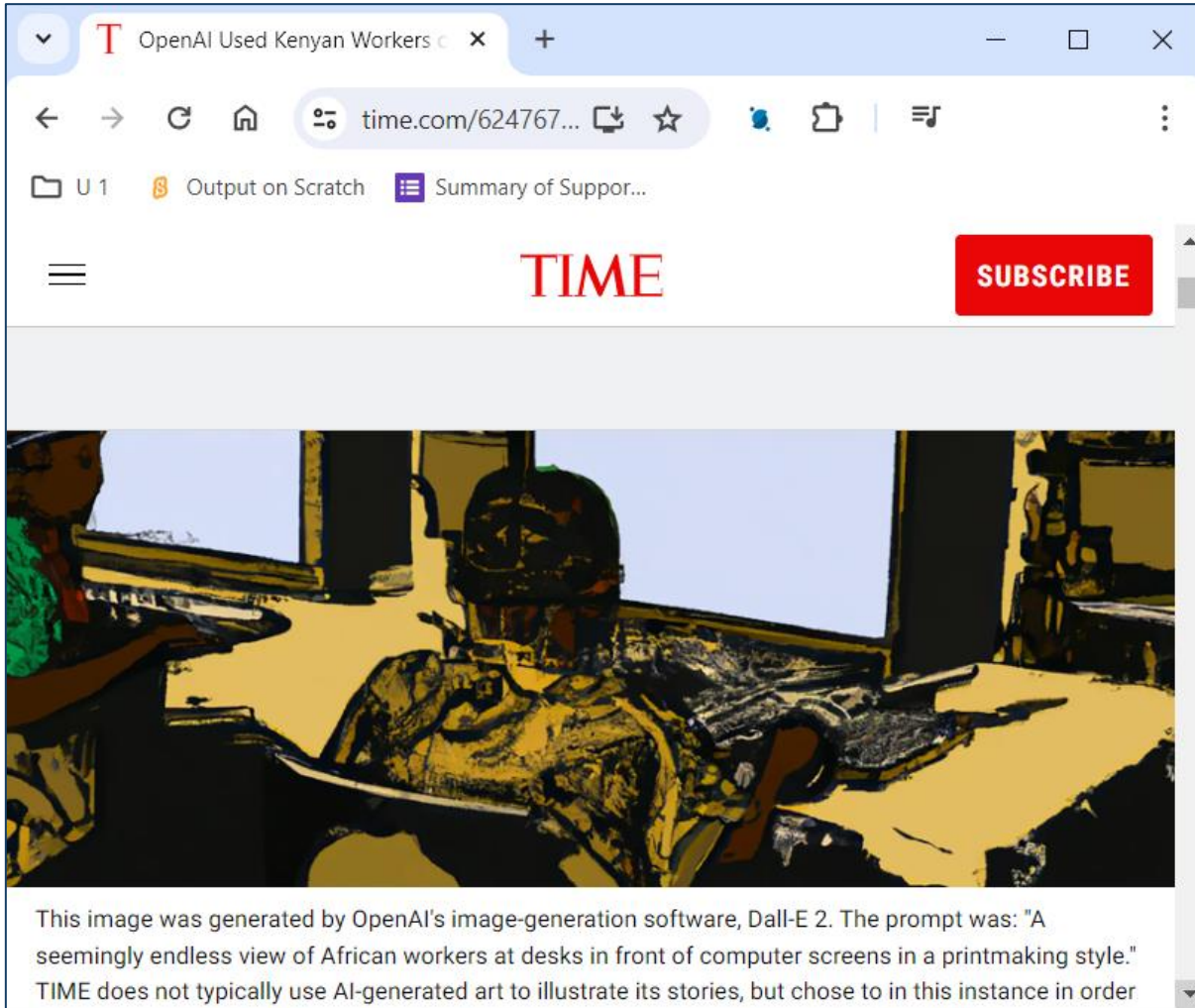


<https://time.com/6247678/openai-chatgpt-kenya-workers/>

“The premise was simple: feed an AI with labeled examples of violence, hate speech, and sexual abuse, and that tool could learn to detect those forms of toxicity in the wild. That detector would be built into ChatGPT to check whether it was echoing the toxicity of its training data, and filter it out before it ever reached the user. It could also help scrub toxic text from the training datasets of future AI models.

To get those labels, OpenAI sent tens of thousands of snippets of text to an outsourcing firm in Kenya, beginning in November 2021.”

TIME

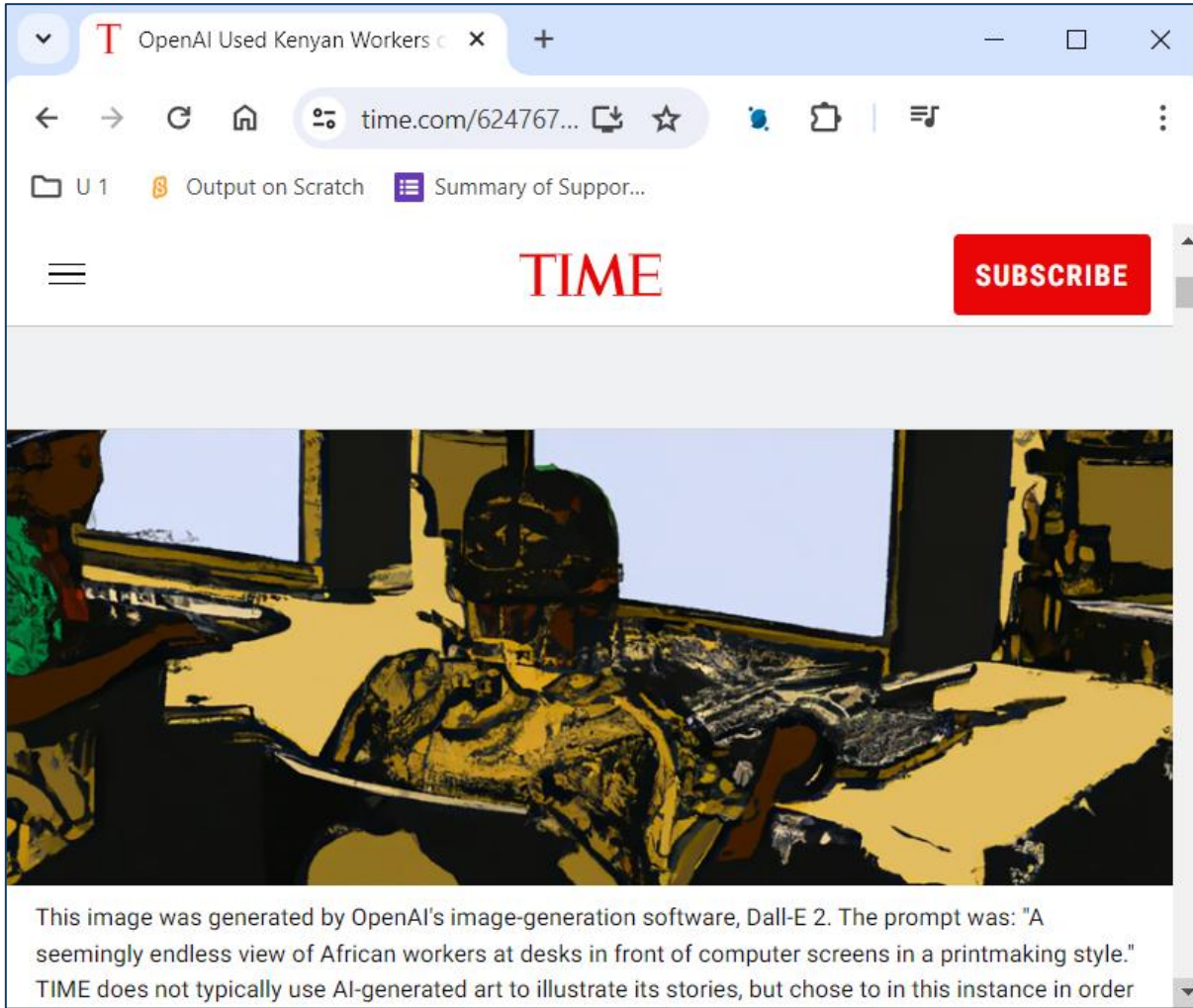


“The data labelers employed by Sama on behalf of OpenAI were paid a take-home wage of between around \$1.32 and \$2 per hour depending on seniority and performance.

But the working conditions of data labelers reveal a darker part of that picture: that for all its glamor, AI often relies on hidden human labor in the Global South that can often be damaging and exploitative. These invisible workers remain on the margins even as their work contributes to billion-dollar industries.”

<https://time.com/6247678/openai-chatgpt-kenya-workers/>

TIME



The screenshot shows a web browser window with the TIME logo and a 'SUBSCRIBE' button. Below the header is a generated image of African workers at desks. A caption below the image reads: "This image was generated by OpenAI's image-generation software, Dall-E 2. The prompt was: 'A seemingly endless view of African workers at desks in front of computer screens in a printmaking style.' TIME does not typically use AI-generated art to illustrate its stories, but chose to in this instance in order


“Despite the foundational role played by these data enrichment professionals, a growing body of research reveals the precarious working conditions these workers face,” says the Partnership on AI, a coalition of AI organizations to which OpenAI belongs. “This may be the result of efforts to hide AI’s dependence on this large labor force when celebrating the efficiency gains of technology. Out of sight is also out of mind.”

<https://time.com/6247678/openai-chatgpt-kenya-workers/>

It's destroyed me completely: x +

theguardian.com...

U 1 Output on Scratch Summary of Suppor...



Artificial intelligence (AI)

This article is more than **9 months old**

'It's destroyed me completely': Kenyan moderators decry toll of training of AI models



Employees describe the psychological trauma of reading and viewing graphic content, low pay and abrupt dismissals

<https://www.theguardian.com/technology/2023/aug/02/ai-chatbot-training-human-toll-content-moderator-meta-openai>

Farmer rowing a boat across a river. A lion, apple and goat are on the shore.



In my class, we were coding the river problem and needed a picture. This was the result of the image generator.

Solving this problem is no easy task, people are debating it:
<https://www.vox.com/future-perfect/2024/2/28/24083814/google-gemini-ai-bias-ethics>

The image shows a browser window with a video player and an article snippet. The video player shows a blue background with the text "Amazon's biggest hiring event of the year" and a calendar sticker for "AUG 2". The article title is "Insight - Amazon scraps secret AI recruiting tool that showed bias against women" by Jeffrey Dastin, dated October 10, 2018. The article text mentions that Amazon's machine-learning specialists uncovered a problem with their new recruiting tool.

Insight - Amazon scraps secret AI recruiting tool that showed bias against women

By Jeffrey Dastin

October 10, 2018 8:50 PM EDT · Updated 6 years ago

SAN FRANCISCO (Reuters) - Amazon.com Inc's machine-learning specialists uncovered a big problem: their new recruiting en... did not like women.

The fact that we can't easily tell what the AI is doing to make its decisions is a bigger problem.

If it reflects social injustices present in society, we might not even be aware it is happening.

<https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G/>

ChatGPT

chat.openai.com

ChatGPT 3.5 Sign up

How can I help you today?

Dive into history
choose a historical figure

Plan an itinerary
for a literary tour of England, visiting famous aut...

Recommend a dish
to impress a date who's a picky eater

Brainstorm names
for my fantasy football team with a frog theme

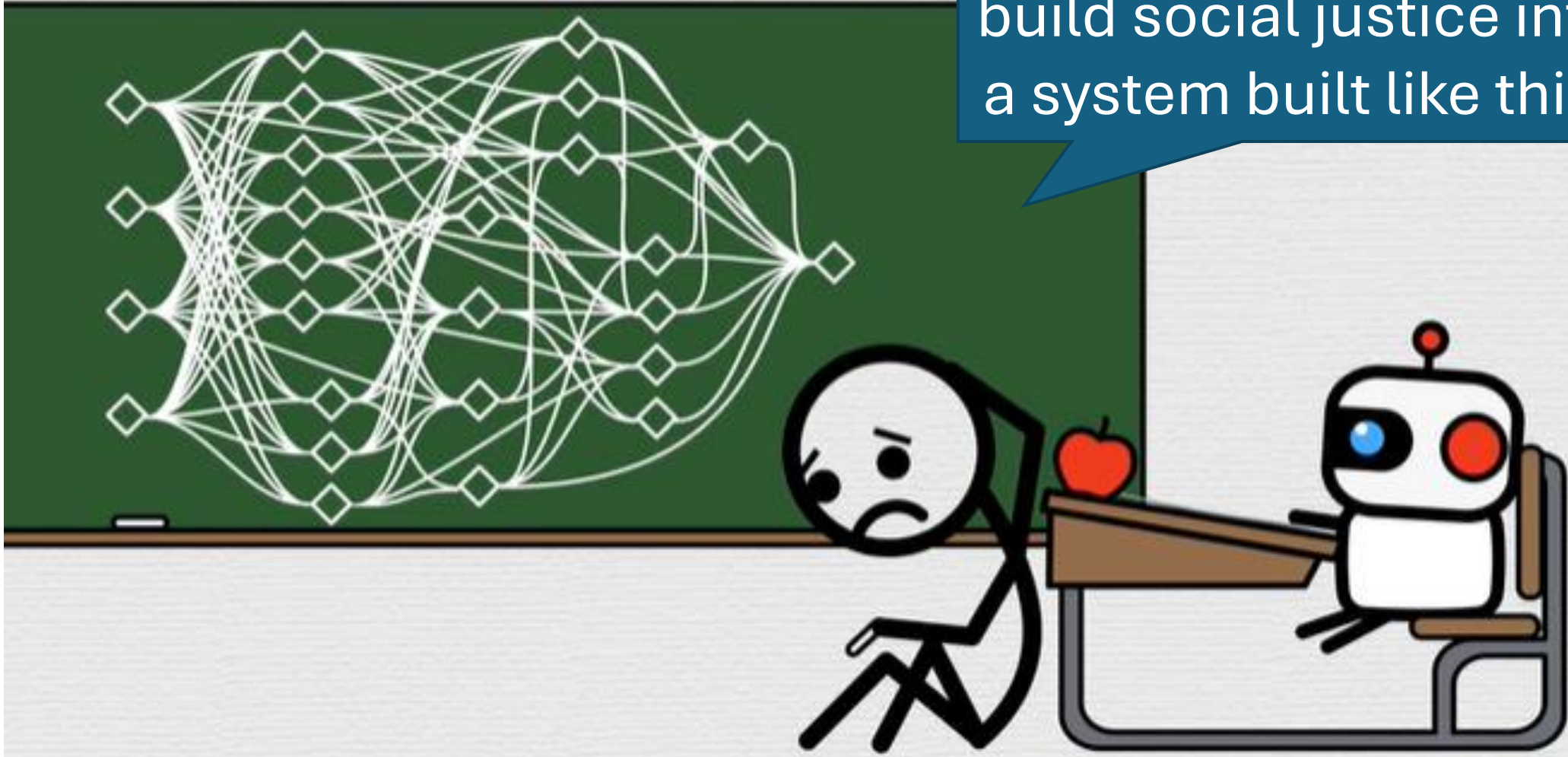
Message ChatGPT...

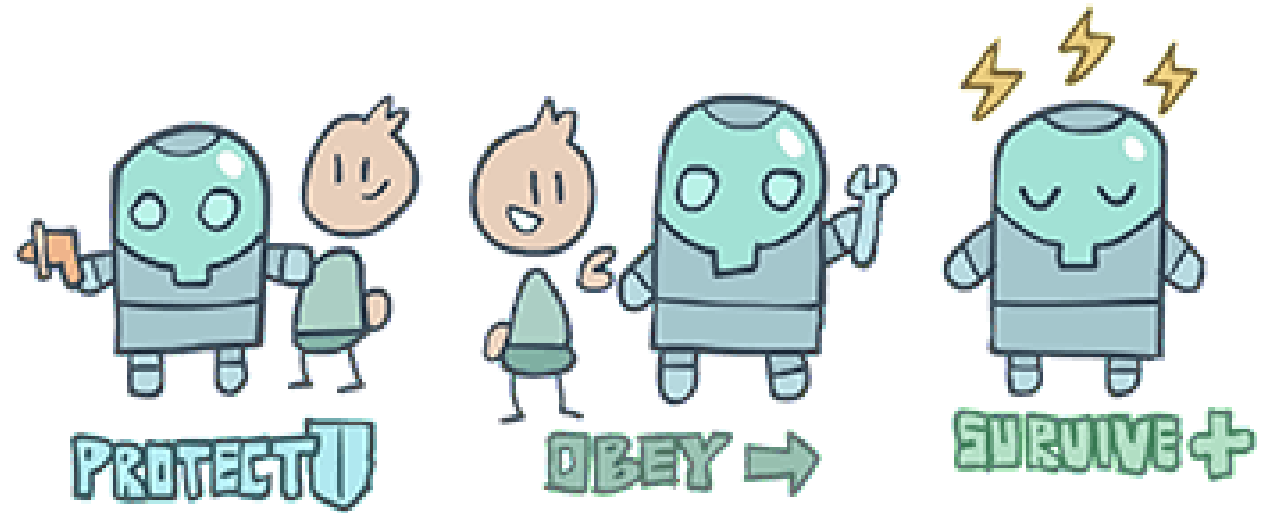
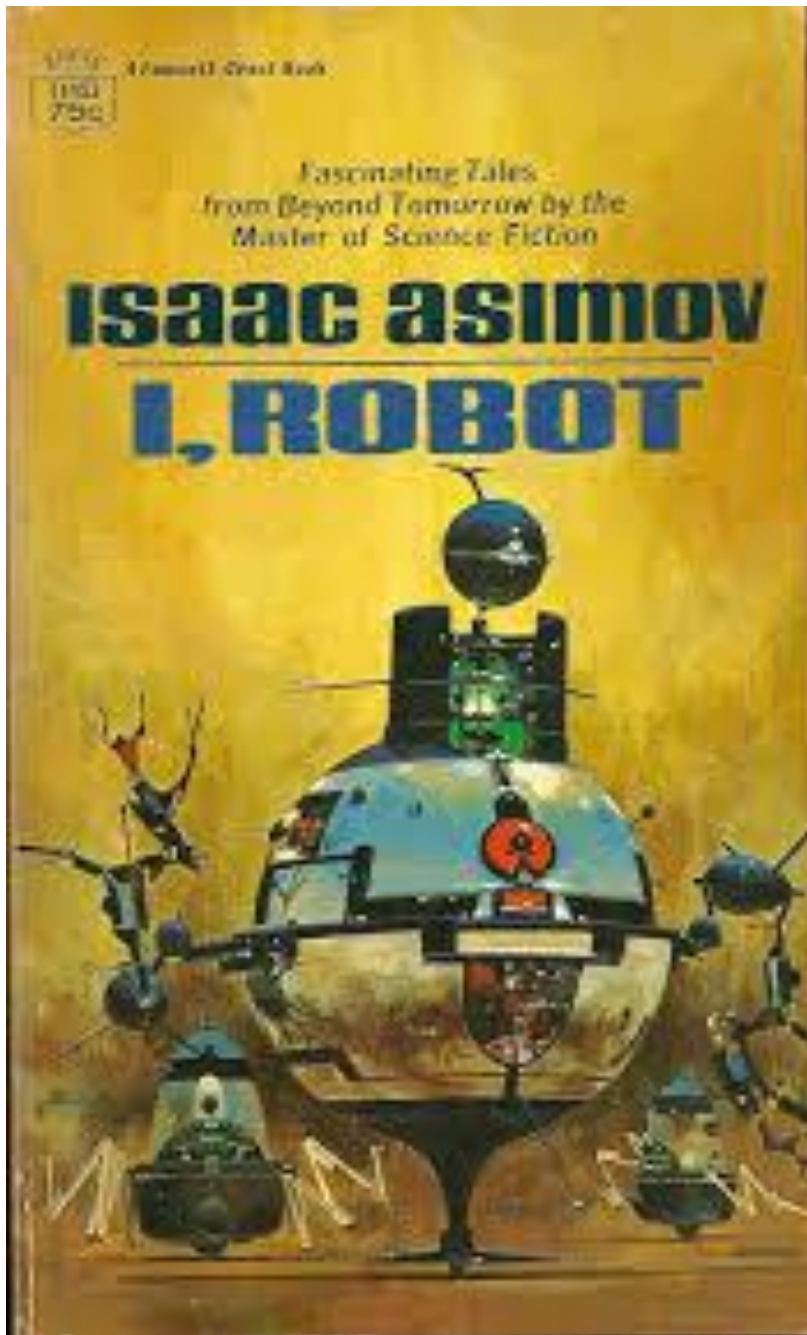
ChatGPT can make mistakes. Consider checking important information. Read our [Terms](#) and [Privacy Policy](#).

Always wise to note the fine print.

“ChatGPT can make mistakes. Consider checking important information. Read our Terms and Privacy Policy.”

There is no easy way to build social justice into a system built like this.



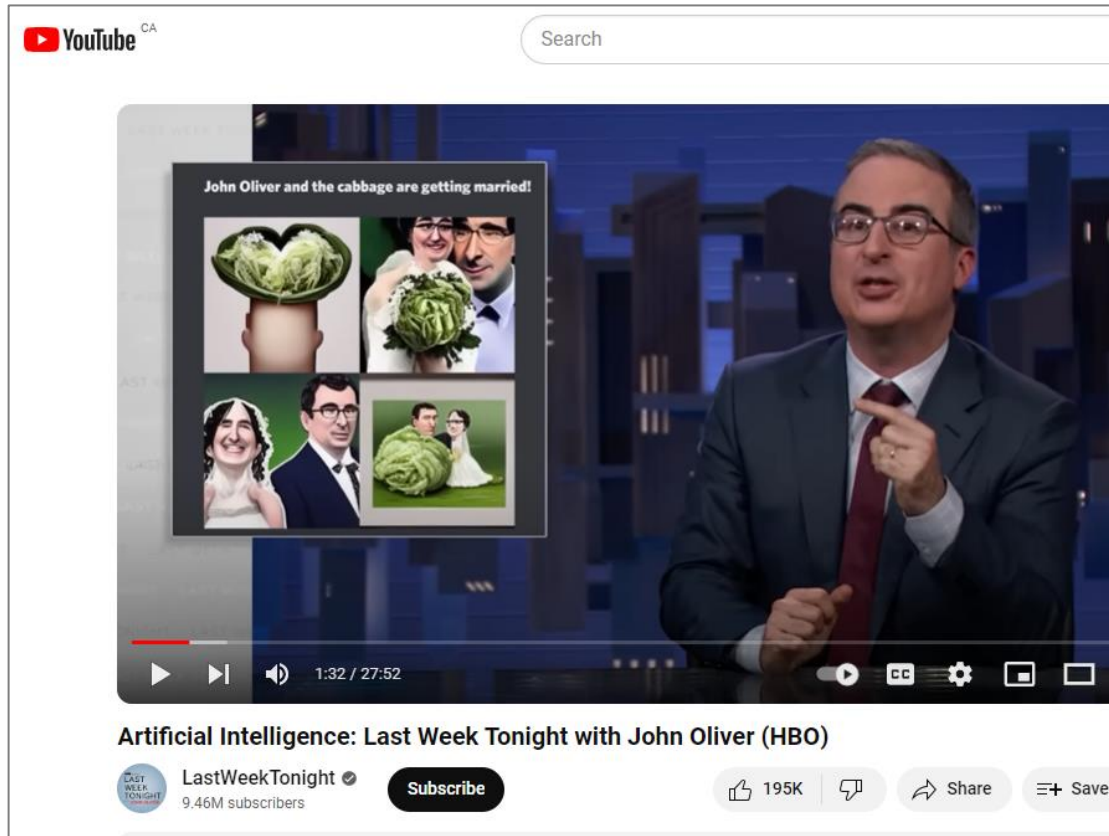


Asimov's Three Laws of Robotics

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

FYI, These are fairly “un-addable” to code that is optimizing and writing itself.

