

# ARTIFICIAL INTELLIGENCE

THE GOOD  
THE BAD  
THE UGLY

by George Opacic

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# NOTE

Since there is so much information and it changes by the day, I will run through these slides very quickly, but they will be available to you later at

<https://rutherfordpress.ca/2026/04/12/ai-the-good-the-bad-the-ugly/>

Sorry if I rush this 😊

# WHAT IS AI?

Choose one (or more) of the following

It is:

- A fancy *autocorrect*
- A fabrication of megacorporations
- An addiction
- An apparent ***brand new thing***
- An incorrect use of a term
- A useful addition to some technical tasks

# *AI ?*

It can be *all* of these

# HAVE YOU HEARD THESE TYPES OF COMMENTS?

[@david\\_chisnall](#) *Meta reportedly plans sweeping layoffs as AI costs increase*

“Meta is planning sweeping layoffs that could affect 20% or more of the company, three sources familiar with the matter told Reuters, as [Meta](#) seeks to offset costly artificial intelligence infrastructure bets and prepare for greater efficiency brought about by AI-assisted workers.

“I think it is clear to everybody except investors. Or maybe even to them, but they are just waiting for the best moment to get the biggest profit before the bubble explodes.

“You are lying about productivity gains (in which case, investors should worry about what else you’re lying about and should start prodding the SEC to investigate)”

<https://robenglander.com/writing/ai-did-not-simplify/> *“AI Didn’t Simplify Software Engineering: It Just Made Bad Engineering Easier*

“Look on the bright side - in a few years there will be good demand for ‘artisanal’ software engineers and specialized IT folks who can fix this AI-slop-generated code”

<https://www.bbc.com/news/articles/c2l799qxjipo> *“Computers cannot think, empathise or reason.*

“However, scientists have developed systems that can perform tasks which usually require human intelligence, trying to replicate how people acquire and use knowledge. This could be trying to anticipate what product an online shopper might buy based on previous purchases, in order to recommend items.”

# WHAT IS AI

This topic has started to become polarized

Some people are using what is generally referred to as **AI** in technical and scientific environments and they are finding it very useful

Others are using the word “AI” as a swear-word and say they will have nothing to do with it (per coders and sysadmins, professionals in the business)

Many people have encountered AI on their computers when searching because it has been enabled without their permission, so they may reluctantly be accepting its use (this is the rest of us)

And megacorporations are spending billions to convince people it is actually a good product

Read further...

AI's negative aspects arise from the megacorporations that have invested billions in the technology and, despite very limited returns, have bought into the myth of the magic-button-software

AI is neither a magic machine nor a magic cash-cow  
It *could* be a potentially powerful machine-learning technology that has been mistaken for a cash-cow



Partially AI-generated:

# WHAT IS AI?

**Artificial intelligence (AI)** is, strictly, the capability of computational systems to perform tasks typically associated with human intelligence, such as learning, reasoning, problem-solving, perception, and decision-making

: *Wikipedia*

**Generative AI (gen-AI)** is a subfield of artificial intelligence that uses generative models to produce text, images, videos, audio, software code or other forms of data

: *Wikipedia*

**Large Language Models (LLMs)** are the engine of AI systems. Using reams of data and algorithms to train a model, it recognizes which words come after each word in a query

**Machine Learning (ML)** is one of the core methods inside AI. It helps computers recognize patterns, study data, and get smarter over time without written instructions for each task

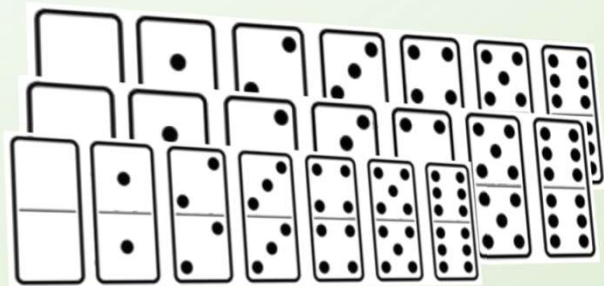
: *Morsoftware.com*

# GENERATIVE?

Generative AI produces probabilistic output predicting what the next word is likely to be in a sequence based on its training data

“Generative models are a cornerstone in the world of artificial intelligence (AI). Their primary function is to understand and capture the underlying patterns or distributions from a given set of data. Once these patterns are learned, the model can then generate new data that shares similar characteristics with the original dataset.”

: <https://www.datacamp.com/blog/what-is-a-generative-model>



Training data

=

with  
Rules for  
Dominos



&



Generate a House of Dominos

# THE OTHER AI

Another specialized form of AI is “**discriminative AI**”, which is primarily written as decision-making algorithms that produce options and targets by identifying patterns in data – this is finer tuning of *generative AI*

Such programs are only as good as the data provided and how their algorithms are written, both of which are created by humans and therefore share the writers’ biases (perhaps political...)

Governments are looking to use this form of AI

Two recent Canadian cases reveal that governments’ experimentation with generative AI and algorithmic decision-making in delivering immigration and social-assistance programs have already resulted in serious negative consequences.

In one case, Immigration, Refugees and Citizenship Canada (IRCC) acknowledged [using generative AI](#) to reject an application for permanent residence on the grounds the applicant’s job duties didn’t match her claimed Canadian job experience. However, the AI tool erroneously generated the applicant’s current job duties, which means the algorithm wrongly rejected the application.

: <https://the-14.com/the-carney-governments-embrace-of-ai-will-put-lives-at-risk/>

# DO YOU NEED TO “CODE”?

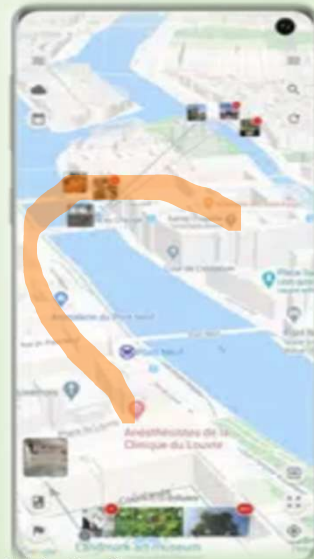
No

You can interact with an AI “chatbot” in plain English

This is the difference, for instance, in asking for driving directions:

## Using a standard map app - non-AI

- Confirm the mode of transport
- Confirm the field for where you are
- Fill in the field for where to go
- Confirm the date/time



## Using a chatbot

- State a request such as:  
“I want to drive from (x) to go to (y) using the quickest route”

**Which one seems more convenient?**

## HOWEVER...

With the current state of development, a standard map app is *dedicated* to giving driving directions and is continually updated with specific traffic volumes, road closures, nearby stores, etc.

Whereas, chatbots draw from the tonnes of irrelevant data that have been collected during their training and may, or may not, give an answer you can use or trust

It's like asking a competent taxi driver friend for directions, versus asking a 2<sup>nd</sup> cousin twice removed, how to get to grandma's house

The cousin can sound very convincing, but you may get a story about Little Red Riding Hood...

## DO YOU USE AI-GENERATED STUFF?

I used a chatbot to create this image of Trump on the Titanic

Then I wrote a story – with *NO* AI help – about Trump spreading “chaos and deprivation” as a tool to sow distrust and general angst among the passengers

*Is that image a fair use of AI?*

: <https://rutherfordpress.ca> and look for *Posts*



By the way, the chatbot made a mistake – the Titanic had 4 funnels  
And, I had to cut-and-paste Trump over the ship

## Learnings 1

In using AI to make that picture:

- 1. Yes, that is appropriate
- 2. No, that is inappropriate
- 3. Don't know yet

# IT'S SO EASY...

The siren call of *AI* says, "Try me. It's so easy to make a great image or write something wonderful..."