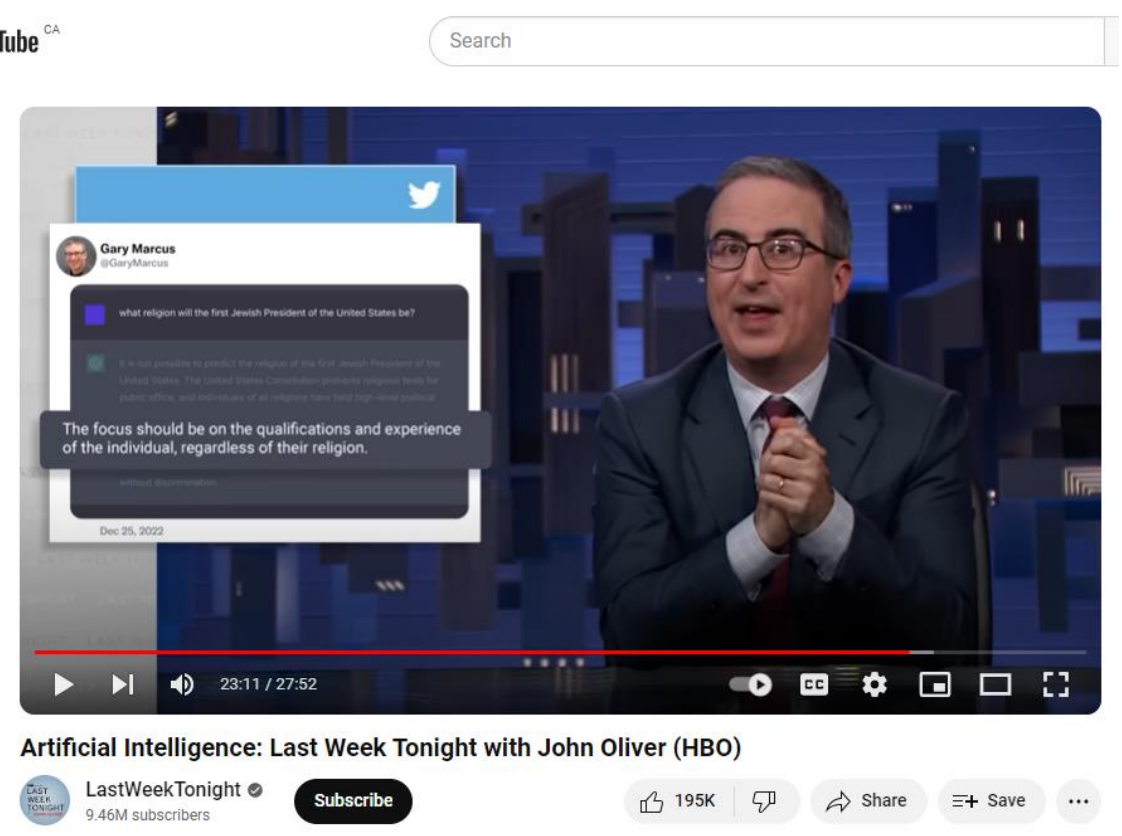
The AI Progression: “How neat” to “Oh-oh”



The video player shows John Oliver speaking. An AI-generated image is overlaid on the left side of the video. The image is titled "John Oliver and the cabbage are getting married!" and contains four panels: a heart-shaped cabbage, John Oliver holding a cabbage, a bride and groom, and John Oliver and a cabbage together. The video player interface includes a search bar, a play button, a progress bar at 1:32 / 27:52, and a title "Artificial Intelligence: Last Week Tonight with John Oliver (HBO)". Below the video, there is a channel logo for "LastWeekTonight" with 9.46M subscribers, a "Subscribe" button, and engagement icons for likes (195K), comments, share, and save.

AI Images – August 28, 2022

<https://www.youtube.com/watch?v=3YNku5FKWjw>

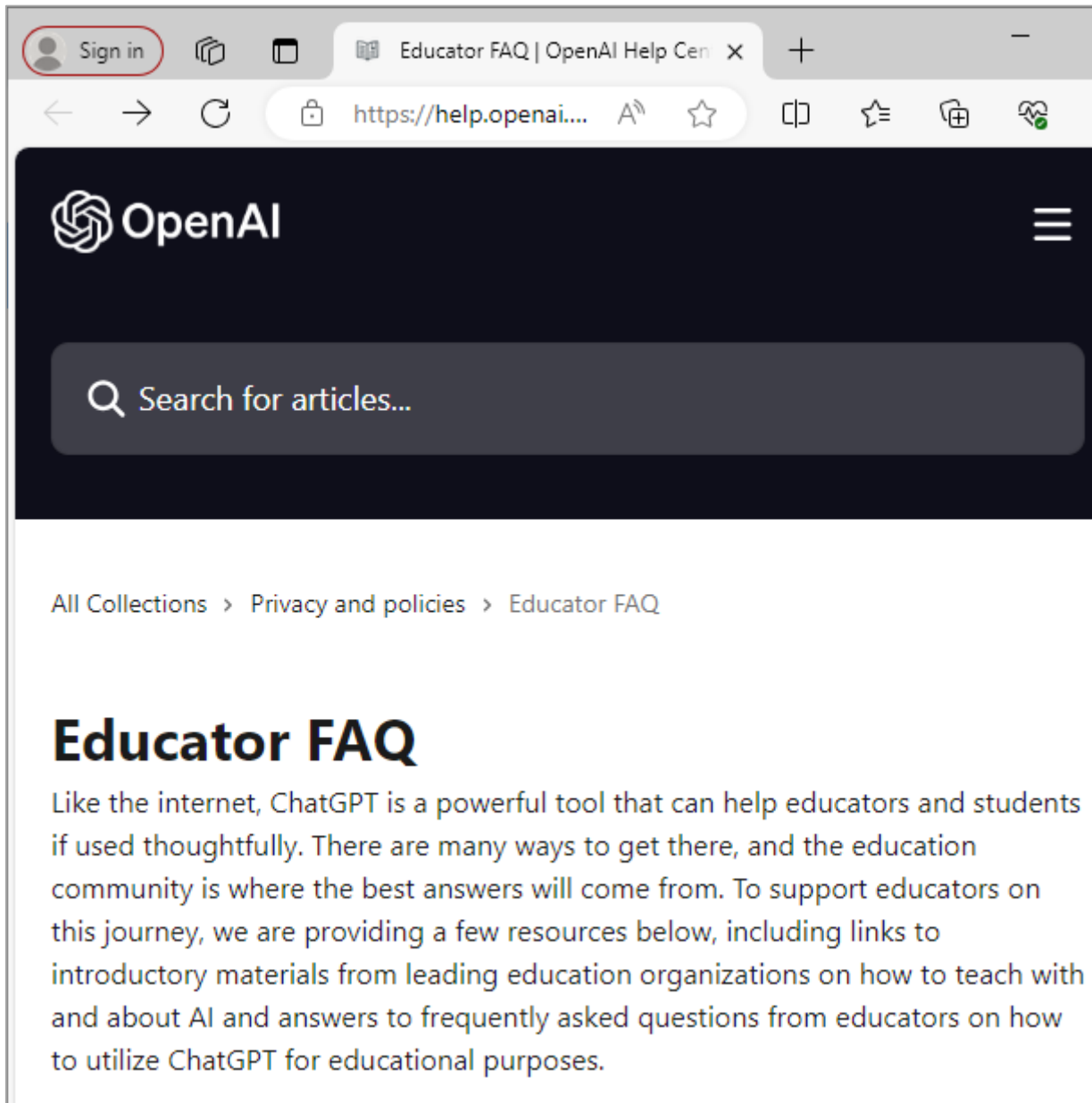


The video player shows John Oliver speaking. An AI-generated tweet is overlaid on the left side of the video. The tweet is from Gary Marcus (@GaryMarcus) and asks "what religion will the first Jewish President of the United States be?". It includes a quote: "It is not possible to predict the religion of the first Jewish President of the United States. The United States Constitution prohibits religious tests for public office, and individuals of all religions have held high-level political office." and a response: "The focus should be on the qualifications and experience of the individual, regardless of their religion." The tweet is dated Dec 25, 2022. The video player interface includes a search bar, a play button, a progress bar at 23:11 / 27:52, and a title "Artificial Intelligence: Last Week Tonight with John Oliver (HBO)". Below the video, there is a channel logo for "LastWeekTonight" with 9.46M subscribers, a "Subscribe" button, and engagement icons for likes (195K), comments, share, save, and a menu icon.

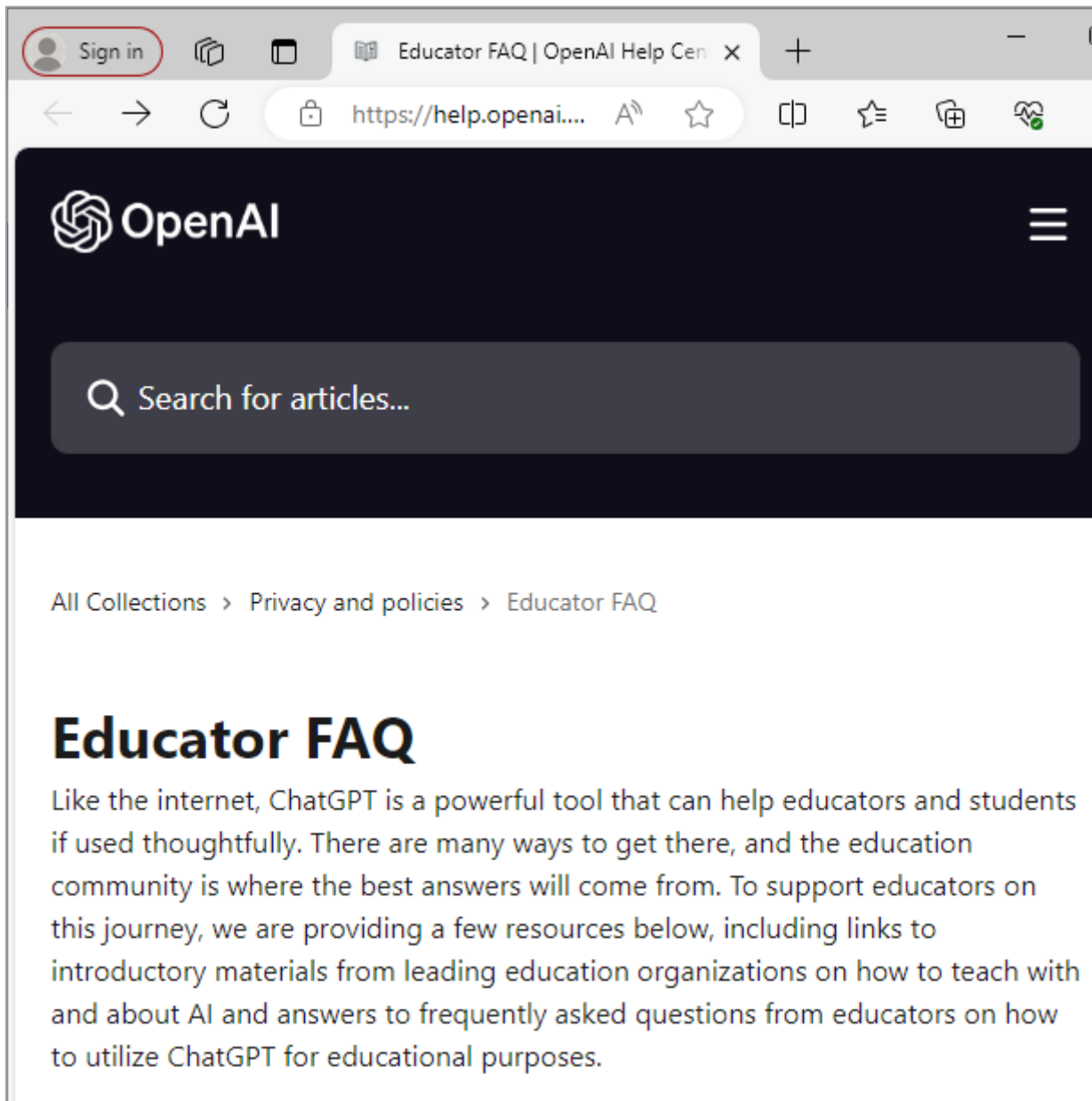
AI – February 26, 2023

<https://www.youtube.com/watch?v=Sqa8Zo2XWc4>

Moving on....



“Like the internet, ChatGPT is a powerful tool that can help educators and students if used thoughtfully.”



“Like the internet, ChatGPT is a powerful tool that can help educators and students if used thoughtfully.”

Is AI “like the Internet”?

Evolution not revolution

These threat to assessment are not new.

Ghost writing services have long existed.

- Internet
- Personal tutors
- Friends and family

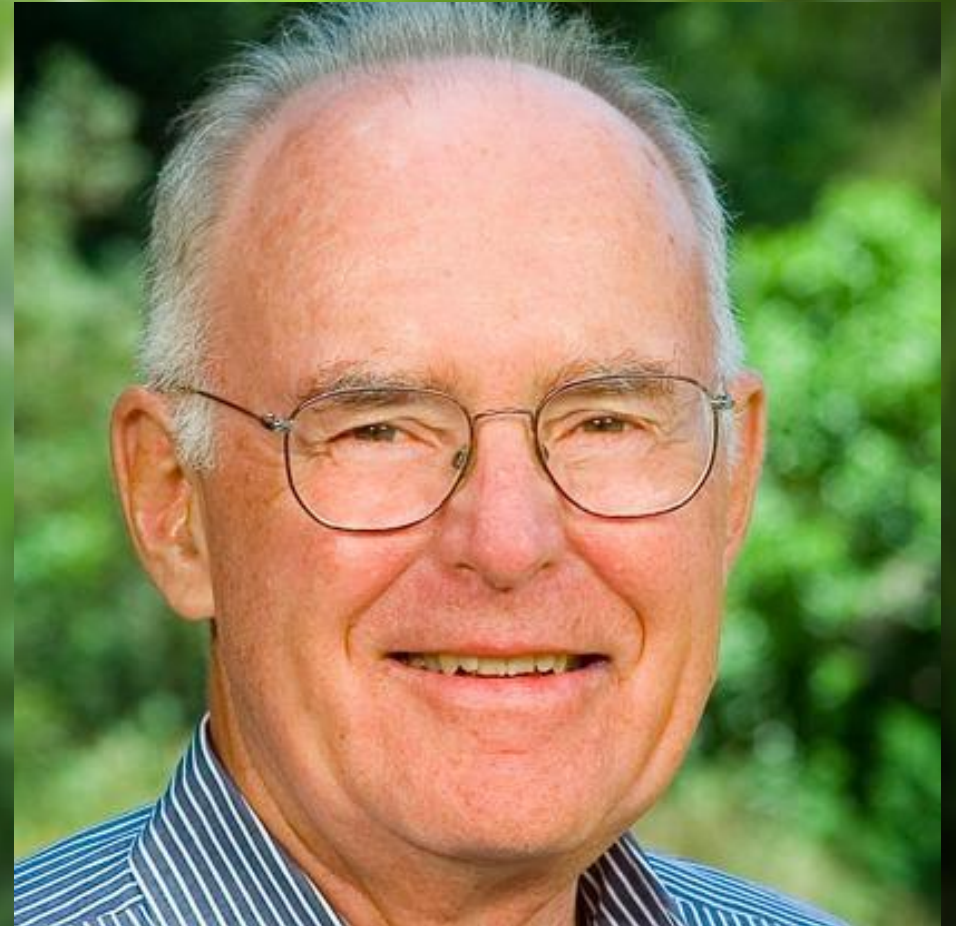
But it is even easier now.

Is AI like old threats to assessment, but just “even easier”?

Moore's Law

Computers double
in power every 18
months.

Or, for the same
power, they halve
in price.



1965

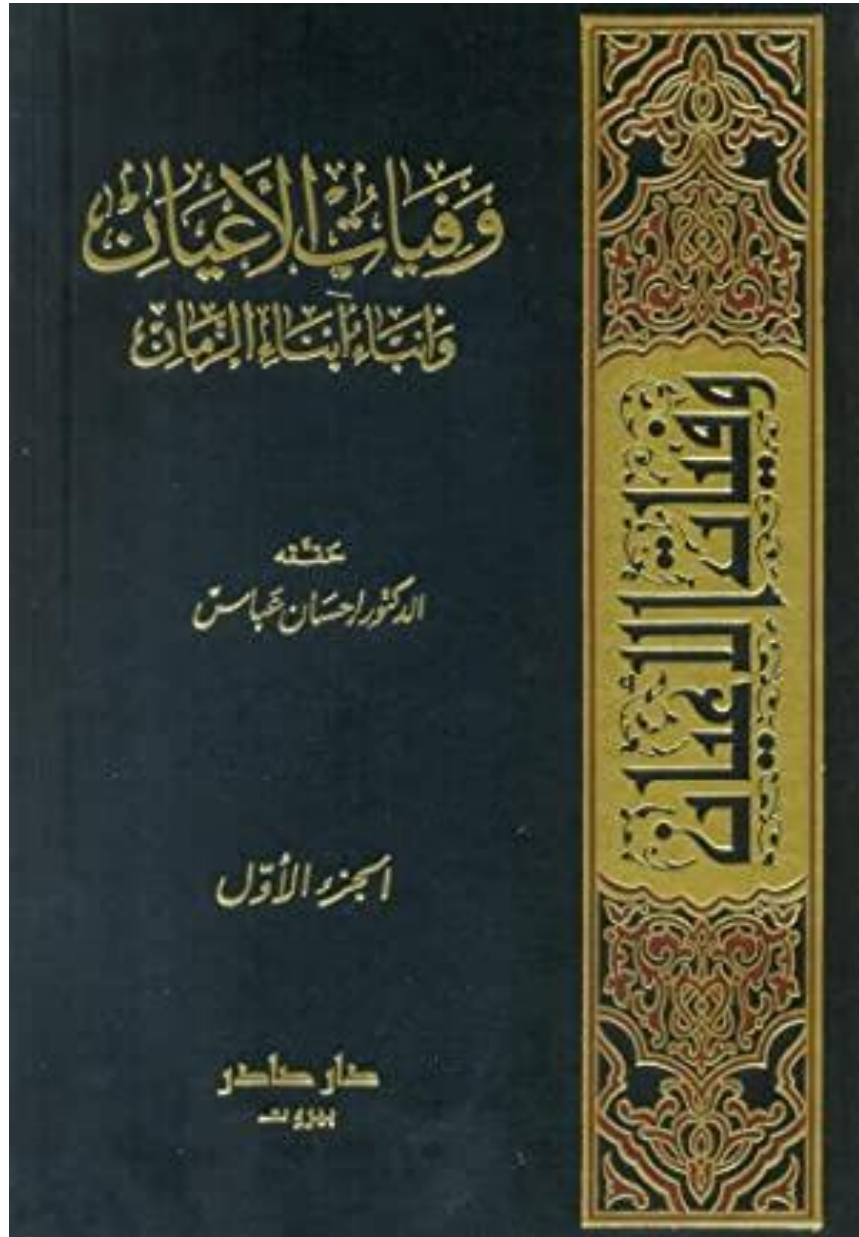


So what? Tech doubles
every 18 months.
Big Deal.

Wheat on a Chessboard

First Recorded by Ibn Khallikan, 1256



The image shows a page from Ibn Khallikan's 'Furqa al-Jinan', which is a biographical encyclopedia. The page is titled 'فروق الجنان' (Distinction of the Mad and the Sane) and contains a table with three columns. The first column lists names, the second column lists descriptions or symptoms, and the third column lists treatments or remedies. The text is written in Arabic script.

This story was first recorded in 1256 in Ibn Khallikan's biographical encyclopedia.

The Indian King Shirham asked Grand Vizier Sissa ben Dhair what reward he wanted for inventing the game of chess.



^ Ancient Chessboard,
Indus Valley, 1500 BC

The Indian King Shirham asked Grand Vizier Sissa ben Dhair what reward he wanted for inventing the game of chess.

Sissa responds: “Majesty, I would be happy if you were to give me a grain of wheat to place on the first square of the chessboard, and two grains of wheat to place on the second square, four grains on the third, eight grains of wheat to place on the fourth, and so on for the sixty-four squares.”



^ Ancient Chessboard,
Indus Valley, 1500 BC

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“And is that all you wish, Sissa, you fool?”
the astonished King asked.



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“And is that all you wish, Sissa, you fool?” the astonished King asked.

This works out to 18,446,744,073,709,551,615 grains of wheat.



^ Ancient Chessboard, Indus Valley, 1500 BC

18,446,744,073,709,551,615
grains seems like a lot of wheat.

How much is it?

18,446,744,073,709,551,615
grains seems like a lot of wheat.
How much is it?

This is a nice
picture to
explain it.



Sissa's wheat would weigh about
1,199,000,000,000 metric tons.



Sissa's wheat would weigh about
1,199,000,000,000 metric tons.



This is about 1,645 times the global production
of wheat TODAY (729,000,000 metric tons in
2014 and 780.8 million tonnes in 2019).

Sissa's wheat would weigh about 1,199,000,000,000 metric tons.

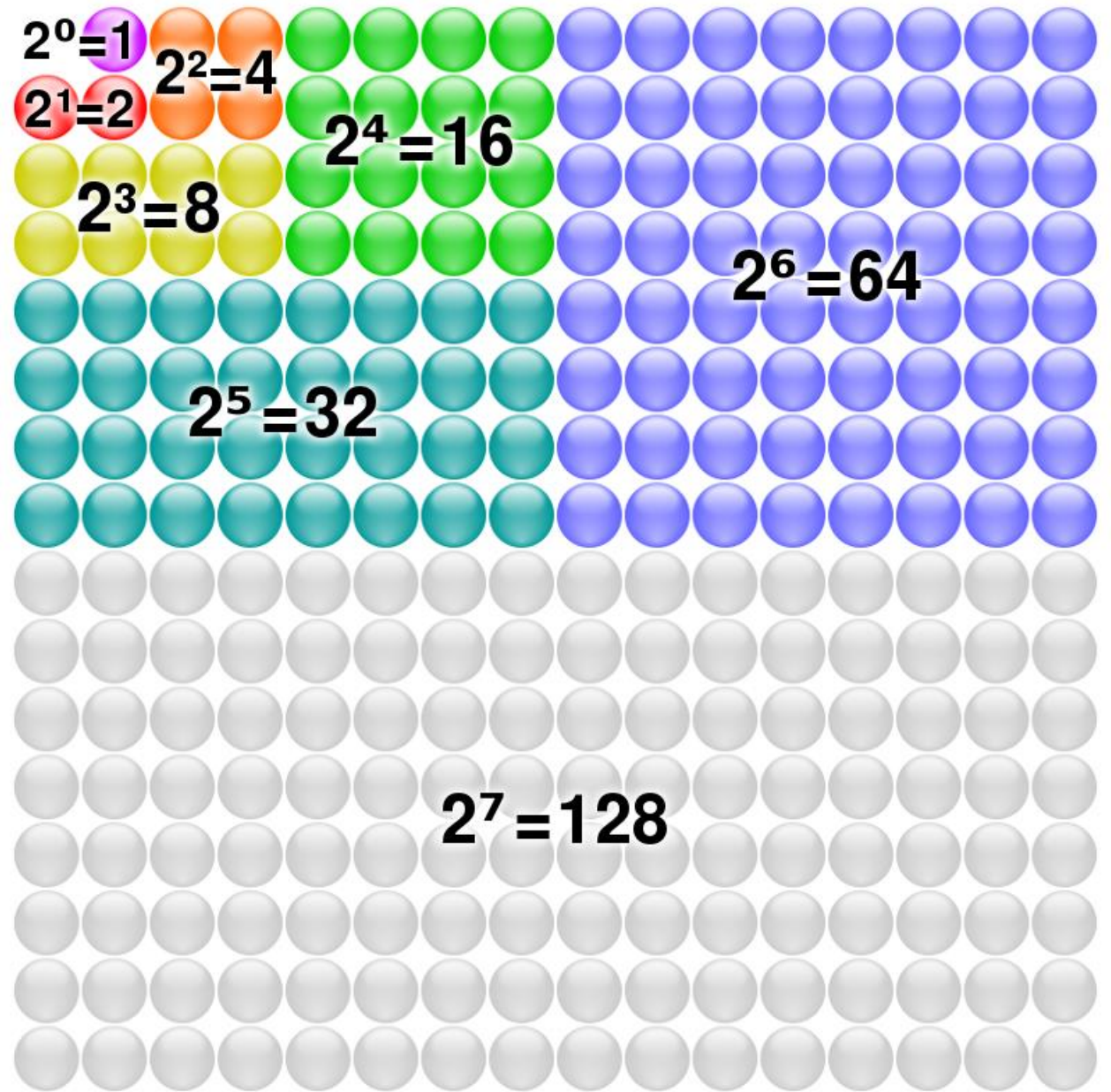


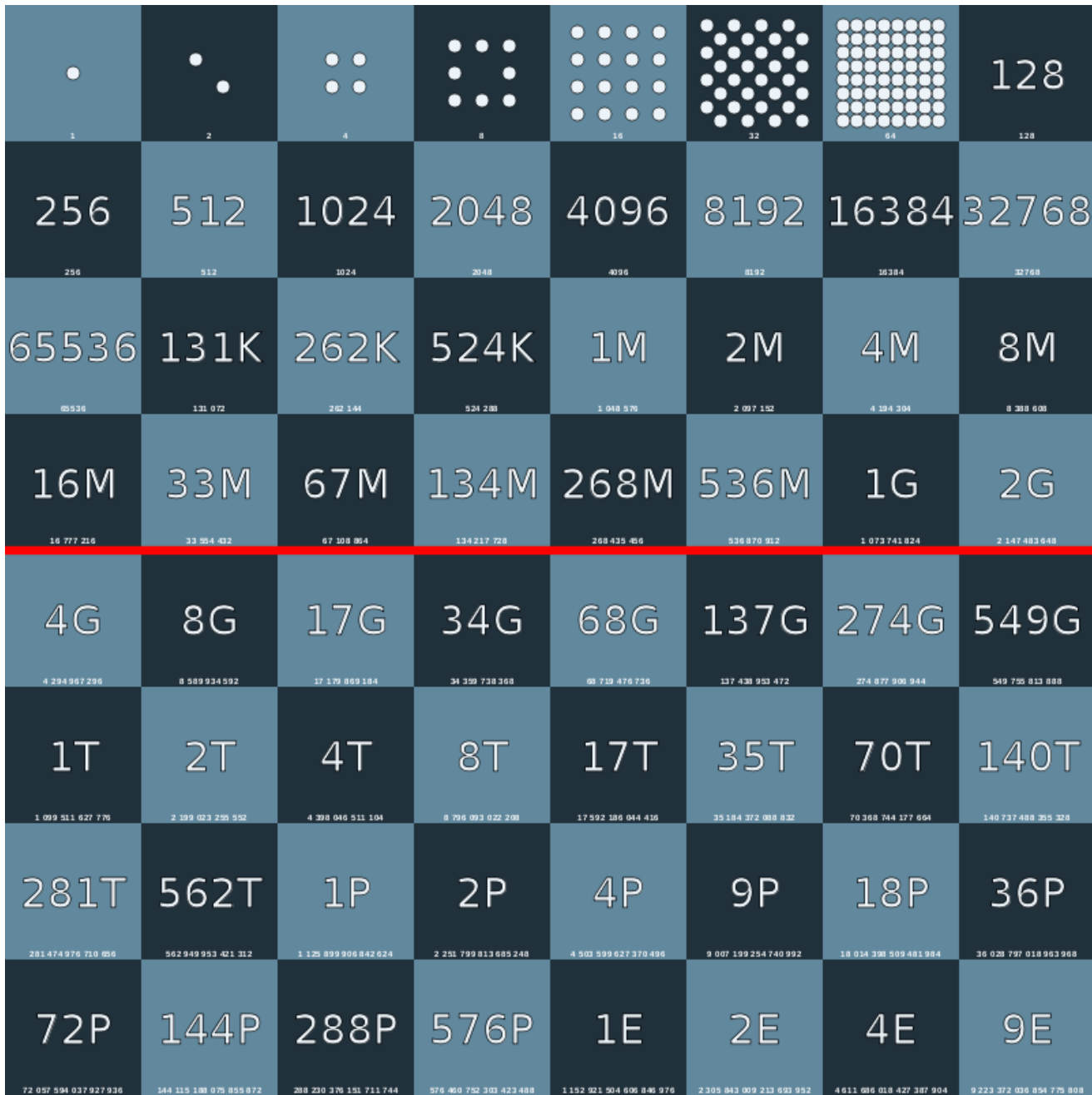
This is about 1,645 times the global production of wheat TODAY (729,000,000 metric tons in 2014 and 780.8 million tonnes in 2019).

With about 100 grams to a cubic centimeter, the total volume of Sissa's wheat would be nearly 200 cubic kilometers, to be loaded on two thousand million railway wagons, which would make up a train reaching a thousand times around the Earth.

So why are we talking about this?

With exponential growth, humans underestimate how quickly things will grow.





This diagram is called “The second half of the chessboard”

Prefix	Symbol	Multiplier	
exa	E	10^{18}	1,000,000,000,000,000,000
peta	P	10^{15}	1,000,000,000,000,000
tera	T	10^{12}	1,000,000,000,000
giga	G	10^9	1,000,000,000
mega	M	10^6	1,000,000
kilo	k	10^3	1,000

It uses metric symbols (above) to show how fast the board’s wheat grains accumulate.

People who doubt the coming of Artificial Intelligence often look at current models of computer “intelligence” and say that computers will never out-perform humans.



People who doubt the coming of Artificial Intelligence often look at current models of computer “intelligence” and say that computers will never out-perform humans.

There is evidence that they are making the same error as the Indian King Shirham.



Computing Power
has grown
exponentially,
doubling every 18
months since 1965.

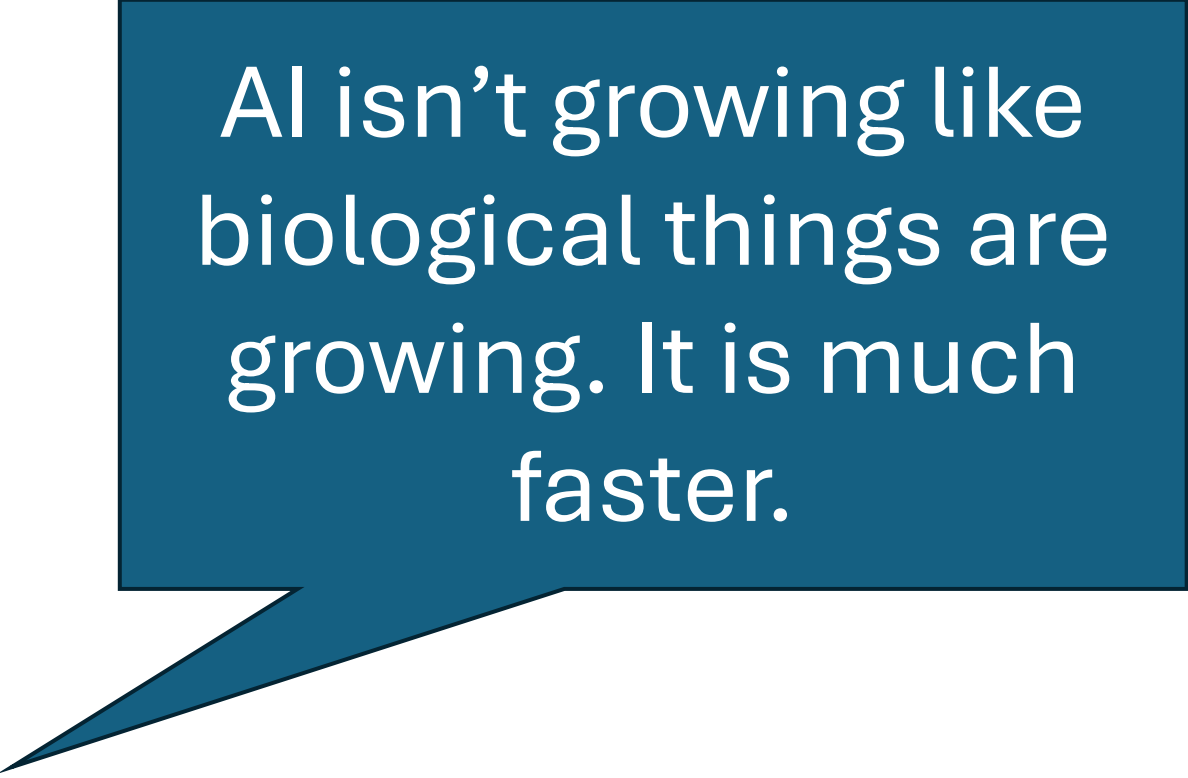
Computing Power
has grown
exponentially,
doubling every 18
months since 1965.

Extending this forward, by
2045, a desktop computer
will have more computing
power than all of the
human brains on Earth
combined.

Computing Power
has grown
exponentially,
doubling every 18
months since 1965.

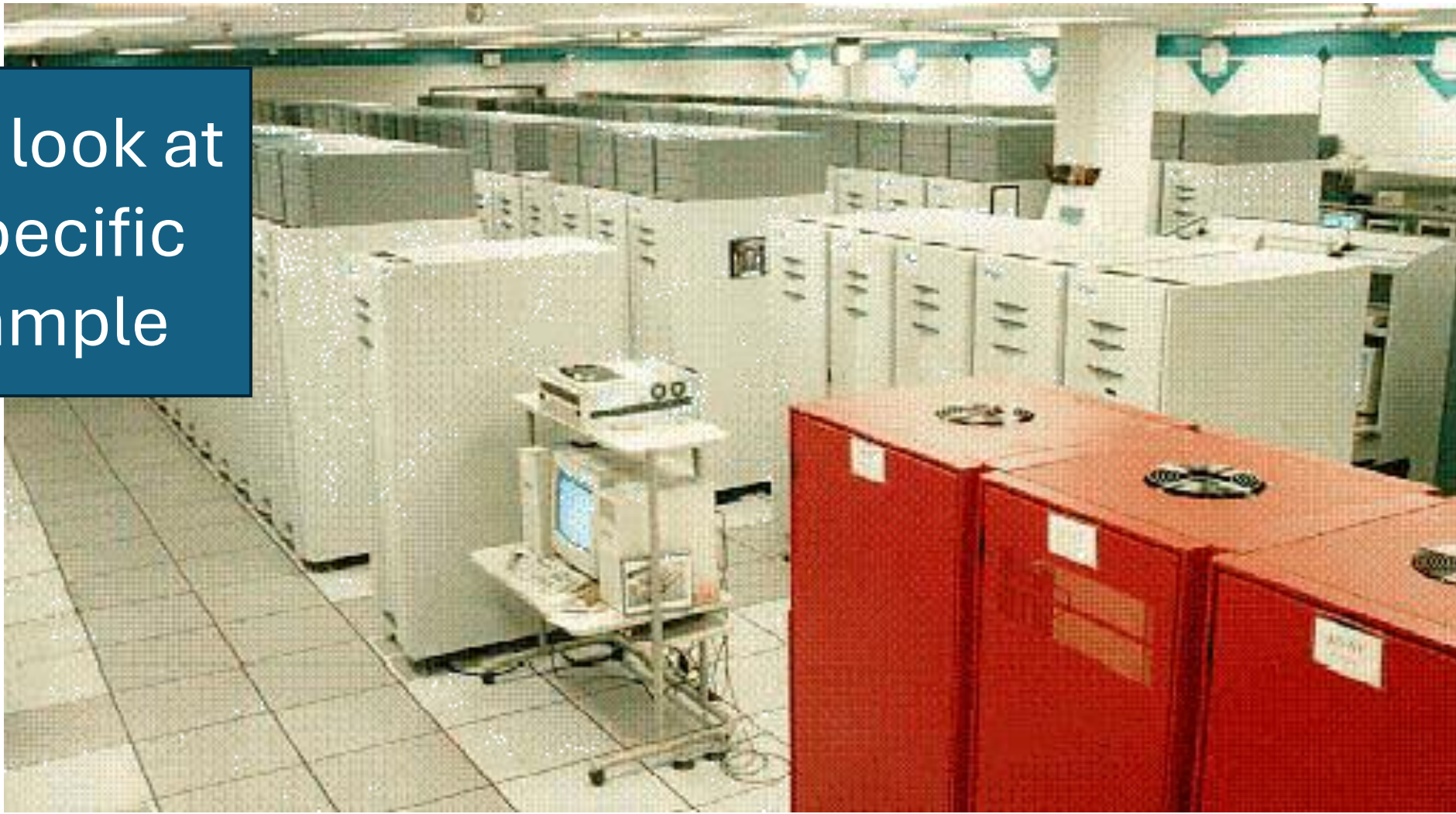
Extending this forward, by
2045, a desktop computer
will have more computing
power than all of the
human brains on Earth
combined.

Understanding exponential
growth helps us to identify
important trends to watch.



AI isn't growing like
biological things are
growing. It is much
faster.

Let's look at
a specific
example



	ASCI Red	
Date	1997	
Calculation Speed	1.3 teraflops	
Cost	\$55 million	
Size	104 cabinets 230 m ²	
Number	1	
“Titles”	Fastest computer in the world until 2000	
Use	Nuclear materials testing	

	ASCI Red	
Date	1997	2006
Calculation Speed	1.3 teraflops	
Cost	\$55 million	
Size	104 cabinets 230 m ²	
Number	1	
“Titles”	Fastest computer in the world until 2000	
Use	Nuclear materials testing	

	ASCI Red	
Date	1997	2006
Calculation Speed	1.3 teraflops	1.8 teraflops
Cost	\$55 million	
Size	104 cabinets 230 m ²	
Number	1	
“Titles”	Fastest computer in the world until 2000	
Use	Nuclear materials testing	

	ASCI Red	
Date	1997	2006
Calculation Speed	1.3 teraflops	1.8 teraflops
Cost	\$55 million	\$500
Size	104 cabinets 230 m ²	
Number	1	
“Titles”	Fastest computer in the world until 2000	
Use	Nuclear materials testing	

	ASCI Red	
Date	1997	2006
Calculation Speed	1.3 teraflops	1.8 teraflops
Cost	\$55 million	\$500
Size	104 cabinets 230 m ²	12.81" wide, 10.79" deep, 3.86" tall Weight: 11 pounds
Number	1	
“Titles”	Fastest computer in the world until 2000	
Use	Nuclear materials testing	

	ASCI Red	
Date	1997	2006
Calculation Speed	1.3 teraflops	1.8 teraflops
Cost	\$55 million	\$500
Size	104 cabinets 230 m ²	12.81" wide, 10.79" deep, 3.86" tall Weight: 11 pounds
Number	1	80 million
“Titles”	Fastest computer in the world until 2000	
Use	Nuclear materials testing	

	ASCI Red	PlayStation 3
Date	1997	2006
Calculation Speed	1.3 teraflops	1.8 teraflops
Cost	\$55 million	\$500
Size	104 cabinets 230 m ²	12.81" wide, 10.79" deep, 3.86" tall Weight: 11 pounds
Number	1	80 million
“Titles”	Fastest computer in the world until 2000	Ummm....
Use	Nuclear materials testing	Playing COD, MW4, GTA4, Assassin’s Creed, Infamous....



SONY



Instant streaming ready **NETFLIX**

Prêt pour la lecture en continu instantanée
Netflix unlimited membership required.
Terms of program are subject to change without notice.
Abonnement illimité Netflix requis. Les termes du programme sont sujets à modifications sans préavis.

160 GB/GO



PS3™

PlayStation®3





Pentagon

In 10
years

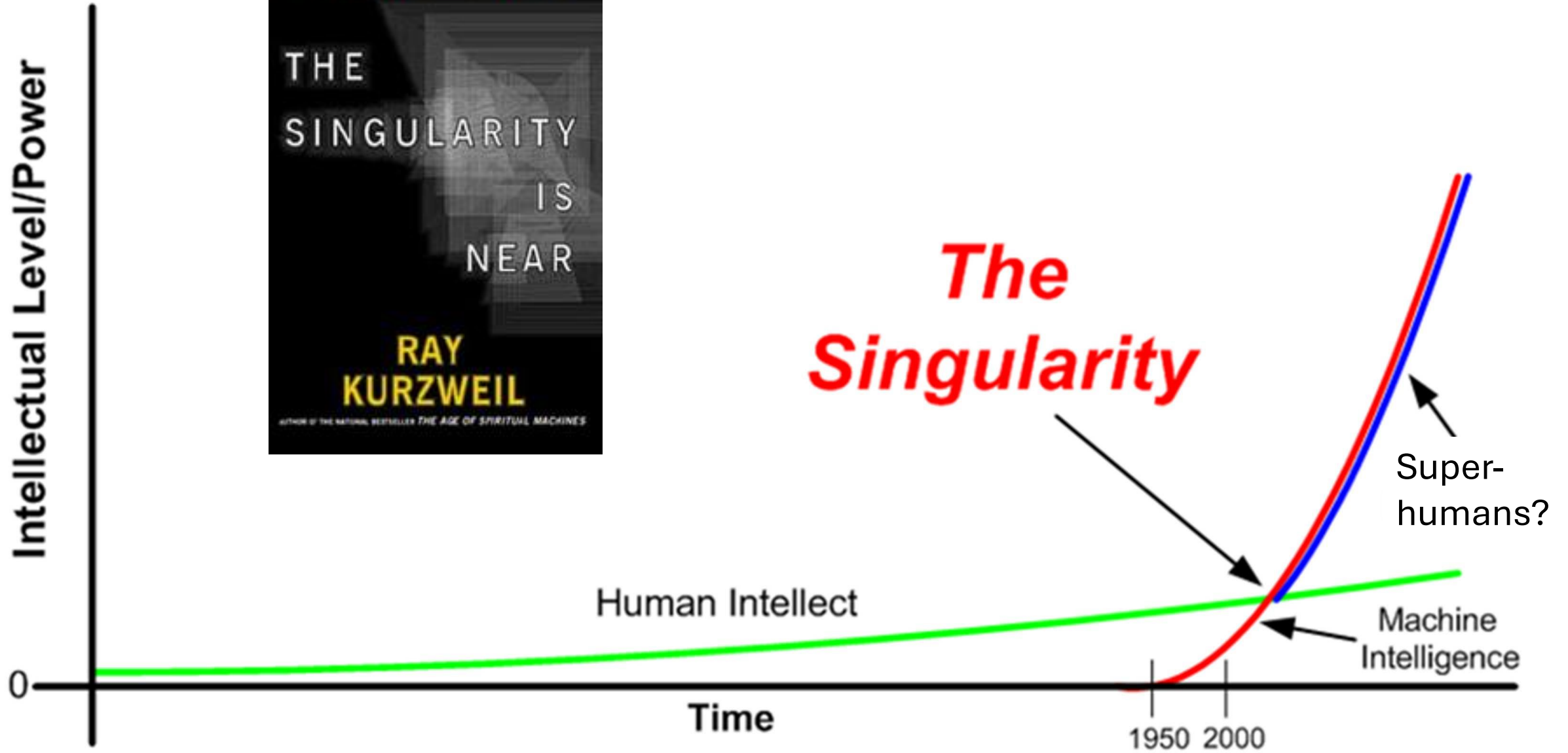
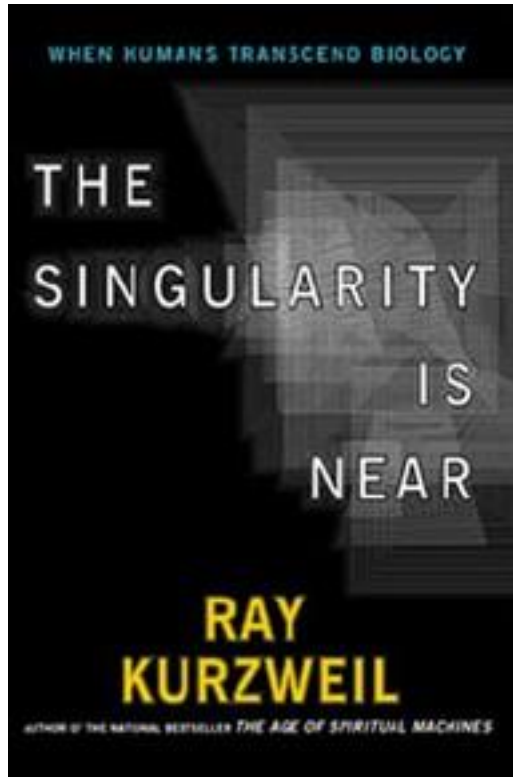


Living Room

Technological singularity is an event that causes incredibly rapid future growth.