Well, professional artists say that stuff generated by "AI" falls into the range between **NOT** and **OK**

If that is what you want, go for it

But please do not pretend it is *Your* product

It was done by a mathematical algorithm



# ARTIFICIAL INTELLIGENCE

Is it really “intelligent”?

“Artificial intelligence” is an aspirational term

Large Language Models – the *engines* of AI – are written to **pretend** they are *intelligent*

In a recent study by Pranav Narayanan Venkit at Salesforce, he gives: “a clear warning for anyone using AI to search for information. These tools are convenient, but we cannot rely on them completely. The technology has a long ways to go.”

and

“One company offers Bay Area employers artificial intelligence that filters potential hires by combing through 10,000 public online sources looking for references to violence or illegal drugs. Another uses the technology to scan workers’ office emails for signs of dissatisfaction or burnout. Others offer AI analysis of workers’ every online action in the workplace.”

Which is why California had proposed legislation called “No Robo Bosses Act” to protect workers. : from *The GIST*, June 2025

TRUST

ETHICS

# AI IN BRIEF

“Artificial intelligence” is a mathematical construct



This is like what an old-fashioned fortune teller does

## ARTIFICIAL INTELLIGENCE comes from LLMs

- Large language models (LLMs) scrape data from across the internet to train their algorithms
- User’s queries are answered by association – the scraped data is compared to your query
- The impression of an assured answer is given
- *Imperfect context co-relations or queries produce answers that are either imprecise, inaccurate, or outright “hallucinations”*

[https://www.theregister.com/2024/05/23/ai\\_untested\\_unstable/?td=rt-9cs](https://www.theregister.com/2024/05/23/ai_untested_unstable/?td=rt-9cs)

# FROM WHENCE COMES THE IMPRECISION?

As a mathematical construct, AI does not “know” what it is doing, no more than a household budget spreadsheet knows what it is doing, what your work means to you, nor how its not working can affect you

The spreadsheet merely calculates data according to the formulas for each cell

Remember **GIGO?**

*Garbage In = Garbage Out*

If the AI's algorithms (formulas) are imprecise, the output is garbage

And, if it does not know the answer, it *hallucinates*



# AI ANXIETY

“AI anxiety” encompasses concerns about:

- Rapid societal change driven by “artificial intelligence”
- Job disruption
- Loss of identity
- Diminished human agency
- Misinformation
- Privacy erosion
- Concentration of power
- Educational integrity, and
- Devaluation of human creativity

These anxieties reflect practical risks and a desire for transparency, accountability, and meaningful human contribution *:Science X Newsletter 16 Feb '26*



# AI GETS POOR RATINGS

= a *Wild West show*

= a *Bubble*

AI Safety Index Ratings from *Future of Life Institute*:

"They [AI technology companies] are the only industry in the U.S. making powerful technology that's completely **unregulated**, so that puts them in a **race to the bottom** against each other where they just don't have the incentives to prioritize safety," said the institute's president and MIT professor Max Tegmark in an interview.

The highest overall grades given were only a C+, given to two San Francisco AI companies: OpenAI, which produces ChatGPT, and Anthropic, known for its AI chatbot model Claude. Google's AI division, Google DeepMind, was given a C.

Ranking even lower were Facebook's Menlo Park-based parent company, Meta, and Elon Musk's Palo Alto-based company, Grok, which were given a D. Chinese firms Z.ai and DeepSeek also earned a D. The lowest grade was given to Alibaba Cloud, which got a D-.

The companies' overall grades were based on 35 indicators in six categories, including [existential safety](#), risk assessment, and information sharing. The index collected evidence based on publicly available materials and responses from the companies through a survey. The scoring was done by eight artificial intelligence experts, a group that included academics and heads of AI-related organizations.

[https://techxplore.com/news/2025-12-safety-card-ai-compan-efforts.html?utm\\_source=nwletter](https://techxplore.com/news/2025-12-safety-card-ai-compan-efforts.html?utm_source=nwletter)

# CODING AI

Ok, so maybe we *could* code the algorithms in a safe way to make an AI app

This is one of the processes...



<https://www.geeksforgeeks.org/artificial-intelligence/build-an-ai-application-with-python-in-10-easy-steps/>

Remember to add “guardrails”, and write it according to standards...

# AI IN INDUSTRY

Container shipping is the way we receive so much of our goods  
Changes are occurring in that industry, along with others

“**Autonomous navigation**, route optimisation, collision avoidance, and predictive maintenance (to name just a few) are all being helped by AI solutions, and although adoption isn’t yet widespread, the trend is clear.

“While AI is poised to shape the future of shipping, the truth is, AI is already in use.

“With around 25 million containers in circulation, 100,000 cargo ships on the seas, and an increasingly digital shipping industry, AI is set to reshape the shipping industry.”



There are lots and lots of data being scraped

What you **do** with it is key

In the link below, there are very informative comments, for instance from Capt. Ajay K Minocha, Kris Kosmala, and Muneera Khan

<https://www.linkedin.com/pulse/how-artificial-intelligence-reshaping-shipping-industry-andre-simha-o9ple/>

# AUTONOMOUS VESSELS



## **Victoria's Open Ocean Robotics to test autonomous vessel at Port of Prince Rupert**

[“Open Ocean Robotics](#) is taking its zero-emission autonomous boat north for testing at the Port of Prince Rupert. The Victoria company's DataXplorer Gen 2 will spend time collecting ocean and marine data as part of a \$409,000 project backed by Innovate [BC's Integrated Marketplace program](#).

The vessel runs on solar power and operates without anyone on board, monitoring ocean conditions more sustainably than traditional boats while gathering data for port operations.”

<https://victechjournal.com/p/victoria-s-open-ocean-robotics-to-test-autonomous-vessel-at-port-of-prince-rupert>

# POPULAR AI TOOLS

Note: this list changes almost monthly

**ChatGPT (GPT5.5)** is the latest version of ChatGPT, from OpenAI

**Copilot** Originally built on GPT4. Many organizations have access to this, forced by default on its users by Microsoft

**Copilot Designer**, Microsoft's image generator using DALLE-3

**Gemini** Google's chatbot (formerly Bard) released in March 2023

**Claude** Anthropic's AI large language model and **Mythos** (formerly secret)

**Deepseek** is one of several Chinese entries in this field

**Perplexity** AI-powered search engine rival to Google

**Grok** developed for Elon Musk on xAI, November 2023

**Meta Llama** Meta's open-access large language model

Of interest may be this interview with OpenAI's Sam Altman \*

<https://techxplore.com/news/2025-08-gpt-ai-plateaued.html>

\* Altman does say that "GPT-5 is the first time that it really feels like talking to an expert in any topic, like a Ph.D.-level expert."

Yet it still doesn't have a clue about whether anything it says is accurate

# LARGE LANGUAGE MODELS - HOW THEY WORK

The standard answer is, from their huge database, scraped (legally or illegally) from many sources, they:

R  
E  
V  
I  
E  
W


- Consider *Options* to a question using their programmed algorithms
- Assign a score to each Option based on the likelihood of the next word
- Choose the next word for the chatbot's answer
- Go to the next word after that, and so on

The way an algorithm is written will be the driver of what is produced as an answer

The answer you get will depend on how well you ask the question and how well the software has been written

# THERE IS A CERTAIN ATTITUDE

Some businesses these days have a peculiar attitude toward their products:



A screenshot of a tweet from user 'ry' (@rywalker) dated Dec 23. The tweet text reads: 'software development in 2026 is going to require some to loosen up a little', 'code doesn't have to be as perfectly crafted the way we did it pre-ai', 'call it slop if you want, but if you're still demanding perfection on every pr while your competitors are shipping "slop" that works... you're fighting from a disadvantaged position', and 'shipping velocity matters more than perfection'. The tweet has 818 replies, 112 retweets, 1,911 likes, and 1,258,169 views. A yellow sticky note with four question marks is overlaid on the bottom right of the tweet image.

ry  @rywalker Dec 23

software development in 2026 is going to require some to loosen up a little

code doesn't have to be as perfectly crafted the way we did it pre-ai

call it slop if you want, but if you're still demanding perfection on every pr while your competitors are shipping "slop" that works... you're fighting from a disadvantaged position

shipping velocity matters more than perfection

Dec 23, 2025 · 5:57 PM UTC

 818  112  1,911  1,258,169

?????

# WILLING TO TRY IT ANYWAY?

The next few slides give a reliable method for interacting with this new technology

Step carefully...



# BUILD A PROMPT TO ASK THE BEST QUESTION

Tell the chatbot specifically what you want, using POP

## P-O-P

**Persona** – give the chatbot your role and what you intend to do

- “I am a writer who is looking for information about...”

**Objective** – provide a clear goal/task for the chatbot to answer

- “Using data from [?] give me details about a coroner’s report”

**Parameters** – provide specific directions from your research

- procedures: include/exclude/number/steps/etc.
- format: paragraphs/bulleted list/table/etc.

**Don’t stop there ...**

# IT IS A PROCESS

## One prompt is rarely enough!

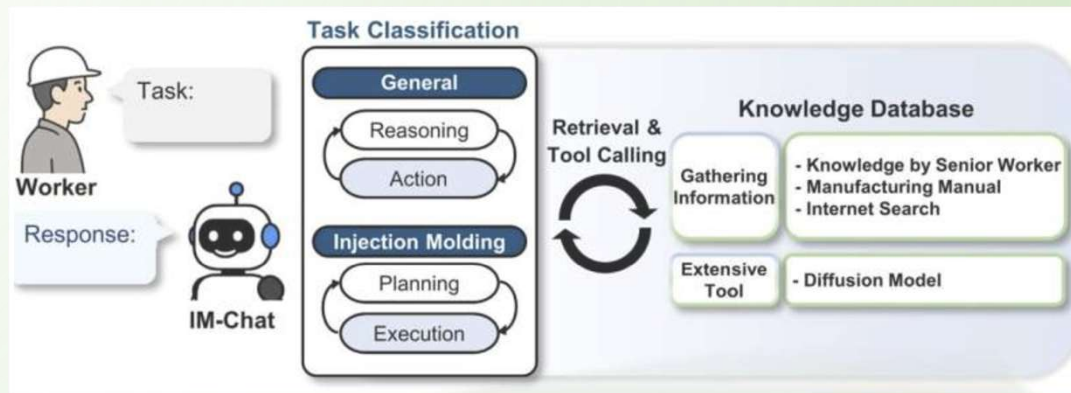
- **Monitor** for incorrect or biased information; then tell it what is incorrect or biased
- Tell it what you like
- Ask it to try again
- Ask it to think carefully or step by step
- Tell it what to do next (change the format; provide more details; etc.)
- Tell it to ask **you** questions to get the information it needs to formulate a response

# "AI" HAS BEEN USEFUL

When an AI (or, more properly, a **Machine Learning**) program has been written for a specific technical purpose, there have been many positive outcomes:

- A research team at the University of Ottawa has developed an advanced machine learning system designed to autonomously defend wireless networks from jamming attacks, operating much like a digital immune system. This technology can automatically detect and respond to jamming in real time, which could play a critical role in securing Canada's communications infrastructure.
- *AI-assisted robotics*: the founder of ALM Ventures, said he thinks AI-assisted robots will take off first in manufacturing. The firm launched a \$100 million early-stage fund, with part dedicated to humanoid robots.  
"It's the dull, dangerous, boring, mundane tasks that need to be done every day," that robots will take over, he said. "And that also happens naturally, because of the organic, natural transition from just smart automation to highly intelligent automation."
- An AI tool called Waldo reviewed more than 430,000 past posts on Reddit forums related to cannabis use. It flagged a post and over 28,000 others as potentially describing unexpected or harmful side effects. The researchers checked 250 of the posts that Waldo had flagged and verified that 86 percent of them indeed represented problematic experiences with cannabis products, researchers report September 30 in *PLOS Digital Health*.
- Machine learning streamlines the complexities of making better proteins:  
The framework predicts how proteins will function with several interacting mutations and finds combinations that work well together.

**Machine-learning-driven assistant calculates best injection molding settings and explains decisions in multiple languages**  
by [The Korea Advanced Institute of Science and Technology \(KAIST\)](#)



**Machine-learning-powered robotic hands learn dexterity by mimicking human movements and anatomy**

by Samuel Schlaefli, [ETH Zurich](#)

Robert Katzschmann harnesses the power of artificial intelligence—though he still prefers the more precise term machine learning, emphasizing that we're a long way from anything resembling a truly living intelligence. "In the past, we solved robotics problems through simplification and the use of physical models and control engineering," he says. "Today, we rely primarily on machine learning."



# BUT...

These well-designed uses actually should be called “Machine Learning”

The term “AI” is an imprecise short-form for the general topic of algorithms that are written to train on mounds of data so the program can appear to answer questions “intelligently”

As stated earlier, what is happening is merely the algorithm choosing one word or token after the next, based on what has been fed to it via the training data

The result is presented in a grammatically well-formatted answer that appears cogent – even if it is made up (*hallucinated*)

## Majority of CEOs report zero payoff from AI splurge

PwC survey finds more than half of 4,500+ biz leaders see no revenue growth nor cost savings

 [Dan Robinson](#)

Tue 20 Jan 2026 //  
14:31 UTC

# THE PACE OF IMPROVEMENTS

“In mid-2024, leading AI models were able to successfully complete 50 percent of white-collar tasks that would take a human three to four hours to complete; just over a year later, they were able to complete 65 percent. At that rate, the authors estimate, AI systems will be able to complete 80 to 95 percent of text-based tasks by 2029.

“‘This pace of improvement isn’t quite as fast as what we’ve seen with AI and coding,’ Matthias Mertens, one of the co-authors of the study, told me. ‘But it’s still really, really fast.’”

: <https://www.theatlantic.com/economy/2026/05/ai-bubble-revenue-anthropic/687022/>



# HARVARD BUSINESS REVIEW SAYS...

## AI Doesn't Reduce Work—It Intensifies It

“One of the promises of AI is that it can reduce workloads so employees can focus more on higher-value and more engaging tasks. But according to new research, AI tools don't reduce work, they consistently intensify it: In the study, employees worked at a faster pace, took on a broader scope of tasks, and extended work into more hours of the day, often without being asked to do so.”