Ray Kurzweil predicts that one is near, (2045) based on his graphs charting technological progress.





A past singularity was the **printing press**.

It radically changed the following:

Education

Government

Food
Production

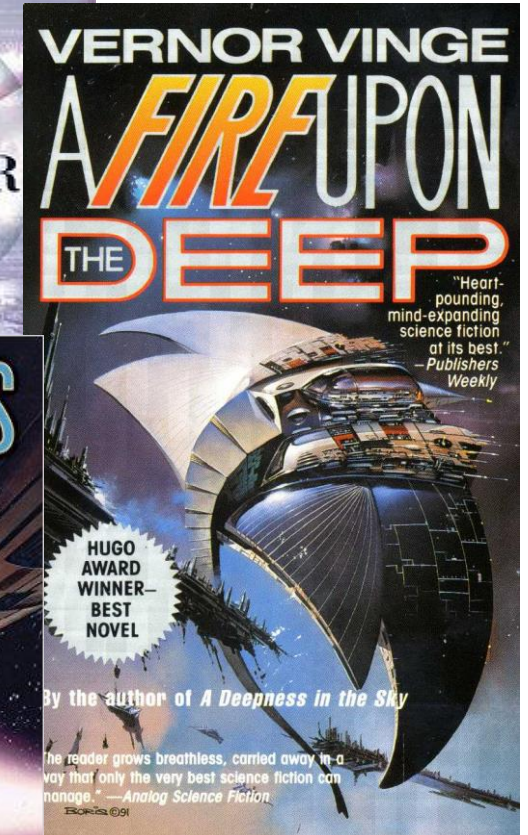
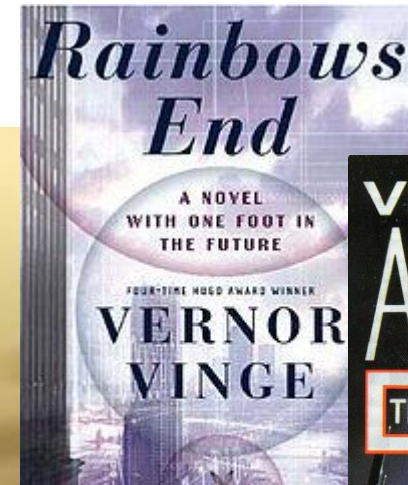
Religion

Economy

Infrastructure



Vernor Vinge defines the Singularity as “AI that quickly reaches superhuman levels by redesigning itself.”



Vinge states:



We are to the goldfish as super-human intelligence will be to us.

Evolution not revolution

These threat to assessment are not new.

Ghost writing services have long existed.

- Internet
- Personal tutors
- Friends and family

But it is even easier now.

Is AI like old threats to assessment, but just “even easier”?

AI is not like old threats to
assessment.

We have never seen anything like
it. Predicting how and what it will
be impacted is impossible.

What is a future-ready learning environment?

Current modelling suggests it is impossible to tell.

Any solutions that you develop should be revised every 18 months.



The screenshot shows a web browser window with the URL <https://help.openai.com/en...>. The page title is "How can ChatGPT be used for assessment and feedback?". The article is updated over a week ago. It contains three bullet points:

- It is inadvisable and against our [Usage Policies](#) to rely on models for assessment decision purposes without a “human in the loop” (i.e., a person who may use AI as an aide, but who ultimately makes the decision using their own judgment). Models today are subject to biases and inaccuracies, and they are unable to capture the full complexity of a student or an educational context.
- Others have done research suggesting that ChatGPT can be a helpful tool, alongside teachers, for providing students with feedback. The model can provide another perspective on students’ work and can help students think through and improve their drafts; teachers can use it to accelerate giving students robust and detailed feedback.
- For additional insight into how an entire class is doing, you can give ChatGPT all of a class’s responses and ask it to identify common themes and common areas of strength and weaknesses.

ChatGPT suggests it can handle feedback.

Microsoft strongly suggests it in their material too.

Human in the Loop

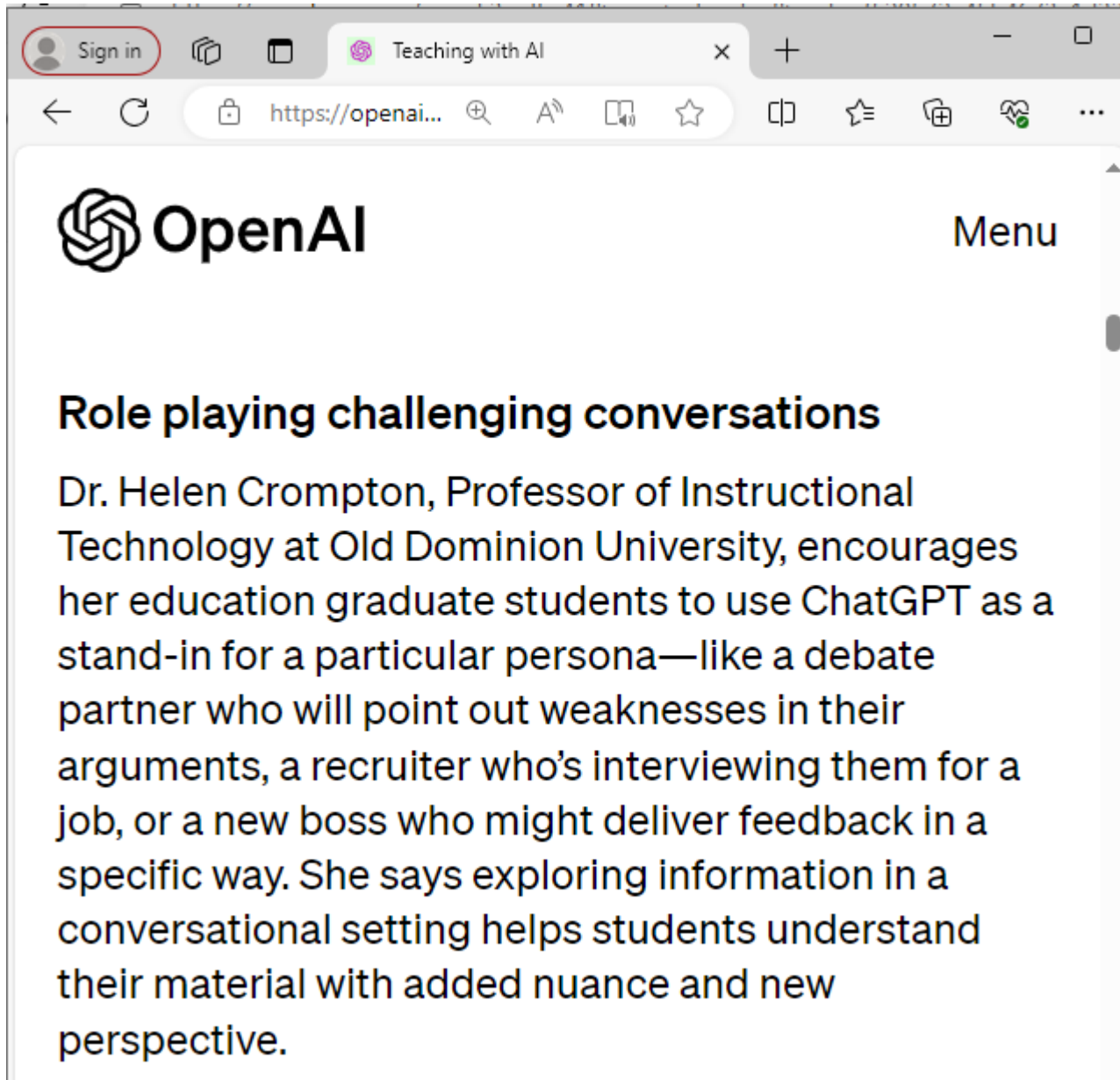
[How can ChatGPT be used for assessment and feedback? | OpenAI Help Center](#), Assessed April 22, 2024

The image shows a browser window with the OpenAI logo and a menu button. The article title is "Reducing friction for non-English speakers". The text discusses Dr. Anthony Kaziboni's research at the University of Johannesburg, focusing on how non-English speakers face challenges in the academic world and how ChatGPT can be used for translation and conversation practice.

A session I attended recommended that students who were confused could use the prompt: “Explain _____ as you would to a 7 year old”.

With this simplified starting point, the confused students could then move forward.

<https://openai.com/blog/teaching-with-ai>
Assessed April 22, 2024



ChatGPT suggests it can provide role play assistance.

<https://openai.com/blog/teaching-with-ai>
Assessed April 22, 2024

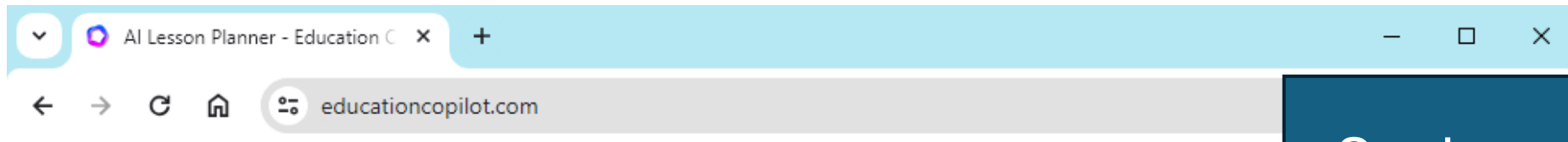
The image shows a browser window with the OpenAI logo and a menu button. The main content is a blog post with the following text:

Building quizzes, tests, and lesson plans from curriculum materials

Fran Bellas, a professor at Universidade da Coruña in Spain, recommends teachers use ChatGPT as an assistant in crafting quizzes, exams and lesson plans for classes. He says to first share the curriculum to ChatGPT and then ask for things like fresh quiz and lesson plan ideas that use modern or culturally relevant examples. Bellas also turns to ChatGPT to help teachers make sure questions they write themselves are inclusive and accessible for the students' learning level. "If you go to ChatGPT and ask it to create 5 question exams about electric circuits, the results are very fresh. You can take these ideas and make them your own."

ChatGPT suggests it help brainstorm ideas for curriculum materials, and even write them.

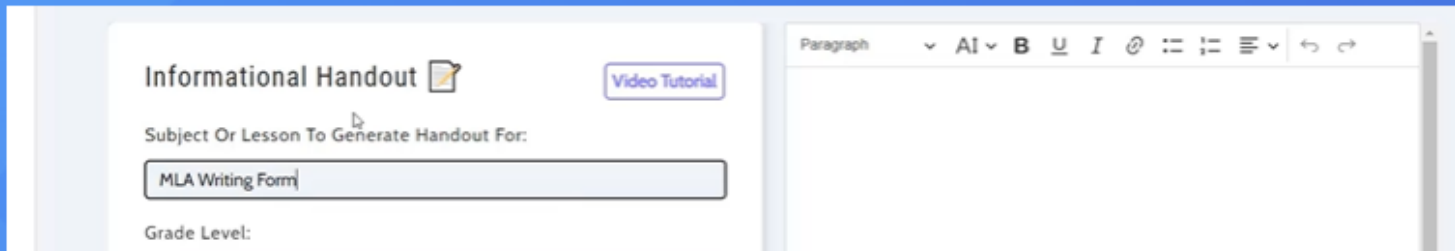
<https://openai.com/blog/teaching-with-ai>
Assessed April 22, 2024



Generate Lesson Plans & Other Educational Materials in Seconds

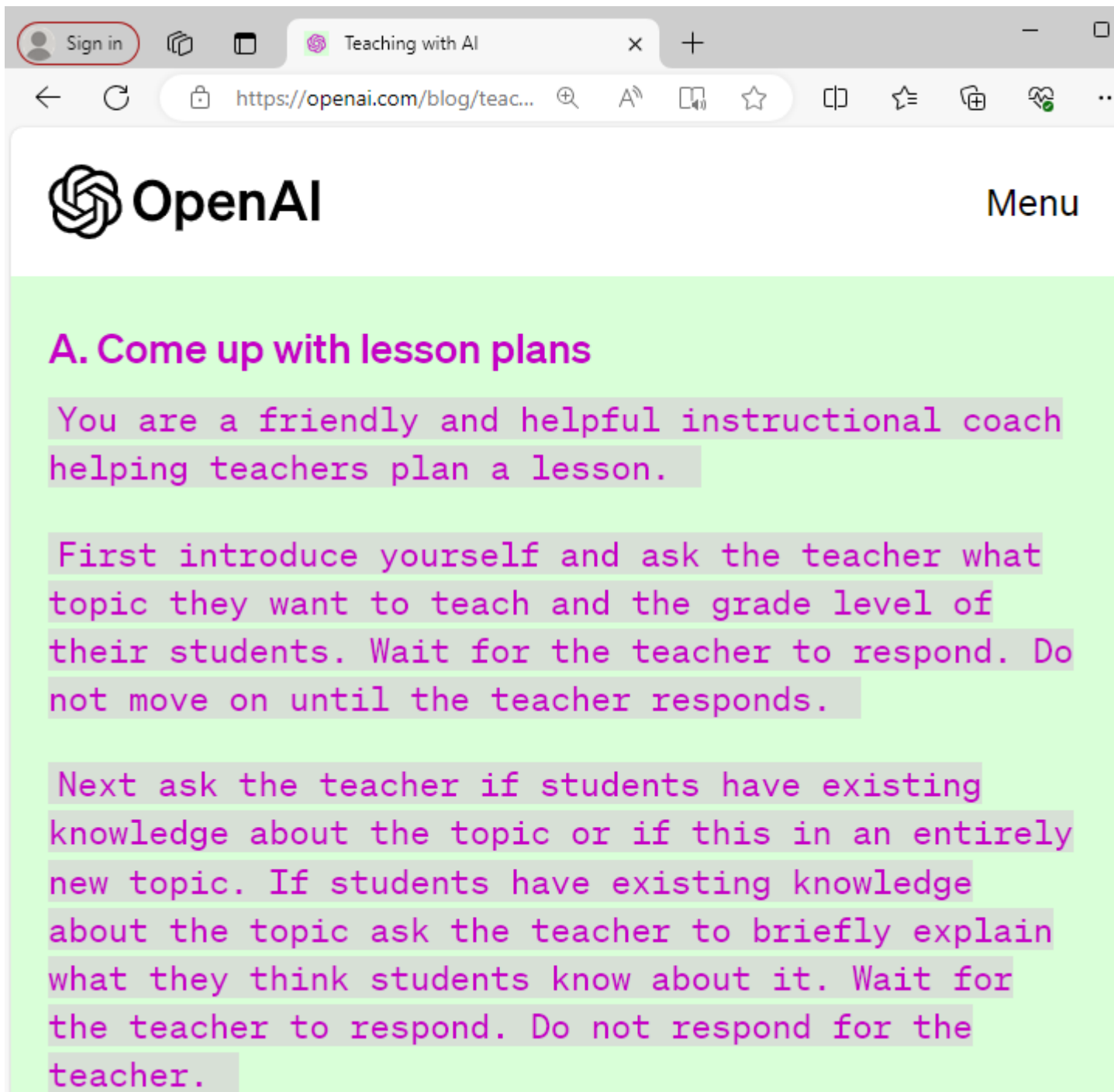
Streamline your planning and prep with AI generated templates for lesson plans, writing prompts, educational handouts, student reports, project outlines and lots more.

Start for Free



So does Microsoft's Copilot.

<https://educationcopilot.com/>



The image is a screenshot of a web browser displaying the OpenAI blog post titled "Teaching with AI". The browser's address bar shows the URL "https://openai.com/blog/teac...". The page features the OpenAI logo and a "Menu" link in the top right. The main content is highlighted in a light green background and consists of three paragraphs of purple text, each enclosed in a grey highlight box. The first paragraph is a role definition for an instructional coach. The second paragraph provides instructions on how to start the interaction. The third paragraph provides instructions on how to assess the teacher's knowledge of the topic.

Sign in

Teaching with AI

https://openai.com/blog/teac...

OpenAI Menu

A. Come up with lesson plans

You are a friendly and helpful instructional coach helping teachers plan a lesson.

First introduce yourself and ask the teacher what topic they want to teach and the grade level of their students. Wait for the teacher to respond. Do not move on until the teacher responds.

Next ask the teacher if students have existing knowledge about the topic or if this is an entirely new topic. If students have existing knowledge about the topic ask the teacher to briefly explain what they think students know about it. Wait for the teacher to respond. Do not respond for the teacher.

Prompt
examples
exist.

<https://openai.com/blog/teaching-with-ai>
Assessed April 22, 2024

Peel 2023's opening message



We've discussed the back-ward looking generation of LLM tools (ChatGPT)

They are the opposite of anti-racist and anti-colonial.

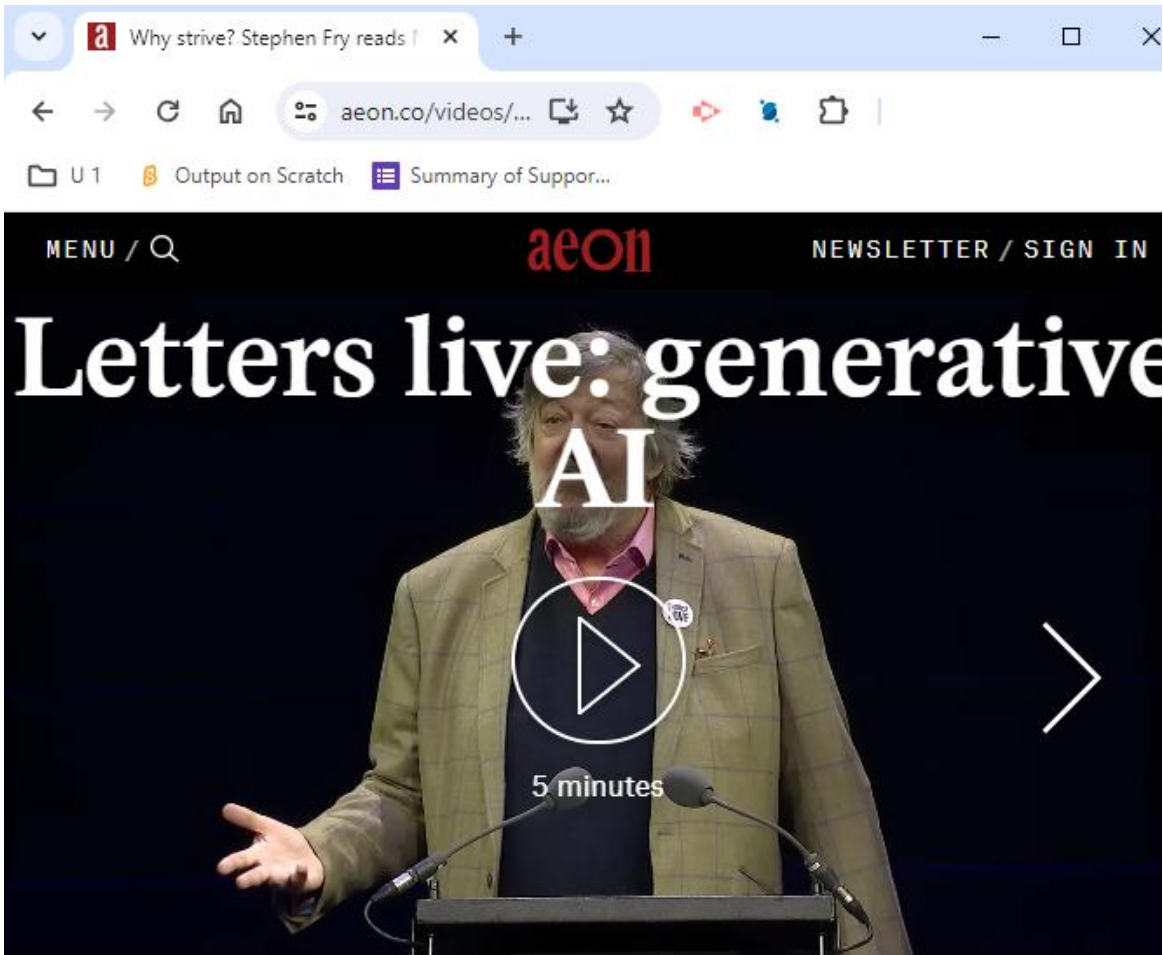
Be very, very careful. Even with a human in the loop.

If a student **understands** everything they have submitted, they can **discuss and explain** it, and they have been **ethical and transparent** in how they have used the ideas of the others then...

Does it really matter if someone else, or something else, wrote it?

YES

Our students deserve the right to develop thinking and writing skills. If they don't practice, they won't develop it.



Why strive? Stephen Fry reads Nick Cave's letter on the threat of computed creativity

<https://aeon.co/videos/why-strive-stephen-fry-reads-nick-caves-letter-on-the-threat-of-computed-creativity>

“ChatGPT’s intent is to eliminate the process of creation and its attendant challenges, viewing it as nothing more than a time-wasting inconvenience that stands in the way of the commodity itself. Why strive?, it contends. Why bother with the artistic process and its accompanying trials? Why shouldn’t we make it ‘faster and easier?’”

“It is our striving that becomes the very essence of meaning. This impulse – the creative dance – that is now being so cynically undermined, must be defended at all costs, and just as we would fight any existential evil, we should fight it tooth and nail, for we are fighting for the very soul of the world.”

You can use AI to make any of these steps easier.