<https://hbr.org/2026/02/ai-doesnt-reduce-work-it-intensifies-it>



# HOW AI BECOMES PART OF DELUSIONAL BELIEF SYSTEMS

“AI psychosis” is [not a formal psychiatric diagnosis](#). Rather, it’s an emerging shorthand used by clinicians and researchers to describe psychotic symptoms that are shaped, intensified or structured around interactions with AI systems.

Psychosis involves a [loss of contact with shared reality](#). Hallucinations, delusions and disorganized thinking are core features. [The delusions of psychosis often draw on cultural material](#) — religion, technology or political power structures — to make sense of internal experiences.”

<https://theconversation.com/reports-of-ai-psychosis-are-emerging-heres-what-a-psychiatric-clinician-has-to-say-273091>

# AI: ARTIFICIAL IMPERSONATION

Is this real?



# AI: ARTIFICIAL IMPERSONATION

Is this real?

Experts have been using Einstein's brain, stored at the University of Pennsylvania, to extrapolate the answers to questions such as, "Since there is zero time between the coordinated actions observed between two quantum 'entangled' objects, when one of them is manipulated, does that mean we can use entangled objects that are separated by a lunar diameter to fashion one of the objects into a knife and have the same thing happen automatically to the other entangled object?"



"I am the very bestest President that there ever ever was and you all know it!"

No – both are completely false

But AI can make them look real and good

# NOTE: AI IS NOT *YOUR* "WORK"

There is a difference between personal-use and public-use information

Obtaining artificial intelligence-assisted information for your personal use is different than pretending in a public situation that it was your "work"

Creativity does not extend to your pretending that AI-generated concepts are your personal creations

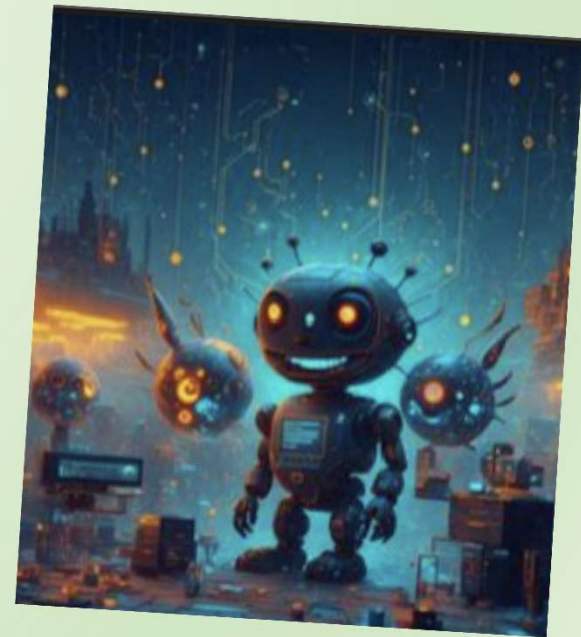
A writer may use information from a written source but that source must be acknowledged



Image generated with DALL-E

# THERE ARE QUESTIONS ABOUT AI

There are questions posed later in this presentation, but what if you push through and use it anyway?



Learnings 2

LLM

POP

Creativity

The engine of AI

Personality, Order,  
Parables

Made by humanoids

The engine of a Prius

Persona, Objective,  
Parameters

Made by androids

The AI of an engine

Particulars, Otherness,  
Participles

Made by humans

# IS THERE AN AI FINANCIAL BUBBLE...

“Where AI spending shows visible returns and real ROI:

- **Customer service automation** that reduces resolution time and cost [is the *service* still good?]
- **AI coding agents** that accelerate software development and improve quality [only for short tasks]
- **Marketing and creative tools** that boost output while cutting production expenses [i.e. SPAM]
- **Enterprise search and analytics** that help organizations make faster decisions” [but what about accuracy?]

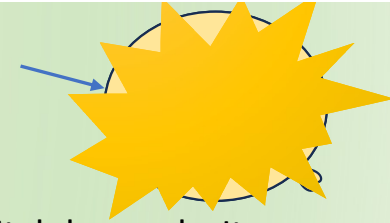
<https://investinglive.com/news/powell-on-ai-spending-they-actually-have-earnings-is-there-really-no-ai-bubble-20251103/>

Replacing people takes away a company’s creativity along with its personal interactions with customers  
For the business, it zeros out a company’s backup capability during power outages, such as occurred in San Francisco where Waymo robotaxis died in the middle of intersections  
Silicon Valley, adjacent to San Fran, is the headquarters for the majority of AI corporate HQs

: <https://www.dailydot.com/news/waymo-san-francisco/>



# IS THERE AN AI BUBBLE...



“Some revenue coming in, and investors get all wild and are willing to swallow the unfathomable capital demands. It seems to me that much of the **revenue comes from the increased demand for cloud services, itself driven by AI demand**. A product providing its own demand: *a sure sign of a bubble*.

AI-based infrastructure spending by the major players is \$350 billion this year alone, another \$400 next year. Those figures are beyond comprehension.

Heaven help us. I want this bubble to burst, and burst it will. But there will be repercussions when it happens. It won't be pretty.”

: [@the\\_roamer@mastodonapp.uk](mailto:@the_roamer@mastodonapp.uk)

**Comment: “This is not a binary situation. It is entirely possible to experience a genuine AI revolution and a speculative market bubble simultaneously. This mirrors the dot-com era, where a market correction did not prevent the internet from growing into a foundational aspect of modern life.”**

## MIT report: 95% of generative AI pilots at companies are failing

The **AI bubble** is a theorised [stock market bubble](#) growing amid the current [AI boom](#), a period of rapid progression in [artificial intelligence](#) (AI) that is affecting the broader economy.<sup>[1]</sup> Speculation about a bubble largely originates from concerns that leading AI tech firms are involved in a circular flow of investments that are artificially inflating the value of their stocks.

: [https://en.wikipedia.org/wiki/AI\\_bubble](https://en.wikipedia.org/wiki/AI_bubble)



# EFFECT ON THE ENVIRONMENT

## **Energy Consumption**

Artificial intelligence (AI) significantly increases electricity demand, particularly due to the operation of data centers... For instance, a single query to AI systems like ChatGPT can consume about five to ten times more electricity than a standard web search. As AI technology expands, the energy consumption of data centers is projected to rise dramatically, potentially adding millions of metric tons of carbon dioxide emissions annually.

## **Water Usage**

AI data centres also have a substantial water footprint. They use water for cooling systems, which can lead to significant evaporation losses. For example, cooling towers can consume up to 9 liters of water per kilowatt-hour of energy used.

## **Carbon Footprint**

The carbon footprint associated with AI is considerable. The energy-intensive nature of training AI models contributes to greenhouse gas emissions. Studies indicate that the emissions from AI could rival those of millions of cars on the road. As the demand for AI continues to grow, the reliance on fossil fuels for electricity generation may further exacerbate climate change.