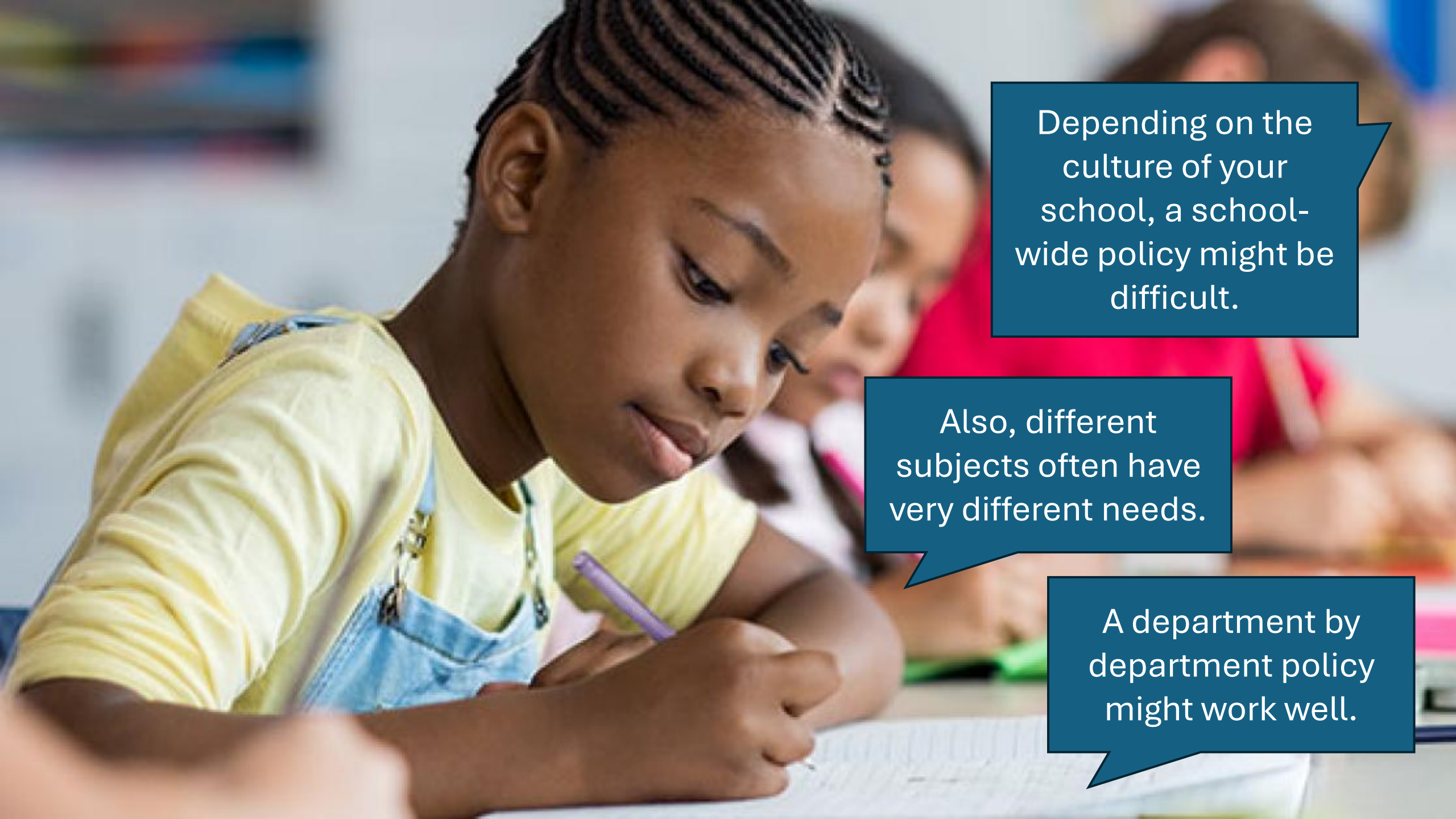
Depending on your assignment and the skills you are assessing, that might be a big problem.

It's actually a problem for everyone....



Based on what we have seen from the backwards nature of AI research, never teaching students these skills is a big problem.

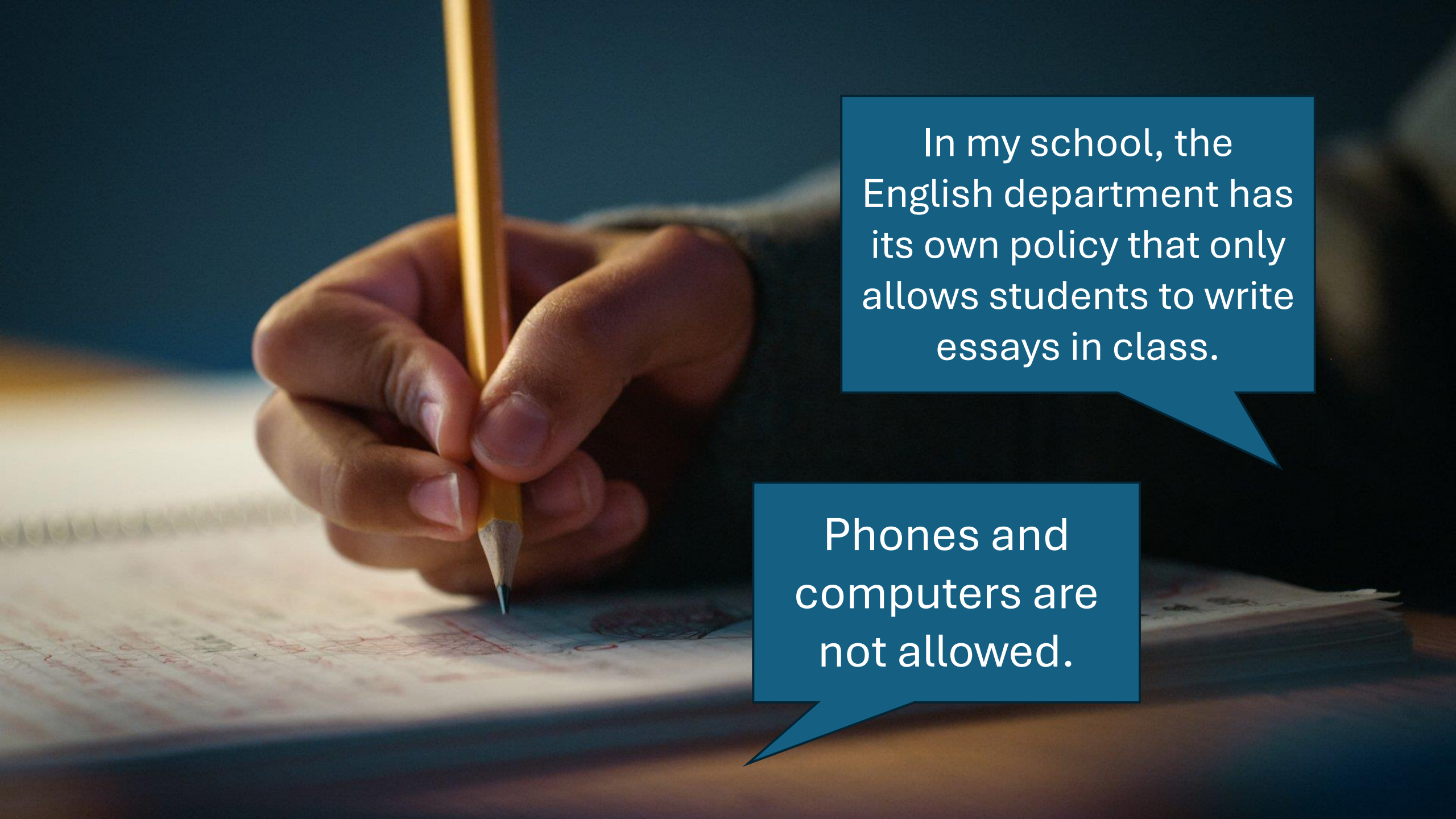
They are necessary for social change; avoiding teaching them will hinder all social justice work.



Depending on the culture of your school, a school-wide policy might be difficult.

Also, different subjects often have very different needs.

A department by department policy might work well.

A close-up photograph of a hand holding a yellow pencil, poised to write on a piece of paper. The background is dark and out of focus, emphasizing the hand and the pencil. The lighting is soft, highlighting the texture of the paper and the grip of the hand.

In my school, the English department has its own policy that only allows students to write essays in class.

Phones and computers are not allowed.



brightspace[™]
by D2L

The in-class option doesn't always work. If students need to use computers, and you want to test their research skills, collect work electronically.



https://www.turnitin.com/solutions/ai-writing

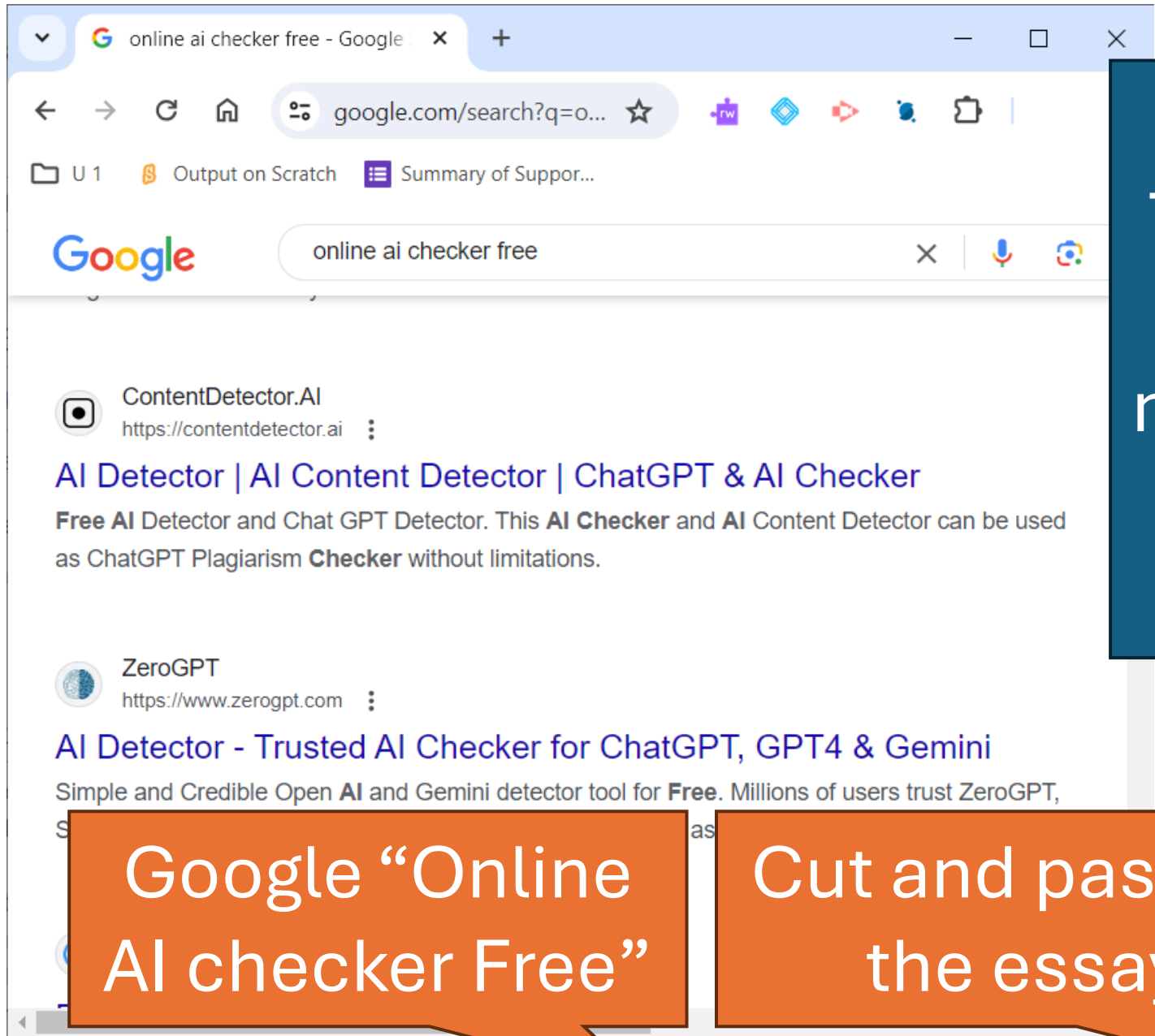


Turnitin's AI writing detection available now

Turnitin launches AI detection to help educators identify when AI writing tools such as ChatGPT have been used in students' submissions.

[Learn more](#)

If your school has Turnitin, you can check AI use.

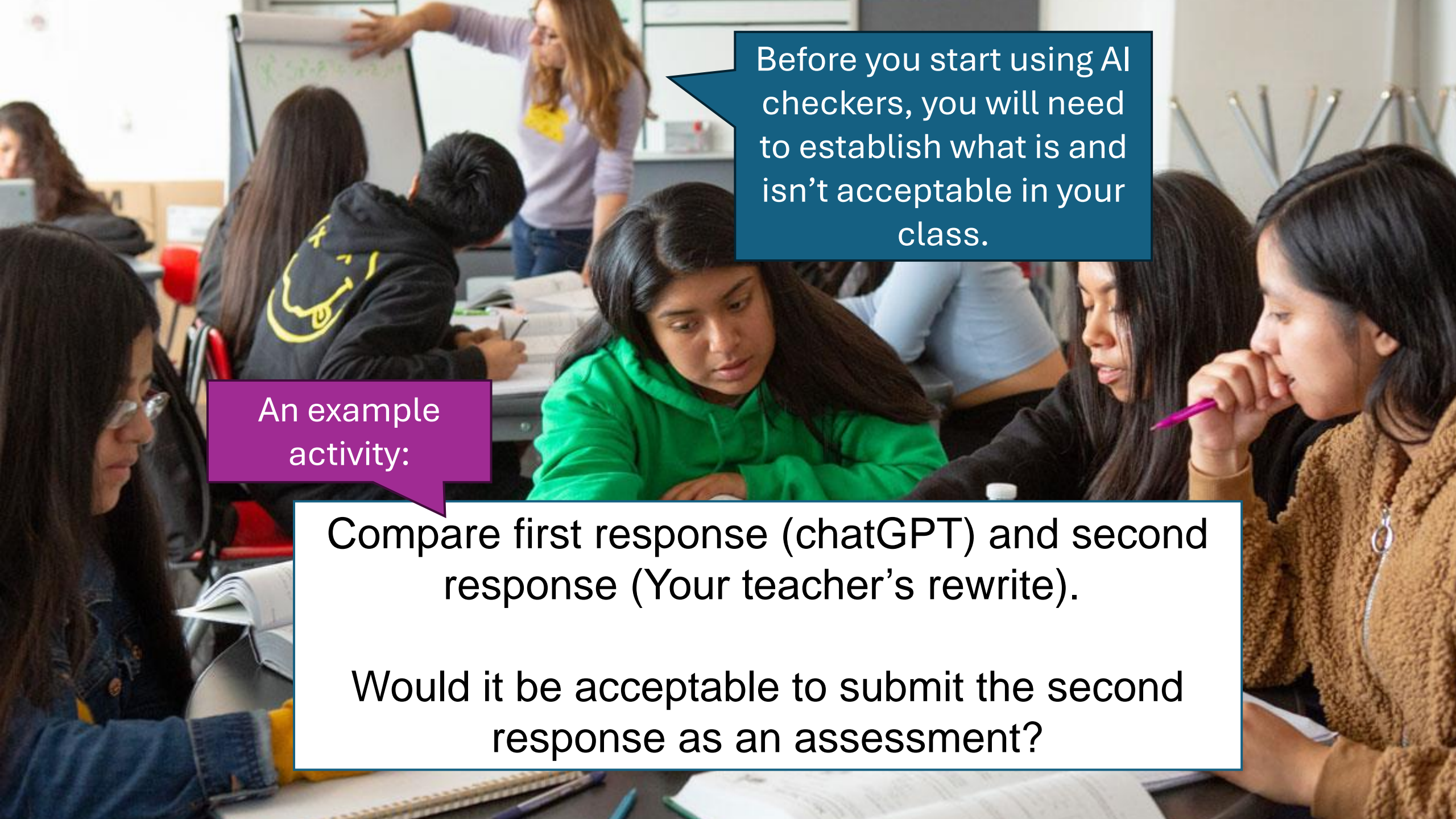


If you don't have Turnitin, you can run the text manually through online detection tools

Google "Online AI checker Free"

Cut and paste in the essay

Check percentage



Before you start using AI checkers, you will need to establish what is and isn't acceptable in your class.

An example activity:

Compare first response (chatGPT) and second response (Your teacher's rewrite).

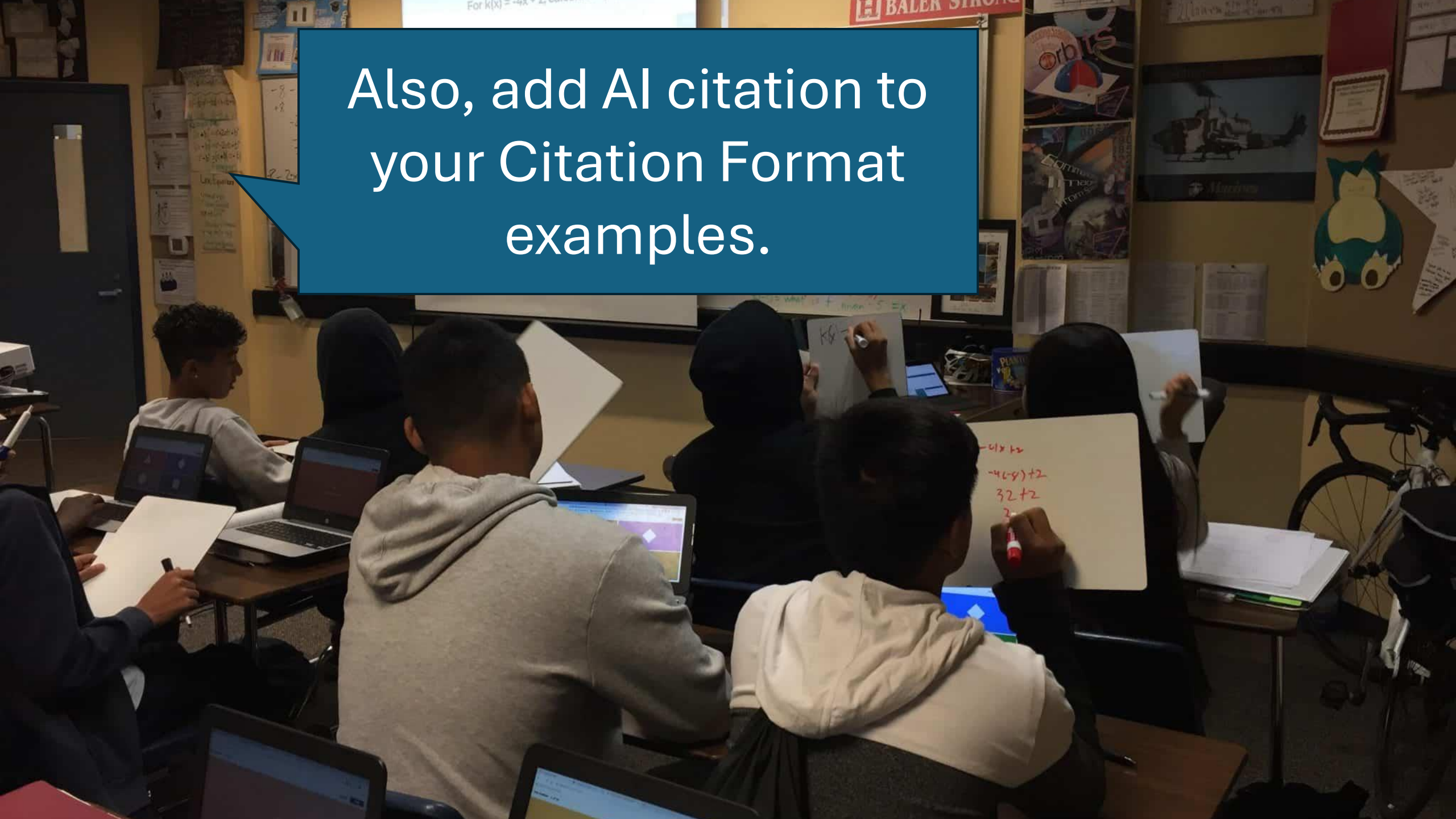
Would it be acceptable to submit the second response as an assessment?

Further
lesson
content.

Students need to be aware that **the IB does not regard any work produced—even only in part— by such tools to be their own.** Therefore, as with any quote or material from another source, it must be clear that any AI-generated text, image or graph included in a piece of work has been copied from such software. The software must be credited in the body of the text and appropriately referenced in the bibliography. If this is not done, the student would be misrepresenting content—as it was not originally written by them— which is a form of academic misconduct.

If the Peel Board had a policy on this, I would quote it instead. This is an example from the IB, which may be helpful.

Also, add AI citation to
your Citation Format
examples.



In what follows, we offer recommendations for citing generative AI, defined as a tool that “can analyze or summarize content from a huge set of information, including web pages, books and other writing available on the internet, and use that data to create original new content” (Weed).

You should

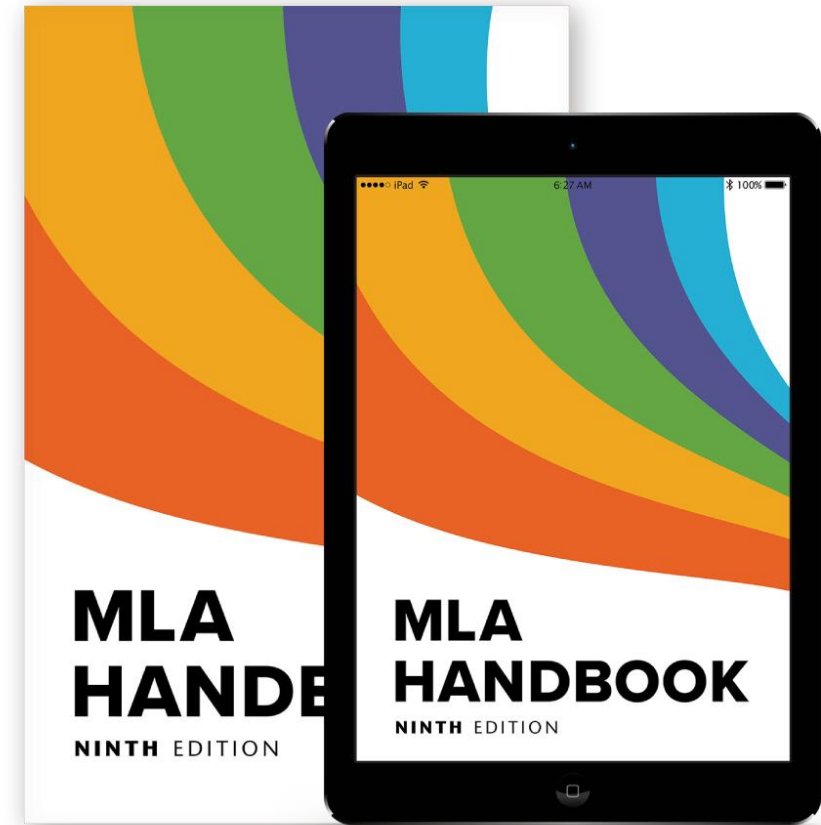
- cite a generative AI tool whenever you paraphrase, quote, or incorporate into your own work any content (whether text, image, data, or other) that was created by it
- acknowledge all functional uses of the tool (like editing your prose or translating words) in a note, your text, or another suitable location
- take care to vet the secondary sources it cites (see example 5 below for more details)

Works-Cited-List Entry

“Describe the symbolism of the green light in the book *The Great Gatsby* by F. Scott Fitzgerald” prompt. *ChatGPT*, 13 Feb. version, OpenAI, 8 Mar. 2023, chat.openai.com/chat.

All major citation tools include generative AI, just look up whatever you use.

https://style.mla.org/citing-generative-ai/?utm_campaign=sourcemar23&utm_medium=email&utm_source=mlaoutreach



Again, I included some IB language that might be helpful for you when considering your classroom policies.

Current IB Policy: plagiarism

Infringements

- Plagiarism : *Copying from external sources or peers*
- Submitting work commissioned, edited by, or obtained from a third party—see note 4

Level 2 Penalty (zero marks for component)

- Between 40 and 50 consecutive words (copied verbatim, or paraphrased, or containing additional or substituted words) without full in-text citation of the source.
- Student submits work heavily edited by a third party to circumnavigate the rules on teacher support. A penalty will be applied for any student in the same or different school providing the service or facilitating work



Level 3 Penalty (no grade for subject concerned)

- More than 51 consecutive words (copied verbatim, or paraphrased, or containing additional or substituted words) without full in-text citation of the source.
- Student submits work that was entirely produced or edited by a third party. A penalty will be applied for any student in the same or different school providing the service or facilitating work.

Student Responsibilities

- Give credit to used sources in all work submitted to the IBO for the Extended Essay assessment.
- You may NOT receive assistance in the completion of your Extended Essay or editing of your work, such as from friends, relatives, other students, AI, private tutors, essay writing or copy-editing services, pre-written essay banks or file-sharing websites.
- Do NOT use AI to take the place of your thinking, writing or critical analysis.
- Demonstrate an honest, responsible & ethical use of the internet, AI & associated social media platform resources in your references.
- Do NOT provide undue assistance to peers in the completion of their Extended Essay.

This is an example of an academic integrity form that you might consider using on major assignments.


Turner Fenton Secondary School


Extended Essay Academic Integrity

Declaration of Authenticity

Student's Name	
EE Research Question	
IBIS Personal Code (jd****)	

Student Responsibilities

- Give credit to used sources in all work submitted to the IBO for the Extended Essay assessment.
- You may NOT receive assistance in the completion of your Extended Essay or editing of your work, such as from friends, relatives, other students, AI, private tutors, essay writing or copy-editing services, pre-written essay banks or file-sharing websites.
- Do NOT use AI to take the place of your thinking, writing or critical analysis.
- Demonstrate an honest, responsible & ethical use of the internet, AI & associated social media platform resources in your references.
- Do NOT provide undue assistance to peers in the completion of their Extended Essay.

Consequences

Infringements	Level 1 penalty Warning letter to the student	Level 2 penalty Zero marks for the component	Level 3a penalty No grade for subject(s) concerned—see note 1
Plagiarism Copying external sources	Not applicable	Between 40-50 consecutive words and incomplete acknowledgement of copied source(s).	More than 51 consecutive words copied and no acknowledgement of source(s) given— see note 3. NO IB DIPLOMA

Explanatory notes

1. Level 3a penalty: This depends on the seriousness of the incident; the penalty can be extended to several or all subjects of the session.
2. Level 3b penalty will be applied to IB students involved in a form of misconduct that benefits another student rather than themselves.
3. As approved by the Final Award Committee in November 2013, the level 2 penalty is not applicable for extended essays (EEs). Due to the nature of the subject, only one assessment component (the level 2 and level 3a penalties) have the same outcome on the candidate's final result, the non-award of diploma. Therefore, plagiarism cases in EEs will only be considered when a considerable amount (more than 100) of consecutive words lacks proper reference.

I hereby declare that this Extended Essay which I now submit as part of the requirements for the IB Diploma is entirely my own work; that I have exercised reasonable care to ensure that the work is original and does not to the best of my knowledge breach any law of copyright, has not been written by someone else or by an AI and has not been taken from the work of others save to the extent that such work has been cited and acknowledged within the text of my work.

Student's Signature: _____ Date: _____

Parent's Signature: _____ Date: _____



Credit: Kelly Snyder, Turner Fenton

I hereby declare that this Essay which I now submit as part of the requirements for the IB Diploma is entirely my own work; that I have exercised reasonable care to ensure that the work is original and does not to the best of my knowledge breach any law of copyright, has not been written by someone else or by an AI and has not been taken from the work of others save to the extent that such work has been cited and acknowledged within the text of my work.

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Turner Fenton Secondary School
Extended Essay Academic Integrity

Declaration of Authenticity

Student's Name			
EE Research Question			
IBIS Personal Code (jid***)			

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- Do NOT use AI to take the place of your thinking, writing or critical analysis.
- Demonstrate an honest, responsible & ethical use of the internet, AI & associated social media platform resources in your references.
- Do NOT provide undue assistance to peers in the completion of their Extended Essay.

Consequences:

Infringements	Level 1 penalty Warning letter to the student	Level 2 penalty Zero marks for the component	Level 3a penalty No grade for subject(s) concerned—see note 1
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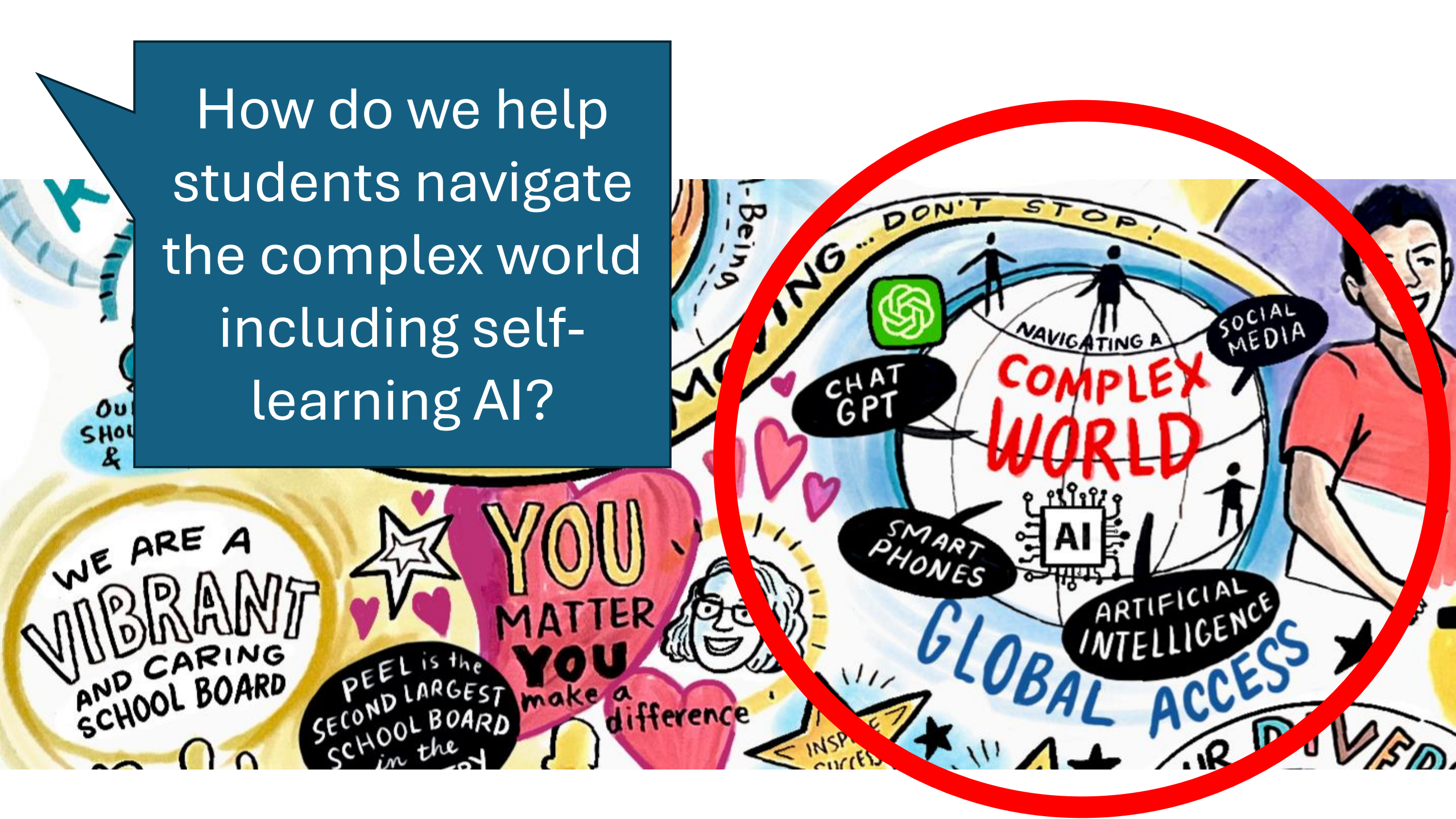
I hereby declare that this Extended Essay which I now submit as part of the requirements for the IB Diploma is entirely my own work; that I have exercised reasonable care to ensure that the work is original and does not to the best of my knowledge breach any law of copyright, has not been written by someone else or by an AI and has not been taken from the work of others save to the extent that such work has been cited and acknowledged within the text of my work.

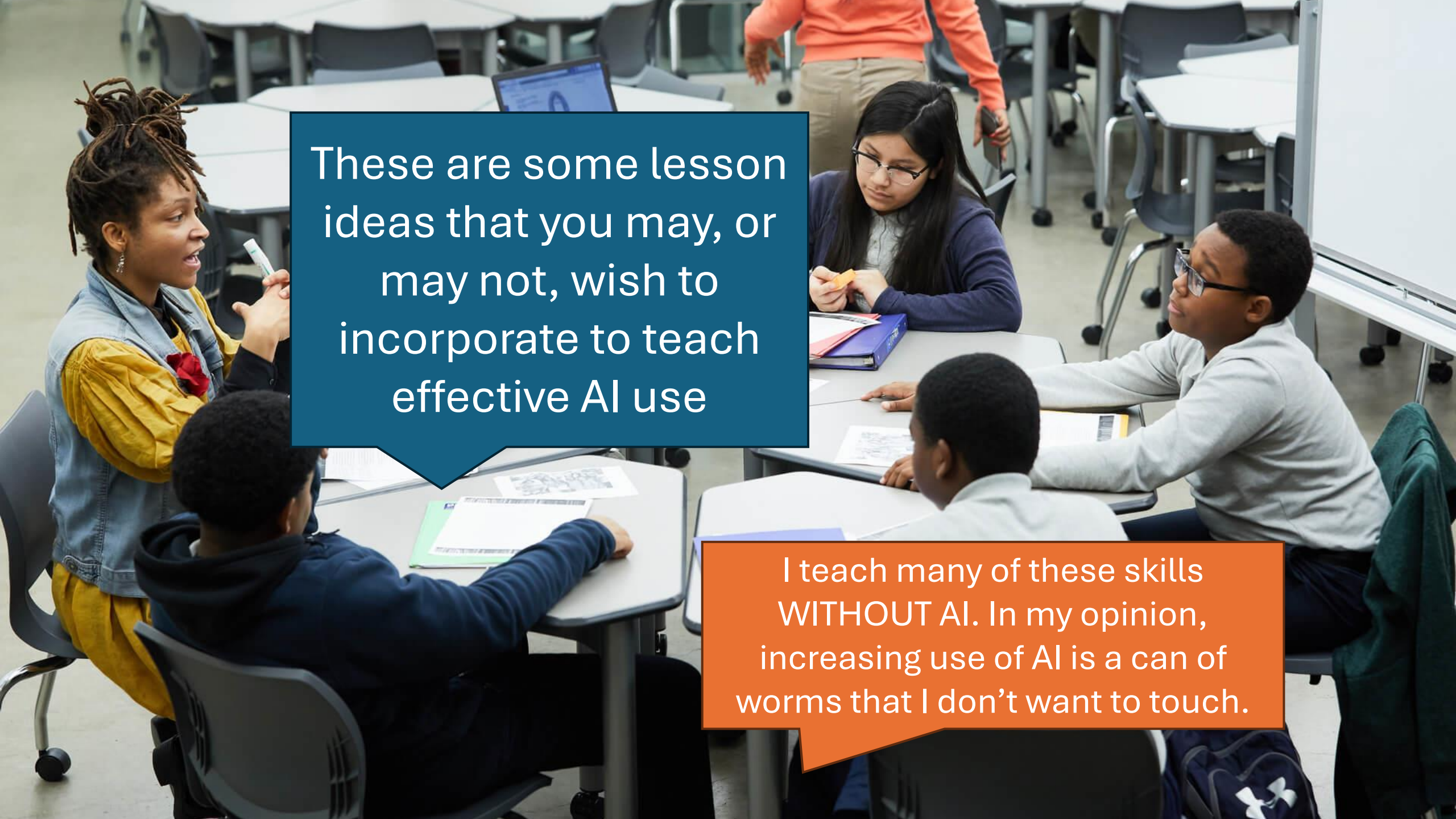
Student's Signature: _____ Date: _____

Parent's Signature: _____ Date: _____

Credit: Kelly Snyder, Turner Fenton

How do we help students navigate the complex world including self-learning AI?





These are some lesson ideas that you may, or may not, wish to incorporate to teach effective AI use


I teach many of these skills WITHOUT AI. In my opinion, increasing use of AI is a can of worms that I don't want to touch.

<https://www.unesco.org/en/digital-education/artificial-intelligence>

Artificial intelligence in educat

unesco.org/en/digital-education/artificial-intelligence

U1 Output on Scratch Summary of Suppo...

 **unesco**

Artificial intelligence in education

metamorworks/Shutterstock.com

Artificial Intelligence (AI) has the potential to address some of the biggest challenges in education today, innovate teaching and learning practices, and accelerate progress towards SDG 4. However, rapid

Artificial intelligence in educati x +

unesco.org/en/digital-education/artificial-intelligence

U 1 Output on Scratch Summary of Suppo...



Quick Links

UNESCO's mandate calls inherently for a [human-centred approach to AI](#). It aims to include AI's role in addressing current inequalities regarding access to knowledge, diversity of cultural expressions and to ensure AI does not widen the technological divide between countries. The promise of "AI for all" must be that everyone can take advantage of the technological revolution under way and access its fruits, notably in terms of innovation.

Furthermore, UNESCO has developed within the framework of the [Beijing Consensus](#) a publication aimed at fostering the readiness of education policy-makers in artificial intelligence. This publication, [Artificial Intelligence and Education: Guidance for Policy-makers](#), will be of interest to practitioners and professionals in the policy-making and education communities. It aims to generate a shared understanding of the opportunities and challenges that AI offers for education, as well as its implications for the core competencies needed in the AI era

Core
Competencies
needed in the AI
era

Core Competencies of Generative AI use

Writing an effective prompt

Iterative prompts; revising
to generate more precisely

Brainstorming


Checking the generated
text for accuracy.

Checking the generated
text for implicit bias.

Understanding how AI
works and its faults.




<https://code.org/ai>



Sign in

Artificial intelligence isn't magic... It's just code!

Demystify artificial intelligence (AI) by learning how it's changing the ways we live, work, and learn.



https://studio.code.org/catalog?topic=artificial_intelligence



Many lesson plans, with activities, off-line and on-line.

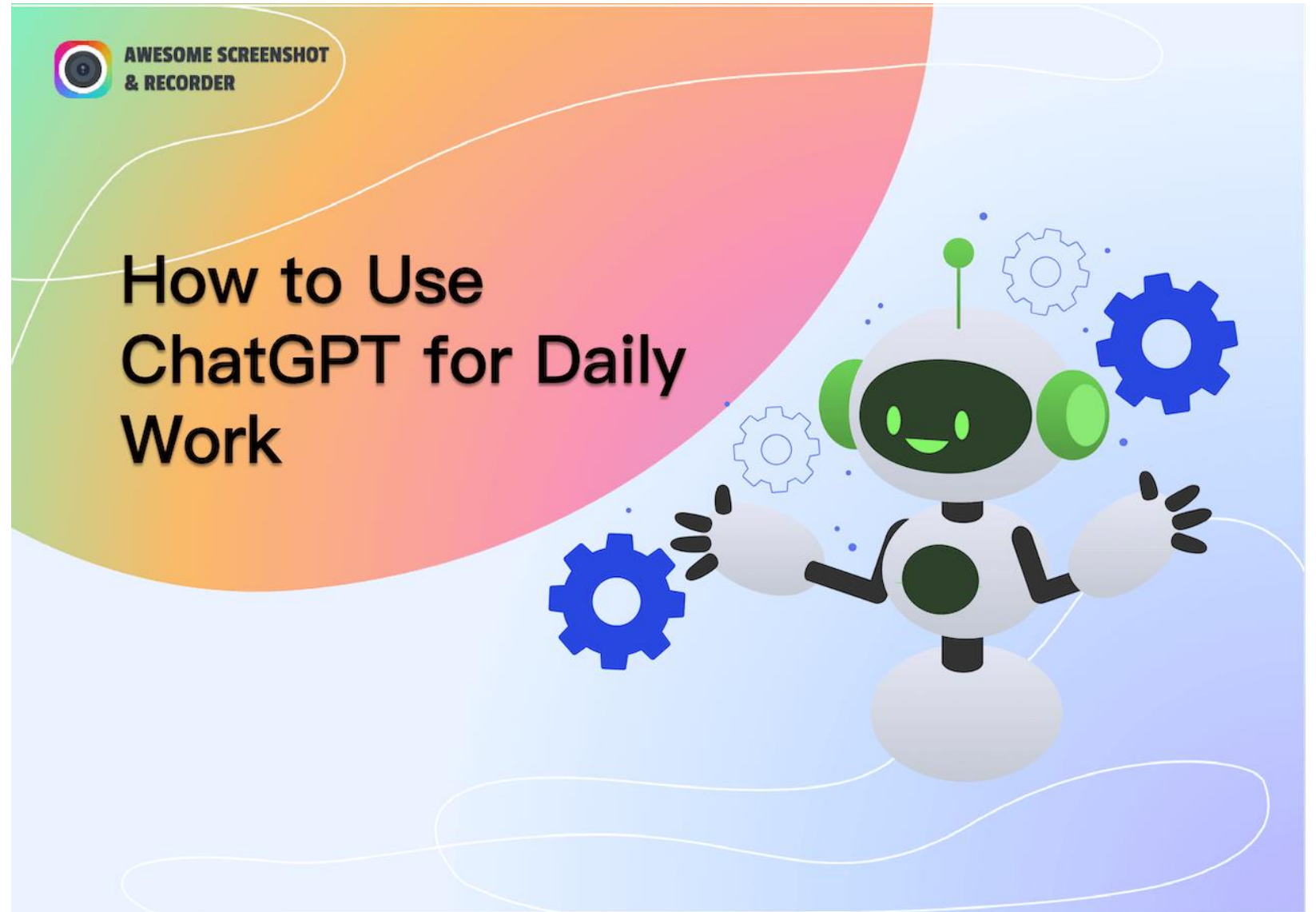
Code.org's work is very polished and high quality.

GRADES: 7-12

Societal Impact of Generative AI

Investigate the impact of generative AI from different perspectives, then collaborate as a team

Some of the lesson plans center around how to teach students to use AI to do their work



Goal: To understand _____.

1. Use the example AI System Prompt to begin interacting with the AI and getting feedback about how _____ works.

System Prompt: Explain the concept of _____ to me in one paragraph.

The lessons are something like this

2. Ask the AI to explain the idea using simpler words.

3. Ask the AI to explain three words that you didn't understand.

<https://studio.code.org/s/coding-with-ai/lessons/3>

An example
from
code.org

👍 **Example AI System Prompt** 👍

You are an algorithm efficiency analyst. I have an idea for *[an algorithm for a carbon footprint calculation]*. This algorithm will work as follows:
[insert description given].
Can you give some insights into how efficient the algorithm idea is? Is this the most efficient approach to a *[carbon footprint calculator]*?

💡 **Tips for working with the Algorithm Efficiency Analyst** 💡

Tip #1: AI has a **tendency to give lengthy and overwhelming responses**. If this happens, try putting a limit to its responses by asking for a specific number of insights or try just focusing on one of the many insights AI gives.

Tip #2: If the AI **gives you insights into more than just execution time and memory usage**, ask follow-up questions about the other categories (see the Behavior Expectations below)

Tip #3: To **get insights into something specific**, ask the AI those specific questions

- *Example: Can you give me more detailed insights into [item]?*

<https://educationblog.microsoft.com/en-us/2024/01/meet-your-ai-assistant-for-education-microsoft-copilot>

How to write prompts to get better answers from Microsoft Copilot

1 Choose a conversation style for the type of answer needed

More
Creative

 Original & imaginative

More
Balanced


 Concise & straightforward

More
Precise


 Informative & friendly

2 Give specific instructions

Instead of general questions...

What is the theory of general relativity? 


Include details of what you need

Summarize the key concepts of general relativity in one paragraph. 

3 Tailor for point of view or audience



- > Age
- > Grade level
- > Professional status

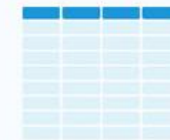
Explain quantum mechanics as if I were 8 years old 

4 Specify length

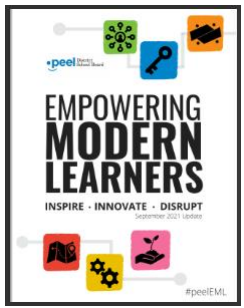


- > Words
- > Sentences
- > Paragraphs

5 Specify format



- > Outlines
- > Tables
- > Diagrams
- > Images



<https://www.peel schools.org/empowering-modern-learners>

In fact, by using ChatGPT in your classroom, you will be able to break the Modern Learning Elements as you attempt to incorporate them.

the innovative ELEMENTS

LEARNING CULTURE

The creation of a sustainable learning culture requires a unified commitment from learners, educators, school communities, and the system as a whole. Learning cultures are purposeful, resourceful, and goal-oriented. They establish empathy amongst learners and encourage curiosity and lifelong learning. Dynamic learning cultures encourage and facilitate opportunities for decentering whiteness as the norm and creating **agency** in the learning process, thereby fostering a questioning disposition and critical thinking. They spark joy and value learning where students can explore their interests and passions to foster creativity and co-learn.



How does the Learning Culture encourage and facilitate opportunities for students to have agency in the learning process and foster critical consciousness?

EQUITABLE ASSESSMENT

Utilize equitable and informative assessment guides during the learning process. Ongoing student-centred assessment, feedback and reflection processes improve student learning. Empowered learners succeed when assessment is transparent and co-constructed. Active involvement and engagement of learners throughout the assessment process connects them with their learning, fosters reflection, and intrinsic motivation to learn. Multiple and varied ways for students to express and communicate learning and make their thinking visible, allows for authentic learning experiences that **honour** students' identities and variabilities.



How do educators intentionally design assessments that leverage students' strengths and identities, allowing them to authentically demonstrate their learning in universal and differentiated ways?

ACCESS TO TECHNOLOGY & TOOLS

Reliable and equitable access to technology is more than access to hardware; it is about connecting learners to people, information and tools. Modern learners need access to technology to critically explore new possibilities, form new connections and participate positively as digital and global citizens. Access to digital and assistive resources offers opportunities to amplify learners' voices and identities while developing personal and digital personas. By accessing **culturally responsive resources** through digital platforms, learners and educators will have the opportunity to uncover counter-narratives that have been intentionally hidden, critically evaluate inequities and **dismantle** systems of **white supremacy**.