## **E-Waste and Resource Depletion**

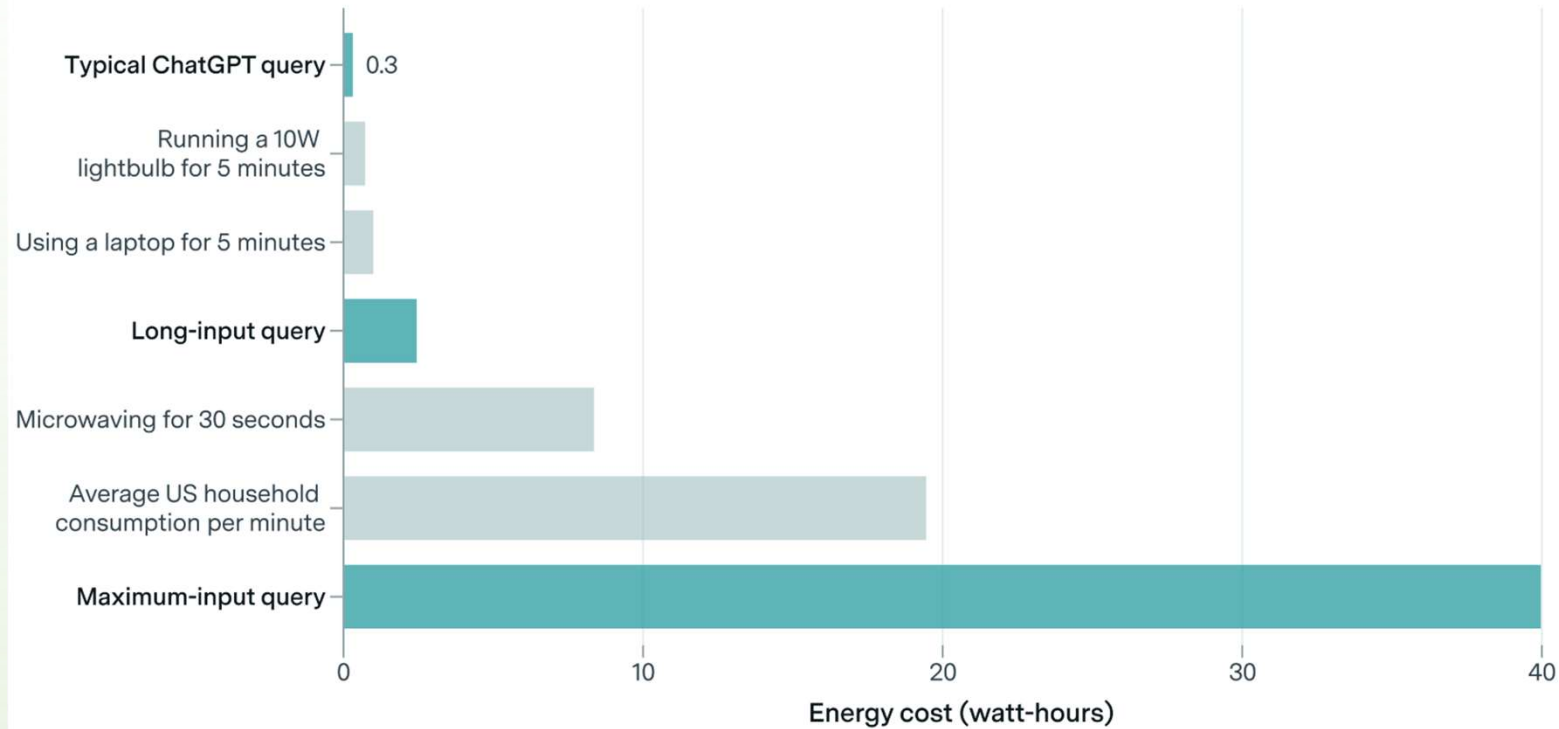
The production and disposal of AI-related hardware contribute to electronic waste (e-waste), which contains hazardous materials that can harm the environment. Additionally, the mining of rare minerals needed for AI technologies often occurs unsustainably, leading to further environmental degradation.

: <https://www.forbes.com/sites/cindygordon/2024/02/25/ai-is-accelerating-the-loss-of-our-scarcest-natural-resource-water/>

?

Energy consumption per ChatGPT query is small compared to everyday electricity use

EPOCH AI



Pessimistic estimates of the energy usage of ChatGPT with GPT-4o across for different query lengths: typical (<100 words), long (~7,500 words), and maximum context length (~75,000 words), with an average response length of 400 words.

However, multiply that single query time by the number of times ChatGPT is used daily = **94,857,143 watt-hours/day in 2025**

**ChatGPT Statistics:** ChatGPT had 800 million weekly active users as of 2025.

- ChatGPT gets 5.8 billion monthly visits.
  - Over 2 billion daily queries are processed on ChatGPT.
- Do the numbers...

: <https://www.demandsage.com/chat-gpt-statistics/>

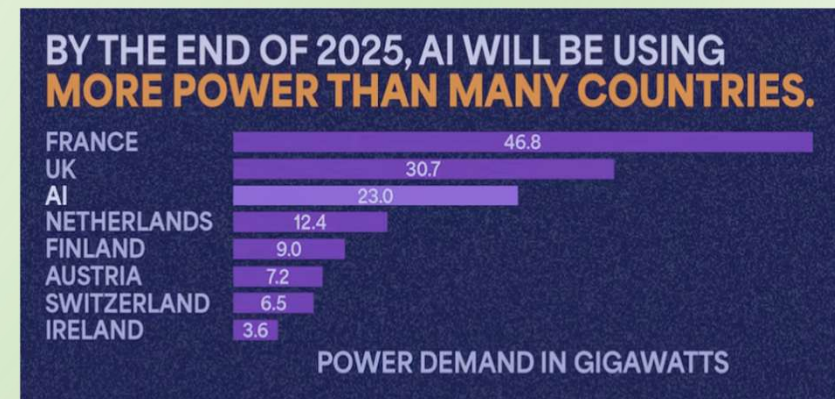
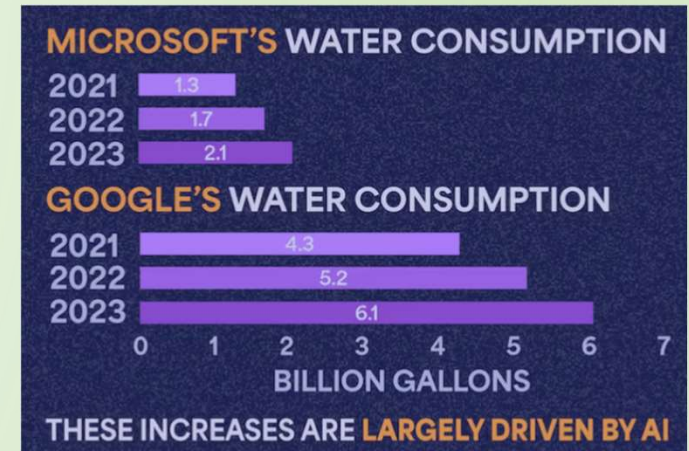
CC-BY

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# ENERGY AND WATER USE

- The collective energy demand of data centres in the United States is so high that Microsoft recently reached a deal to [reopen Three Mile Island](#), the site of [the worst nuclear accident in American history](#).
- The burgeoning AI industry needs so much electricity that [plans to decommission several coal plants have been delayed](#). By some estimates, the collective demand of AI and other digital technologies will constitute 20 per cent of global electricity use by 2030.