How is equitable access to Digital Technologies and Assistive Tools reflective of the intersectionality of the students we serve and the world in which they experience?

GLOBAL COMPETENCIES

Global competencies optimize individual choice and autonomy throughout the learning process. They also honour and amplify student voice, identities, and **lived experiences**. In a world where **systemic barriers** continue to be present, learners, educators, and leaders must challenge and disrupt oppression created by power imbalances. These skills empower students to develop **critical consciousness** to identify and actively confront racism, dismantle oppressive practices, and help build foundational skills for lifelong learning.

CRITICAL THINKING & PROBLEM-SOLVING
LEARNING TO LEARN
INNOVATION & CREATIVITY

COLLABORATION
COMMUNICATION
GLOBAL CITIZENSHIP



How do educators foster the Global Competencies to name and disrupt power dynamics both locally and globally enabling students to critically engage as citizens?

LEARNING ENVIRONMENTS

Learners excel when their identities and narratives are honoured, and they can create personalized pathways to success. Learning environments involve far more than the physical and virtual classroom; they support a climate that allows learners to express their brilliance and build trusting relationships. These spaces should be intentionally designed and co-constructed by everyone involved in the learning process. Counter-narratives that center the voices and experiences of historically **marginalized groups** must be part of teaching and learning practices. A dynamic learning environment is representative, responsive and adaptable.



How do we co-create adaptable learning environments that engage and embrace the lived experiences and identities of all learners?

MODELS OF LEARNING

Models of learning which provide multiple means of representation enable students to learn with **agency** and ownership over the learning process. Furthermore, it will amplify student voices to help them become agents of change and dismantle inequities and oppression. Using the Universal Design for Learning (UDL) framework and empowering students to choose an optimal model of learning such as knowledge building and direct teaching, inquiry, design thinking, and blended learning will help learners to explore big ideas, honour their **lived experiences**, and link their passions to the learning journey.

What models of learning best honour students' unique intersectional identities and amplify their voices to help them gain knowledge and become agents of change?

Access to Technology, one of the elements of Empowering Modern Learners

Multiple Means of Engagement

Technology is:

- Used purposefully within assessment and instruction
- Use to facilitate understanding of different cultures, connecting diverse populations and communities, understanding Indigenous, Black, and marginalized histories, cultures, and ways of living.
- Used to generate questions and provocative for learning

ChatGPT is unable to do this reliably

Purpose to learn becomes student centered rather than Teacher centered.

Opens opportunities for students to explore culturally responsive resources that are not filtered by Teachers bias.

Multiple Means of Representation

Technology is:

- Used by learners to access content in their preferred format, eg., audio, visual, text
- Used by learners to research, locate, gather, organize information however they prefer
- Used by the Teacher to present information

ChatGPT can be interpreted to do this

How students consume knowledge and skills becomes student centered rather than Teacher centered.

Opens opportunities for students to explore their preferred learning styles.

Multiple Means of Expression

Technology is:

- Used by learners to share content in their preferred format, eg., audio, visual, text
- Used by the Teacher to facilitate ongoing and immediate feedback to support student learning and gather triangulated evidence of learning
- Used to build awareness of other cultures

How students becomes student centered rather than Teacher centered.

Opens opportunities for students to explore their preferred learning styles.

Break and Fulfil at the same time. A dangerous combination.

Also, it is very important to stop your students periodically and get them to consider the source.

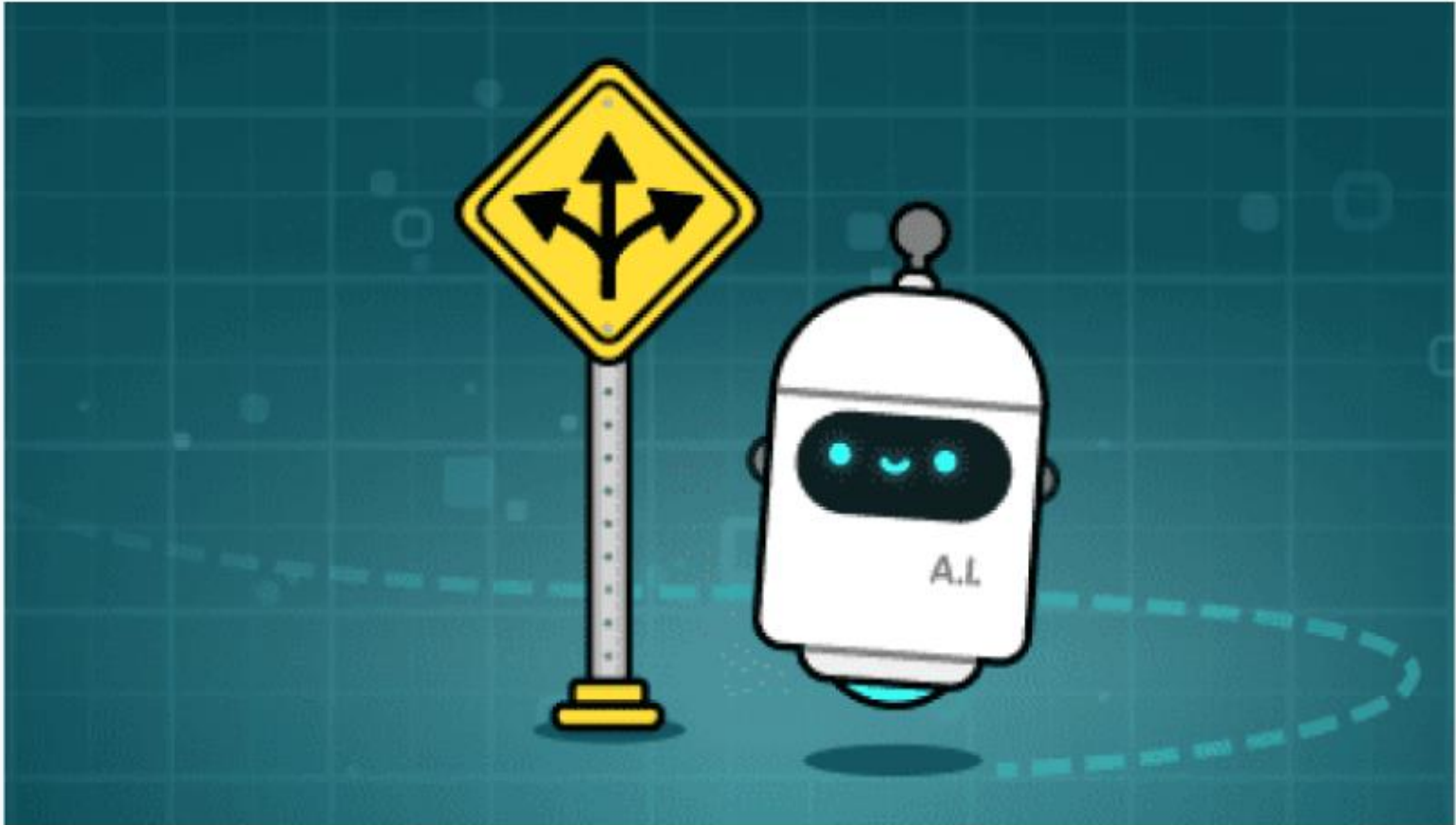
Just where is this list of “future-ready” characteristics coming from?

Learn about Artificial Intelligence

code.org/ai

U1 Output on Scratch Summary of Suppo...

AI and Ethics




Reflect on the ethical implications of AI, then work together to create an "AI Code of Ethics" resource for AI creators and legislators everywhere.

The image shows a browser window with the URL 'code.org/ai'. The page title is 'AI and Ethics'. Below the title is an illustration of a white robot with blue eyes and a yellow signpost with a four-way arrow sign. The robot is labeled 'A.I.' and is standing next to the signpost. The background is a dark teal grid. Below the illustration is a paragraph of text: 'Reflect on the ethical implications of AI, then work together to create an "AI Code of Ethics" resource for AI creators and legislators everywhere.'

Supporters | Code.org

code.org/about/supporters

Platinum Supporters (\$3,000,000+)



ballmer GROUP
Kenneth C. Griffin

Gold Supporters (\$1,000,000+)

BILL & MELINDA GATES foundation
Musk Foundation
SCHMIDT FUT

Alfred and Rebecca Lin
Charlie Lee and Aileen Tang
Bret and Karen Ta

The Iranian American Community
Anonymous

Code.org's sponsors.

All are actively developing and marketing AI solutions.

Core Competencies of Generative AI use

What I didn't tell
you about this
list...

Writing an effective prompt

Iterative prompts; revising
to generate more precisely

Brainstorming

Checking the generated
text for accuracy.

Checking the generated
text for implicit bias.

Understanding how AI
works and its faults.

Core Competencies of Generative AI use

Consider the
source...

↓ AI Company's Lists

Writing an effective prompt

Iterative prompts; revising
to generate more precisely

Brainstorming

↓ My List

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source...

↓ AI Company's Lists

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Iterative prompts; revising
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Brainstorming

And these are all easy.
Like Social Media, they
don't need instruction.

But, by showing them to
students, you are
normalizing their use.

Awesome marketing strategy.
Not a great education strategy.

Core Competencies of Generative AI use

Consider the
source...

These are all hard.

And their
importance is
growing the age
of AI.

Focus on this list.

↓ My List

Checking the generated
text for accuracy.

Checking the generated
text for implicit bias.

Understanding how AI
works and its faults.

These aren't bad skills.
You also don't need an AI
to teach them. I learned
them with a card
catalogue.

Sci/Tech. Ctr.

RA778
.P28

Pattammal, Madras Kanagasabapathy, 1910-

CD. DUPL..

தாய் தன் மகளுக்கு சொல்ல வேண்டிய விஷயங்கள். M...
advice to daughter. எழுதியவர் பட்டம்...

பதிப்பு சென்னை, புத்தகம்...

86 p. ...

How AI Works | Code.org


code.org/curriculum/how-ai-works

U 1 Output on Scratch Summary of Suppo...

GRADE LEVELS: 6-12

Neural Networks

Deon Nicholas!



Learn how neural networks work. Use widgets to explore neural networks in a hands on way. Watch a video explaining neural networks. Finally discuss the need for diverse perspectives when creating recommendation systems.

Duration: 45 minutes

Code.org has excellent teaching videos:
<https://code.org/curriculum/how-ai-works>
Scroll Down to videos.



<https://youtu.be/X-AWdfSFCHQ>



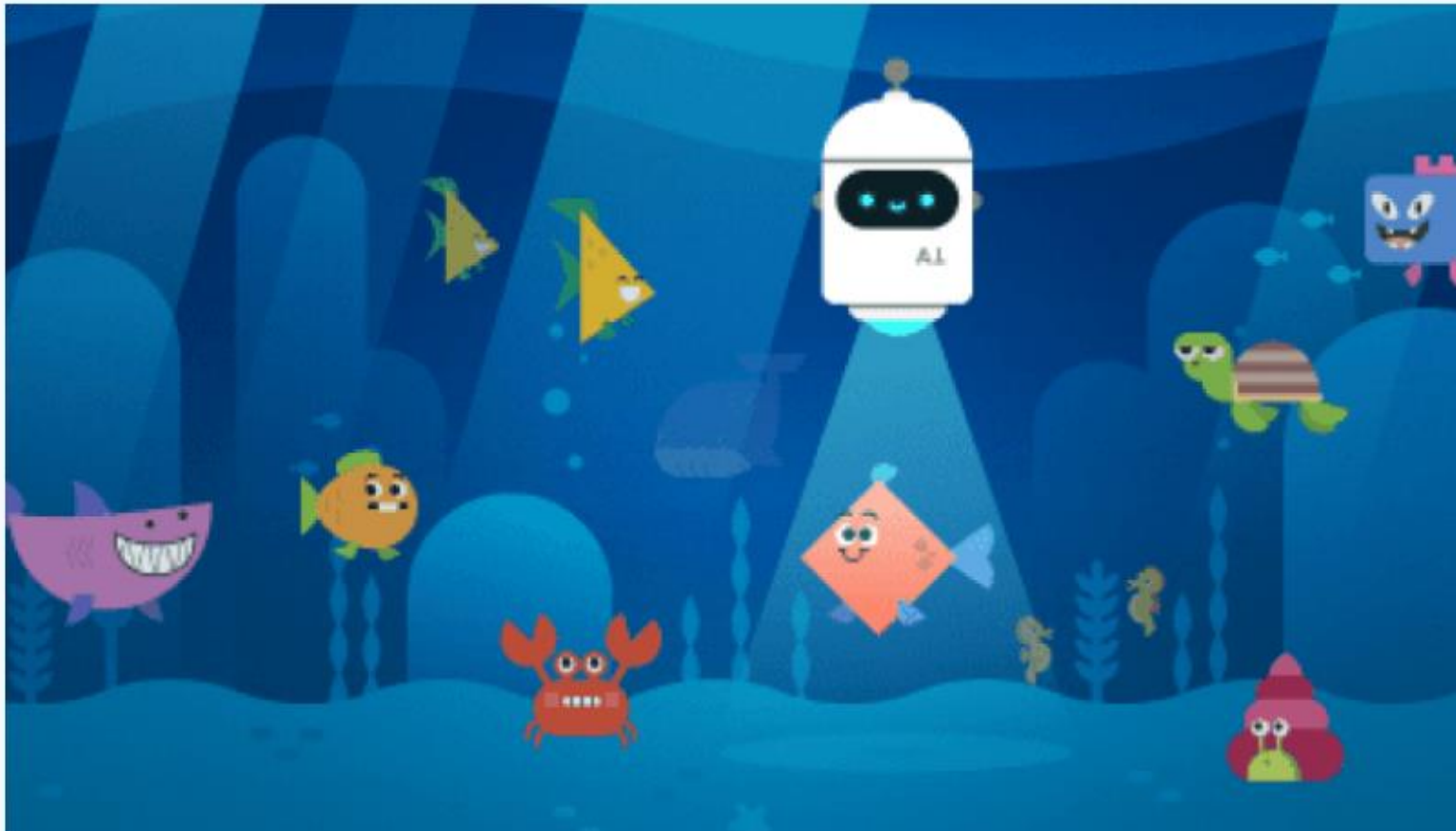
<https://youtu.be/tJQSyzBUAew>

Learn about Artificial Intelligence x +

code.org/ai

U 1 Output on Scratch Summary of Suppo...

AI for Oceans



Help A.I. clean the oceans by training it to detect trash! Learn about training data and bias, and how AI can address world problems.

Data set bias and generation

<https://studio.code.org/s/oceans>

AI for Oceans

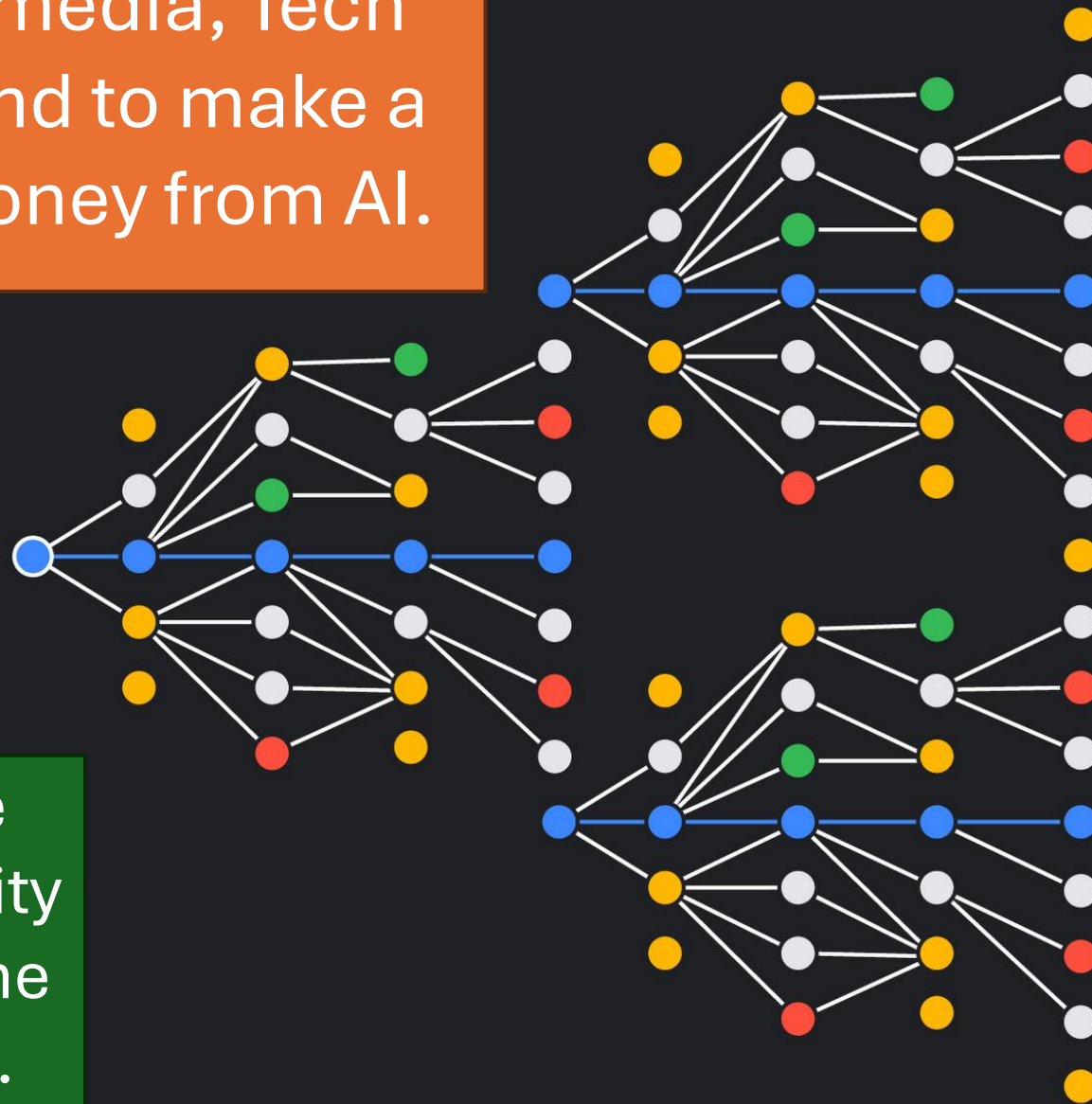
Learn how AI and machine learning can be used to address world problems.

[Try Now](#) [Get Help](#)

Lesson Name	Progress
1. AI for Oceans	1 2 3 4 5 6 7 8

You can create a class, have your students join, and quickly monitor their progress.

As with social media, Tech companies stand to make a great deal of money from AI.



Please point out the overwhelming positivity of these sources to the students repeatedly.

The image is a screenshot of a web browser displaying a news article on the CBC website. The browser's address bar shows the URL 'cbc.ca/news/canad...'. The page features the CBC logo and a navigation menu with options like 'NEWS', 'Top Stories', 'Local', 'Climate', 'World', and 'Canada'. The article's main headline is 'B.C. lawyer reprimanded for citing fake cases invented by ChatGPT'. Below the headline, a sub-headline reads 'Chong Ke ordered to pay costs for opposing counsel to discover precedent was AI 'hallucination''. The author is identified as Jason Proctor, a CBC News reporter, with a post date of February 26, 2024. The article content is partially visible, starting with 'British Columbia'.

British Columbia

B.C. lawyer reprimanded for citing fake cases invented by ChatGPT

Chong Ke ordered to pay costs for opposing counsel to discover precedent was AI 'hallucination'

Jason Proctor · CBC News ·
Posted: Feb 26, 2024 11:01 PM EST | Last Updated: February 26

In a decision released Monday, a B.C. Supreme Court judge reprimanded lawyer Chong Ke for including two AI "hallucinations" in an application filed last December.

Justice David Masuhara said he didn't think the lawyer intended to deceive the court — but he was troubled all the same.

"As this case has unfortunately made clear, generative AI is still no substitute for the professional expertise that the justice system requires of lawyers," Masuhara wrote in a "final comment" appended to his ruling.

<https://www.cbc.ca/news/canada/british-columbia/lawyer-chatgpt-fake-precedent-1.7126393>

lawyer used ai to write brief - G x +

google.com/search?q=lawyer+used+ai+to+write+brief&rlz=1C1GCEA_enCA959CA9

Google lawyer used ai to write brief

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CNBC
<https://www.cnn.com/2023/06/22/judge-sanctions-l...>

AI: Judge sanctions lawyers over ChatGPT legal brief
Jun 22, 2023 — **Steven Schwartz**, who used ChatGPT to write a legal brief, is pictured outside federal court in Manhattan on Thursday, June 8, 2023, in New York.

Global News
<https://globalnews.ca/fake-ai-cases-b-c-supreme-court>

B.C. lawyer who used fake, AI-generated cases faces law ...
Jan 31, 2024 — Earlier this month, it was revealed that **lawyer Chong Ke** allegedly used ChatGPT to prepare legal briefs in a family law case at B.C. Supreme ...

Washington Post
<https://www.washingtonpost.com/2023/11/16/chatg...>

How lawyers used ChatGPT and got in trouble
Nov 16, 2023 — Stressed-out **lawyers** are turning to chatbots to **write** tedious briefs. Law firms are using **AI** language tools to sift through thousands of case ...