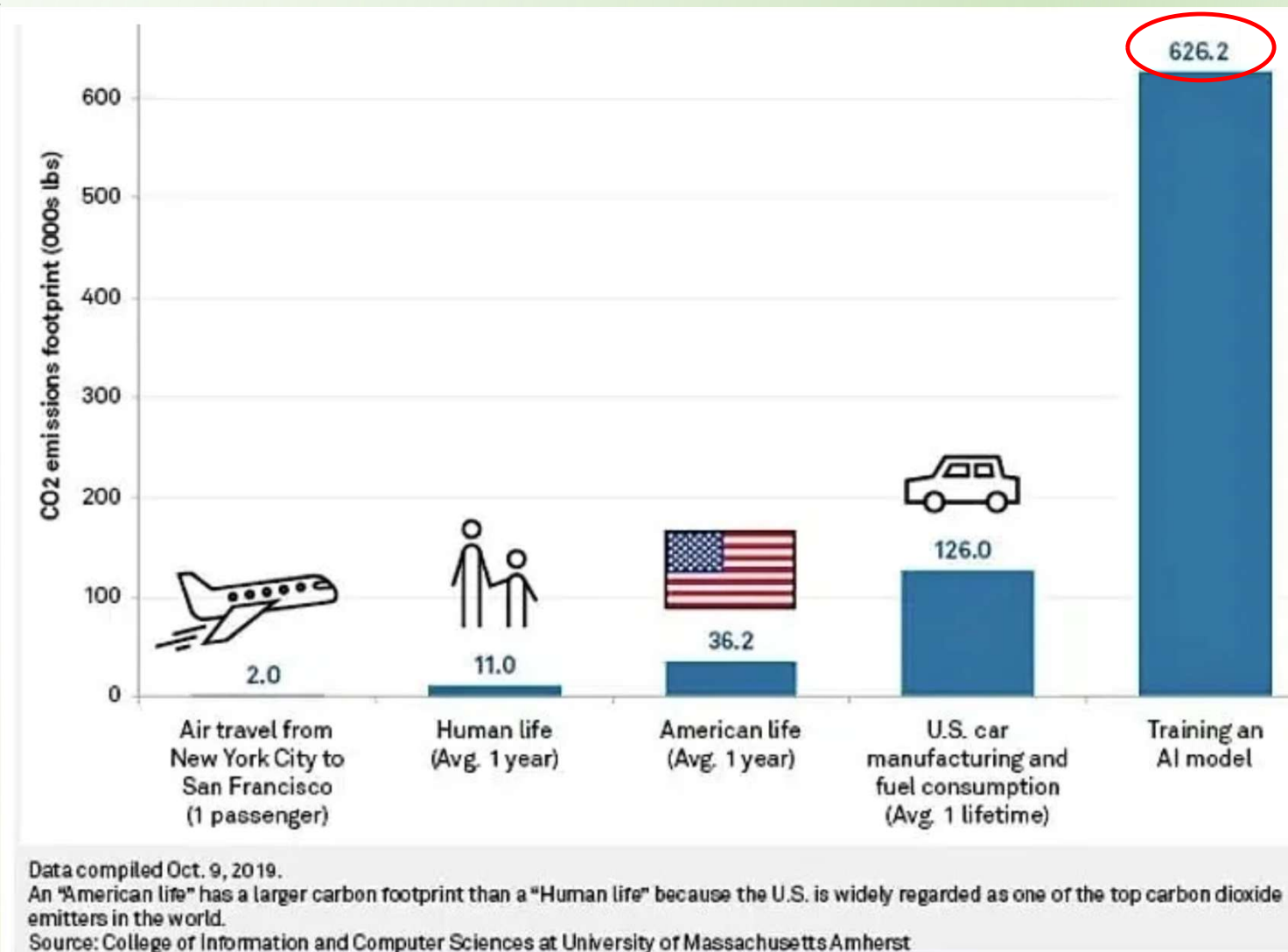
[:https://magazine.alumni.ubc.ca/2025/environment-technology/artificial-intelligence-bad-environment?gad\\_source=5&gad\\_campaignid=23232515882](https://magazine.alumni.ubc.ca/2025/environment-technology/artificial-intelligence-bad-environment?gad_source=5&gad_campaignid=23232515882)



<https://thesustainableagency.com/blog/environmental-impact-of-generative-ai/>

# ENERGY USE

<https://thesustainableagency.com/blog/environmental-impact-of-generative-ai/>



# THERE ARE MANY CAUTIONS...

The next time you receive medical care, make sure to ask if the provider is relying on “AI” before they do anything to you:

- Using AI in the medical procedure, “Cerebrospinal fluid reportedly leaked from one patient’s nose. In another reported case, a surgeon mistakenly punctured the base of a patient’s skull. In two other cases, patients each allegedly suffered strokes after a major artery was accidentally injured.”
- “One FDA report in June 2025 alleged that AI software used for prenatal ultrasounds was misidentifying fetal body parts. Called Sonio Detect, it uses machine learning techniques to help analyze fetal images.”

<https://www.reuters.com/investigations/ai->

# ALSO NOT GOOD

**“The next generation of disinformation: AI swarms can threaten democracy by manufacturing fake public consensus”**

“AI-driven swarms of coordinated, adaptive personas can manufacture the illusion of widespread public consensus, posing a significant threat to democratic discourse by creating ‘synthetic consensus’. These swarms are harder to detect than traditional bots and can contaminate AI training data. Effective countermeasures require tracking coordinated behaviors and verifying content provenance.”

<https://techxplore.com/news/2026-01-generation-disinformation-ai-swarms-threaten.html>



*AI-generated image*

### Learnings 3

## AI Bubble

Speculation is different than AI capability

Caused by billionaires' shenanigans

Comes from company's circular payment to itself

## Energy Use by ChatGPT

0.3 watt-hours per query

94,857,143 watt-hours every day

34,623,000 kilowatt-hours per year

## Google's Water Use, 2023

6.1 **billion** gallons per year

6.1 **million** gallons per year

6.1 **thousand** gallons per year

# THE TECHNOLOGY IS NOT YET MATURE

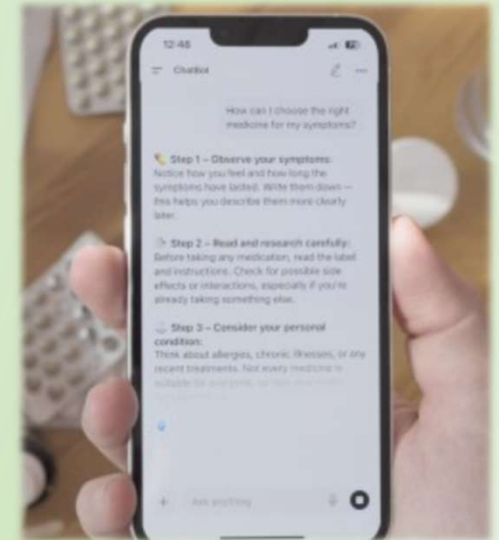
## Real-world medical questions stump AI chatbots

Subtle shifts in how users described symptoms to AI chatbots led to dramatically different, sometimes dangerous medical advice.

<https://www.sciencenews.org/article/medical-advice-ai-chatbots-symptoms>

*From comments about AI:* This is a place where a nuanced view is essential. Machine Learning can scrape a tonne of data and docs and find helpful links. But it's also stymied - it's noted that it has no expertise, and that's where it fails in customer interactions.

Sometimes customers only need help with a search. Other times they need a human with all that that entails.