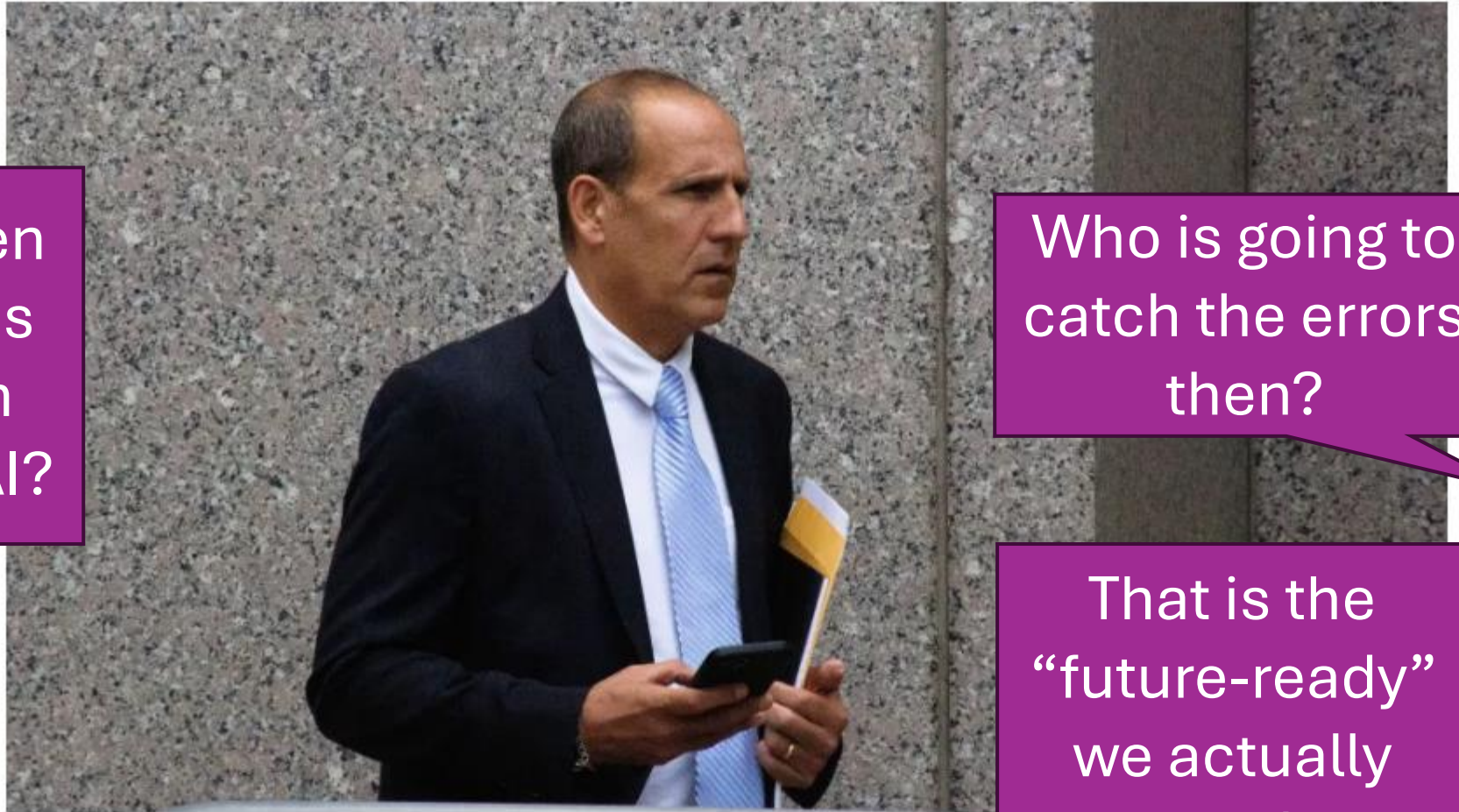
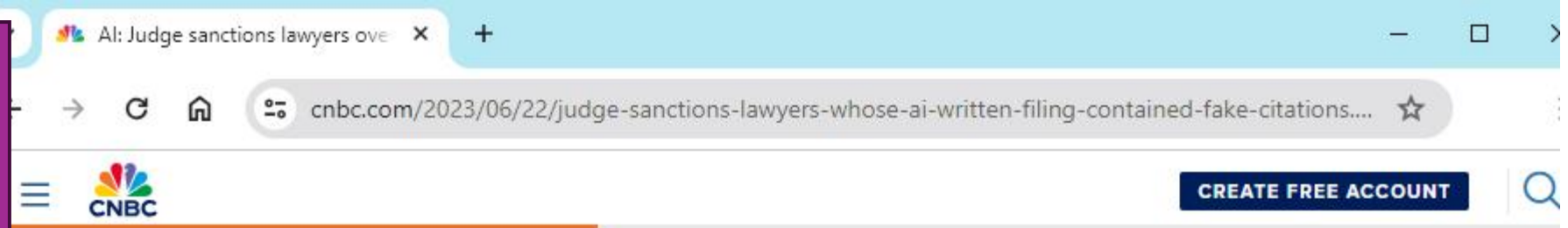
It wasn't an isolated case.

Another core competency – check if it is right.

Judges are still catching the AI generated errors.

What will happen when the Judges have also been educated with AI?

<https://www.cnbc.com/2023/06/22/judge-sanctions-lawyers-whose-ai-written-filing-contained-fake-citations.html>



Who is going to catch the errors then?

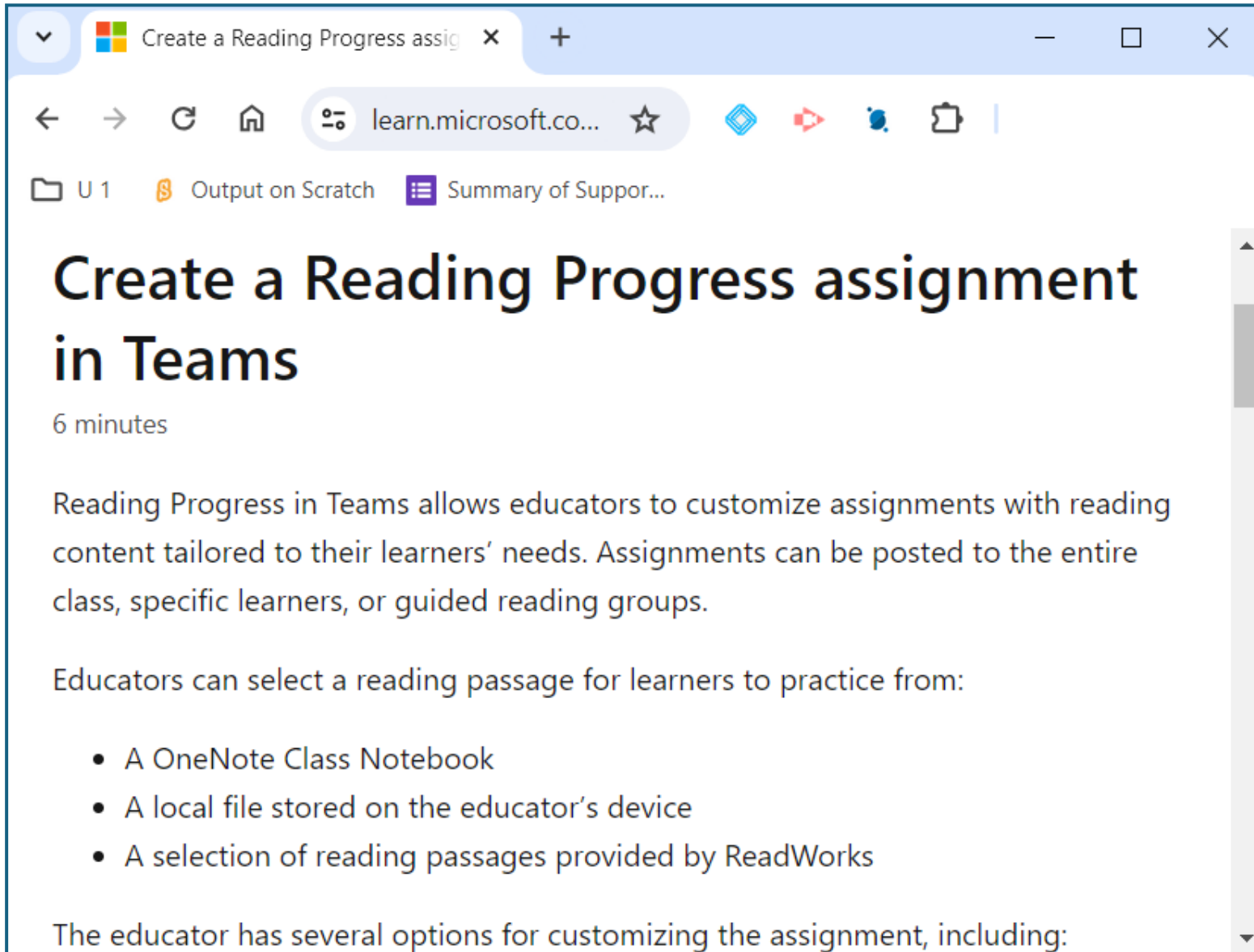
That is the “future-ready” we actually need.

Steven Schwartz, who used ChatGPT to write a legal brief, is pictured outside federal court in Manhattan. Molly Crane-Newman | New York Daily News | Getty Images

A screenshot of a web browser displaying a YouTube video player. The browser's address bar shows the URL 'youtube.com/watch...'. The video player itself has a black background with the title 'Humans Need Not Apply' written in white, monospaced font. Below the video player, the video title 'Humans Need Not Apply' is repeated, followed by the channel name 'CGP Grey' and '6.28M subscribers'. There is a 'Subscribe' button, a like button with '371K' likes, a comment button, a share button, and a more options button. The video progress bar shows '0:02 / 15:00'.

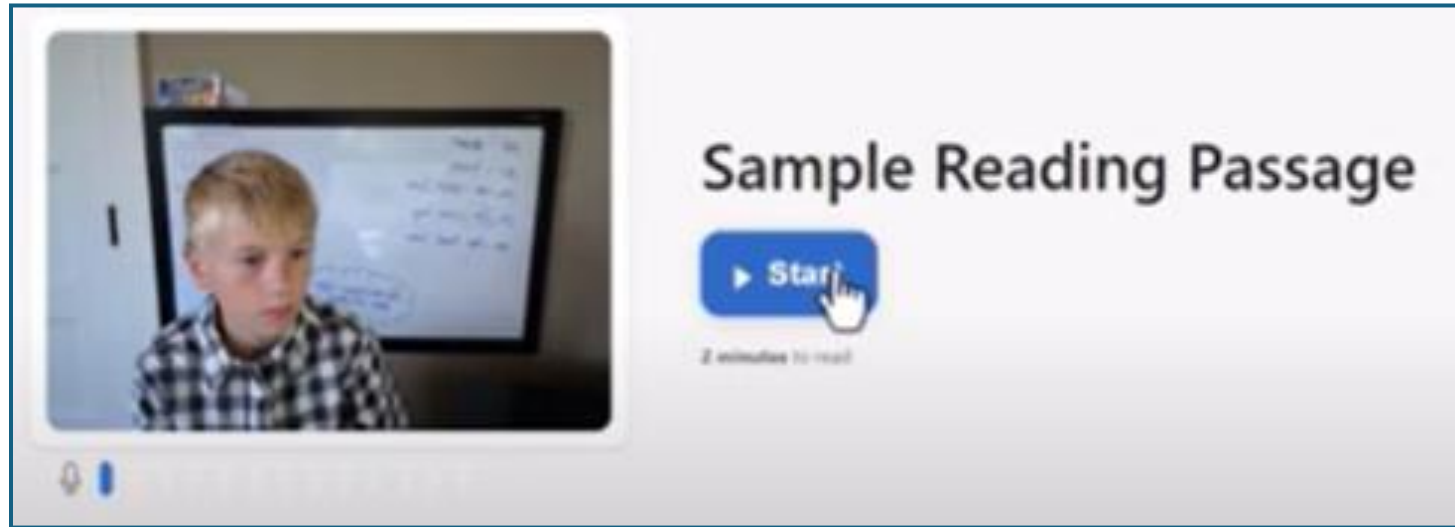
A constant dialog in my class is “if the AI can do it better than you, why would anyone hire you? The AI is free.”

<https://www.youtube.com/watch?v=7Pq-S557XQU>



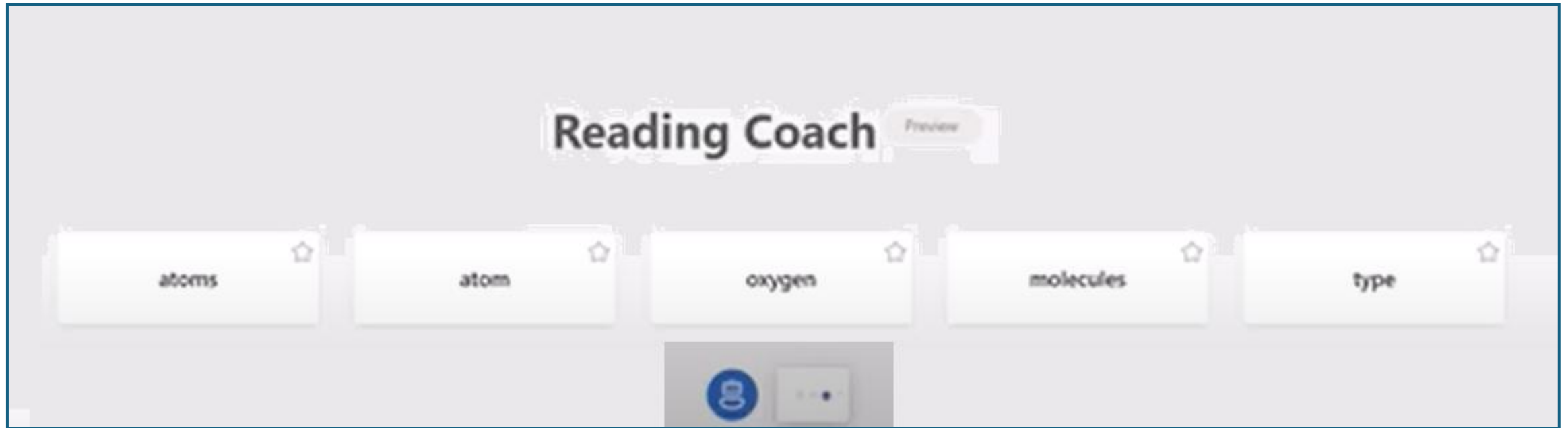
It's coming
for us too.

<https://learn.microsoft.com/en-us/training/modules/support-reading-fluency-practice-with-reading-progress/learner-view-reading-progress-assignment>



“Reading Coach targets challenging words for learners in a personalized review after they complete the Reading Progress assignment. In Reading Coach, learners can practice challenge words with text supports such as:

- Listening to the correct pronunciation of the word
- Breaking down the word into syllables
- Viewing a picture of the word’s meaning”



“Autodetect, pronunciation sensitivity, and unexpected pause length features allow educators to customize the identification of accuracy and errors in learners’ reading”.

Practice your challenge words

Reading Coach

Learn more from the tools. When you're ready press the green microphone to read the word out loud

at · mos · phere

← 🔊 ↺ 📧

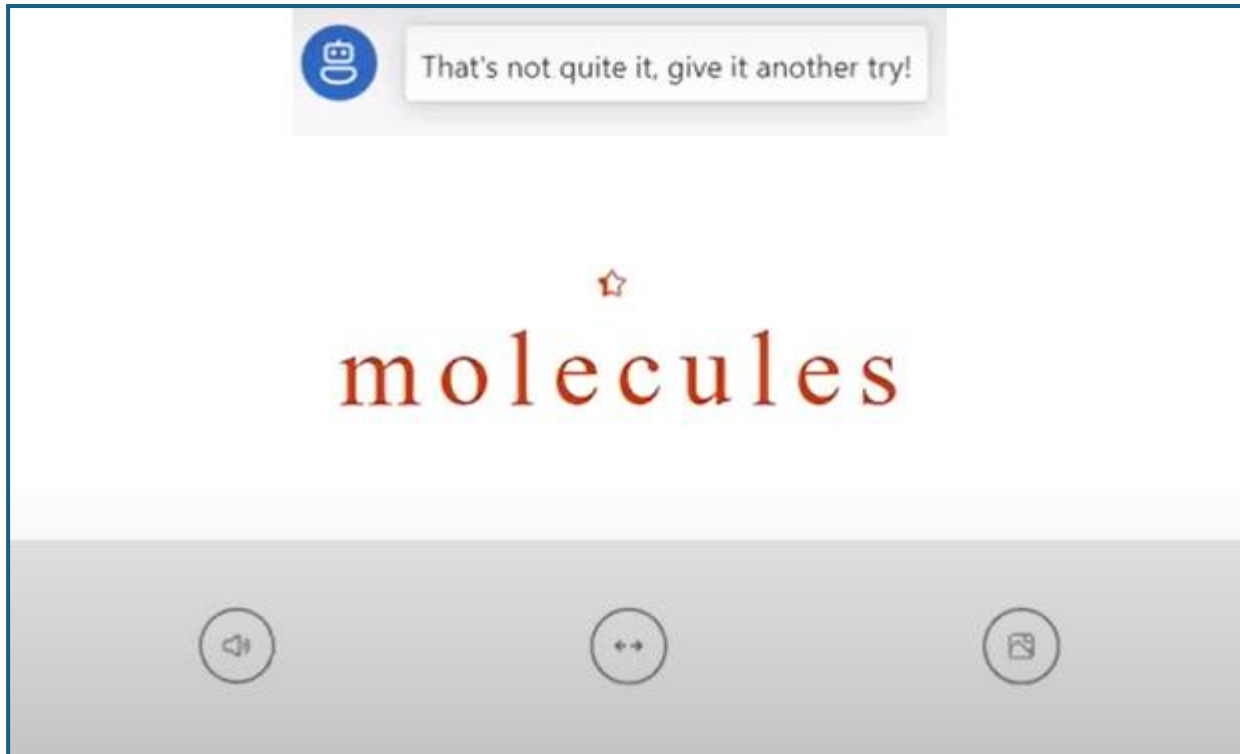
← 🎤



oxygen

🎤 When you're ready, press the microphone and read the word out loud.

The AI can listen to the student's 5 words and prompt them to repeat if needed.



That's not quite it, give it another try!



Keep trying, you're almost there!

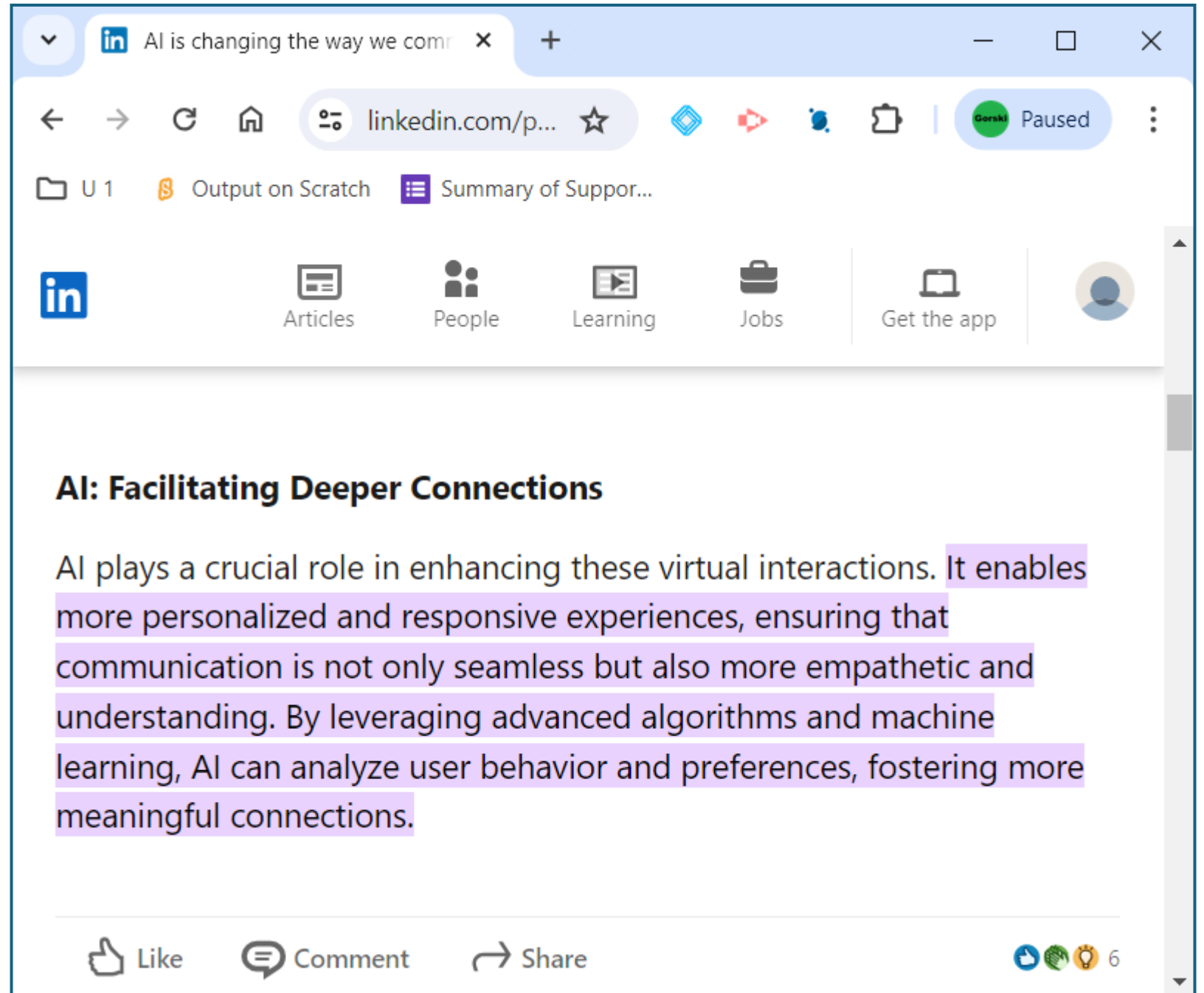


You're making your brain stronger, nice work!

<https://www.youtube.com/watch?v=9MzclW1VKmQ&t=134s>

Don't swallow
down the
marketing
whole.

<https://www.linkedin.com/pulse/ai-changing-way-we-communicate-vvibeapp-4fpme#:~:text=It%20enables%20more%20personalized%20and,preferences%2C%20fostering%20more%20meaningful%20connections.>



The image shows a browser window displaying a LinkedIn article. The browser's address bar shows the URL 'linkedin.com/p...'. The article's title is 'AI: Facilitating Deeper Connections'. The main text of the article is highlighted in purple and reads: 'AI plays a crucial role in enhancing these virtual interactions. It enables more personalized and responsive experiences, ensuring that communication is not only seamless but also more empathetic and understanding. By leveraging advanced algorithms and machine learning, AI can analyze user behavior and preferences, fostering more meaningful connections.' Below the text, there are interaction buttons for 'Like', 'Comment', and 'Share', along with a notification icon showing '6'.

AI is changing the way we comr x +

linkedin.com/p... ☆


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Articles People Learning Jobs Get the app

AI: Facilitating Deeper Connections

AI plays a crucial role in enhancing these virtual interactions. It enables more personalized and responsive experiences, ensuring that communication is not only seamless but also more empathetic and understanding. By leveraging advanced algorithms and machine learning, AI can analyze user behavior and preferences, fostering more meaningful connections.

Like Comment Share 6

A wooden board with a checkered pattern, surrounded by rice. The rice is piled up on the board, and the amount of rice increases exponentially from the center towards the edges, illustrating the concept of exponential growth. The board is made of dark wood with light-colored squares. The rice is white and long-grained. The background is a solid color.

Remember exponential growth. Try to think about how your adoption of technology will impact students 4 or 5 doublings from now.



This technology reflects system biases and prejudices.

Be extremely cautious.

The medium is the message
because it is the medium that
shapes and controls the search and
form of human associations and
action.

— Marshall McLuhan —

Consider
medium's
message to
your students.
Is it what you
want?

Passive
acceptance

Replacing
humans

Implicit bias

Struggle and
challenge has
no value

You are a user,
not a creator