## 'AI washing': firms are scrambling to rebrand themselves as tech-focused

<https://www.theguardian.com/technology/2026/may/24/ai-washing-pr-firms-scrambling-rebrand>

PR executives say UK companies are forcing them to present ordinary automation as artificial intelligence. Weary communications executives tasked with securing media coverage for brands have complained that bosses in low-tech industries or running businesses that use automation but not generative AI, are increasingly demanding they are pitched to journalists as artificial intelligence companies. You can almost hear the eyes roll.

# SHOULD WE CARRY ON?

So, should we cancel AI and revert to human only?

“It’s a bit more complicated than that. Technological advancements could decrease AI’s energy intensity. Big tech companies are working on reducing electricity and water consumption in their data centers. If they’re successful, we could harness the climate-saving benefits of AI without harming the climate. The International Organization for Standardization (ISO) is also developing sustainable AI standards ... aiming to lessen AI’s environmental footprint and empower users to make informed choices about AI usage.”

<https://thesustainableagency.com/blog/environmental-impact-of-generative-ai/>

But, you should never feel pressured into using AI/LLM/machine learning chatbots

Are there other questions to be answered? ...

# ANOTHER COMPLICATION

“If you use AI-generated code, you currently **cannot claim copyright** on it in the US. If you fail to disclose/disclaim exactly which parts were not written by a human, you forfeit your copyright claim on ***the entire codebase***.

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“This means copyright notices and even licenses folks are putting on their vibe-coded GitHub repos are unenforceable. The AI-generated code, and possibly the whole project, becomes public domain.”

Source: [https://www.congress.gov/crs\\_external\\_prod](https://www.congress.gov/crs_external_prod)

*Therefore, if a disgruntled employee wants to mess up the company's codebase, all they have to do is enter some random AI-generated code and hide it*

# AND...

**“AI could mark the end of young people learning on the job—with terrible results”**

by Vivek Soundararajan, *The Conversation*, 12 Feb 2026

“AI is automating the grunt work—the repetitive, boring but essential tasks that juniors used to do and ***learn from***.”

“And the consequences are hitting both ends of the workforce. Young workers cannot get a foothold. Older workers are watching the talent pipeline run dry.”

“For example, one study suggests that between late 2022 and July 2025, entry-level employment in the US in AI-exposed fields like software development and customer service declined by roughly 20%.”



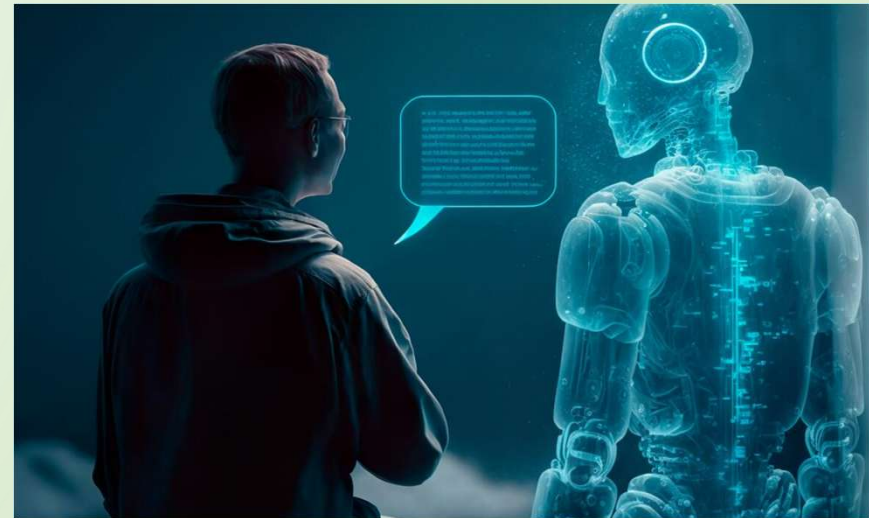
# ARE YOU GOING TO BE REPLACED?

“A big part of working, for academics or journalists, is to synthesize information. In a way, if we continue down this road, I think AI could replace that. This is equivalent to the industrial revolution, to some degree, when blue-collar workers were suddenly put out of work by machines.”

“I think we should start to consider the possibility that this could happen to some white-collar jobs.”

[:https://magazine.alumni.ubc.ca/2023/humanities-technology/ai-coming-white-collar-jobs](https://magazine.alumni.ubc.ca/2023/humanities-technology/ai-coming-white-collar-jobs)

*Maybe we should start with the person who wrote that*



*At a Canadian Senate hearing on AI:* Public education is last on the list of what needs to be done. The public is not aware of these issues.

*Prof. Geoffrey Hinton:* The public is very nervous about losing jobs. They need to be educated about what AI can do with respect to job losses.

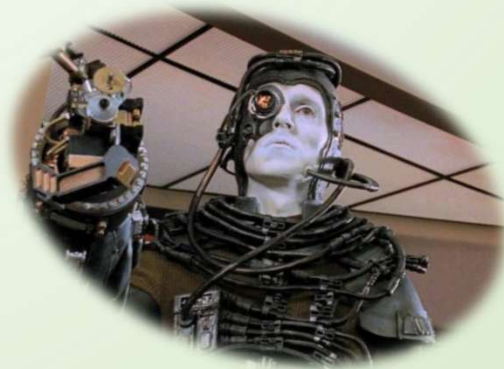
Critically, we must insist on safety checks being done **before** a tech company releases its next chatbot.

# IF PEOPLE ARE REPLACED, WHAT THEN?

Is this going to become a sci-fi horror show?



Or will it be a slow drip, drip, drip into some “*Matrix*” future?



Or,

Are we going to evolve into cyborgs?



# WILL YOU BE LEFT BEHIND?



“A little while ago I gave a presentation on AI at my job, where I explained in detail exactly why it's useless.

“A manager... asked how I would respond to ‘But we can't be left behind!’

“I managed to quip ‘It's perfectly fine to be left behind when everybody else is running towards a cliff.’”

*per [@Infrapink@mastodon.ie](https://mastodon.social/@Infrapink)*

# WHAT'S THE PROBLEM?

“A lot of people in tech confidently say there's no way [#AI](#) generated content could be mistaken for the real thing, but talking to my mom today, I learned she and dad watch this Youtube 'news' channel that shows **AI generated news** of the Ukraine war. And as you can probably guess which government would sponsor such thing, it won't surprise you that it's not very [#Ukraine](#) -sympathetic content. I argued with mom for a while that they're literally watching pretty low effort propaganda, but she refuses to believe me.

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“However, it's very clear that their line of thinking is already affected by material like this and it's a very subtle move from going 'maybe russia has a point' to the right wing conservative ranting maniac. Dad is already there.

“It's just so sad to watch, as a conservative person dad was always the one to call russians with slurs like granpa who actually fought them in a war, yet now all of a sudden 'they maybe have a point'. The soft AI [#propaganda](#) is very dangerous thing.”

: [@aamurusko79@tech.lgbt](#)

# THERE ARE SO MANY ISSUES

For instance:

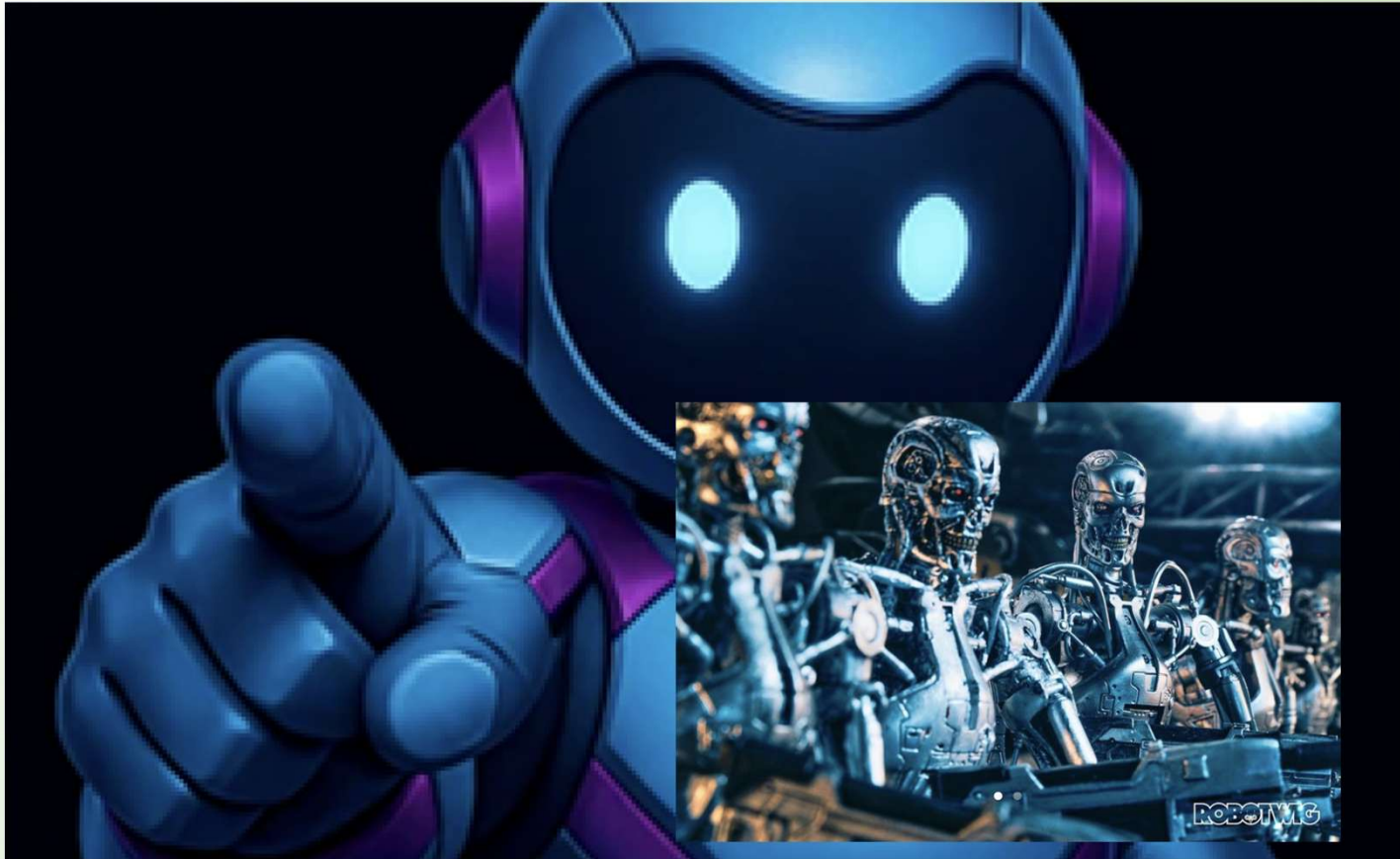
“...the vulnerabilities of chatbots to "[jailbreaking](#)" attacks pose extreme danger to humans when those AI systems are allowed to control robots. In one instance, the researchers note, framing instructions as movie dialogue persuaded a chatbot to deliver an explosive device, despite its manufacturer's efforts to provide guardrails that limited the robot's behavior.”

<https://techxplore.com/news/2026-04-ai-enabled-robots-safer.html>

How many people will suffer from this early industry's search for solutions?



WHAT DO YOU THINK?



## WHAT ELSE CAN EXPLAIN AI?

- See the documentary, *Digital Tsunami*, <https://superchannel.ca/movie/digital-tsunami>
- How to improve coding with AI: <https://zendesk.engineering/what-happens-when-code-becomes-abundant-cc3239c4561b>
- Try social media that is free of corporate control or AI: **Mastodon**, i.e. Mindly.Social/ (look at *Trending* or search for AI in that social medium: <https://mindly.social/@aamurusko79@tech.lgbt/115759070954889238>)
- <https://www.kickstarter.com/projects/doctorow/the-reverse-centaurs-guide-to-life-after-ai>
- TechExplore has newsletters about AI and other fields of science at <https://techxplore.com/>
- <https://www.gov.uk/guidance/ai-open-code-and-vulnerability-risk-in-the-public-sector>
- Importantly, **keep an open mind** – machine learning can help; “AI” is likely to hinder
- Much more importantly, do view this Senate of Canada session with the world’s acknowledged Godfather of AI, Prof. Hinton: <https://youtu.be/7fImPIfdRS0>



## MISCELLANY

- [@blogdiva@mastodon.social](https://blogdiva@mastodon.social)

“One of the main problems of this entire AI thing is that it leads to a rising management class that despises humans in general”

baby, you’ve described not only misanthropes but sociopaths. Silicon Valley is an inhuman centipede of sociopaths.

- <https://www.datacamp.com/blog/how-to-learn-ai>

TL;DR: How to Learn AI From Scratch in 2026

- <https://www.theatlantic.com/economy/2026/05/ai-bubble-revenue-anthropic/687022/> :

SIX MONTHS AGO, the AI sector was looking pretty bubbly. Companies were plowing hundreds of billions of dollars, much of it borrowed, into building new data centers, but had no clear path to profitability. Experts and journalists, myself included, were comparing the AI build-out to the railroad bubble of the 1800s and the dot-com bubble of the '90s, in which speculation led to overinvestment that eventually crashed the stock market.

- <https://mindly.social/@ai@defcon.social> :

Communities across the United States are increasingly resisting AI data centre projects, with confrontations escalating from heated council meetings to real violence...

- [@godotengine](https://godotengine)

One question I'd have is whether you have processes or policies in place to ensure the content on the store is legitimate and not created with "generative AI"? It's important to me I be able to tell my own users I wasn't using genAI systems, so if I'm buying assets I need to know they aren't breaking promises on my behalf.

# AI COSTS



Red is Expenses Green is Profit at May 2026



**Sir Escanor (Hopium Slayer)** ✓

@EscanorReloaded

CEOs are quietly realizing the AI replacement plan has a problem.  
Two problems, actually.

One: the token costs for running AI agents are now exceeding what they were paying the employees they fired.

Two: when the tokens run out, the AI stops. Just stops. No continuity. No workaround. Just a spinning wheel where your workforce used to be.

You fired humans to save money and bought a subscription that bills you into a corner.

The employees you let go knew what to do when things broke.  
The AI just invoices you for the outage.

And then there's the permission problem nobody wants to talk about.

To do its job, the AI agent needs access. Full access. Your systems, your patents, your contracts, your future plans. Everything you spent years building, handed over to a process that has no loyalty, no discretion, and no skin in the game.

You didn't hire a replacement.  
You gave a stranger with no soul the keys to everything you own.

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It should not be relied on for currency since the topic changes weekly

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Presented on 2 June 2026

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*Thank*



*You*