

18 MAY 2022

# Understanding Artificial Intelligence: What Nonprofit Leaders Need to Know

# Agenda

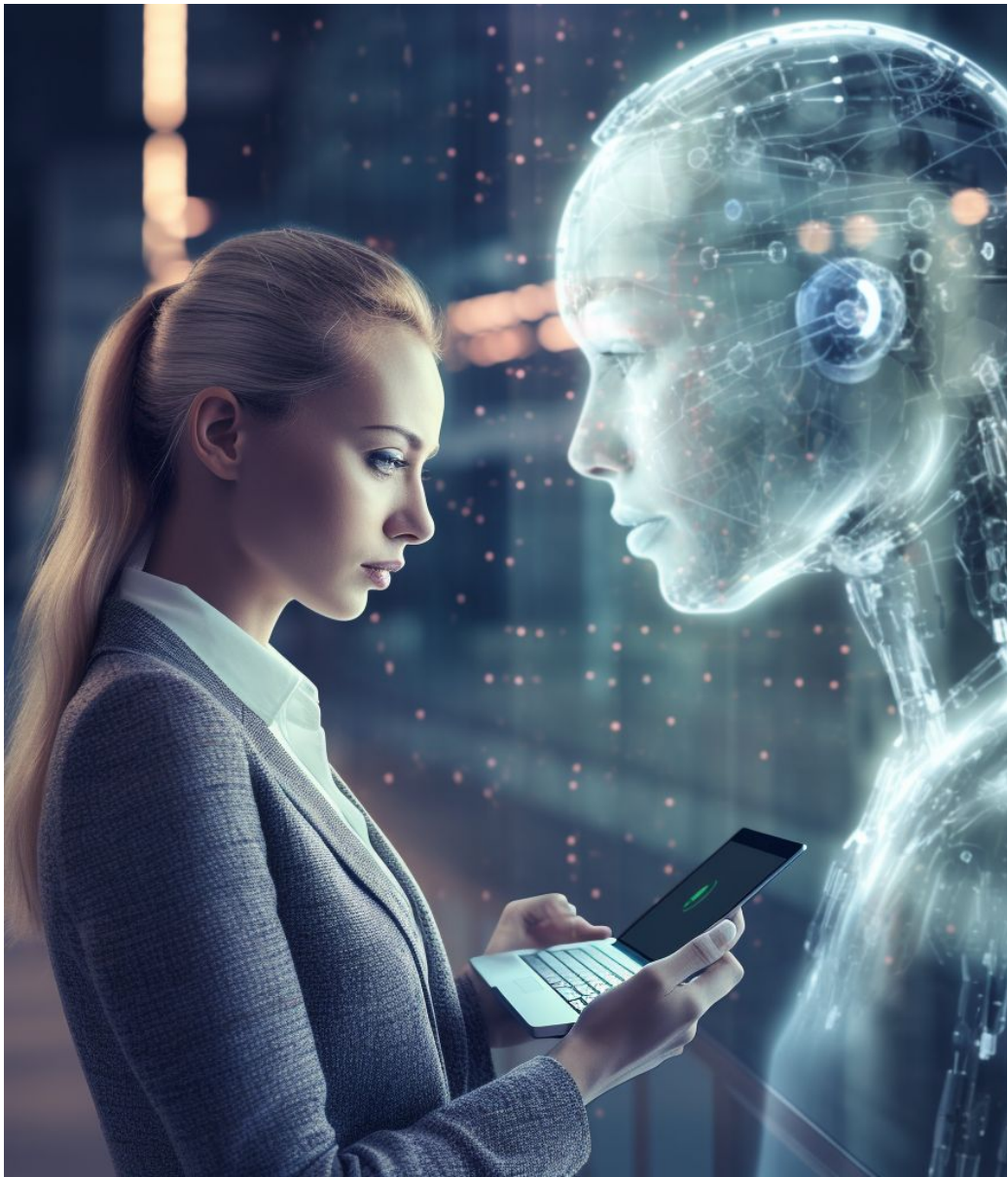
- What is this “AI” thing?
- Practical tools and opportunities
- Things to watch out for
- Q&A and discussion

# What is this “AI” thing?





# WE'VE BEEN LIVING IN AN AI WORLD ALREADY



**Communications and Information retrieval** - helps users access and manage information more efficiently, often simplifying and automating tasks



**Entertainment and personalization** - enhances user experience in entertainment and online platforms by providing personalized content and recommendations



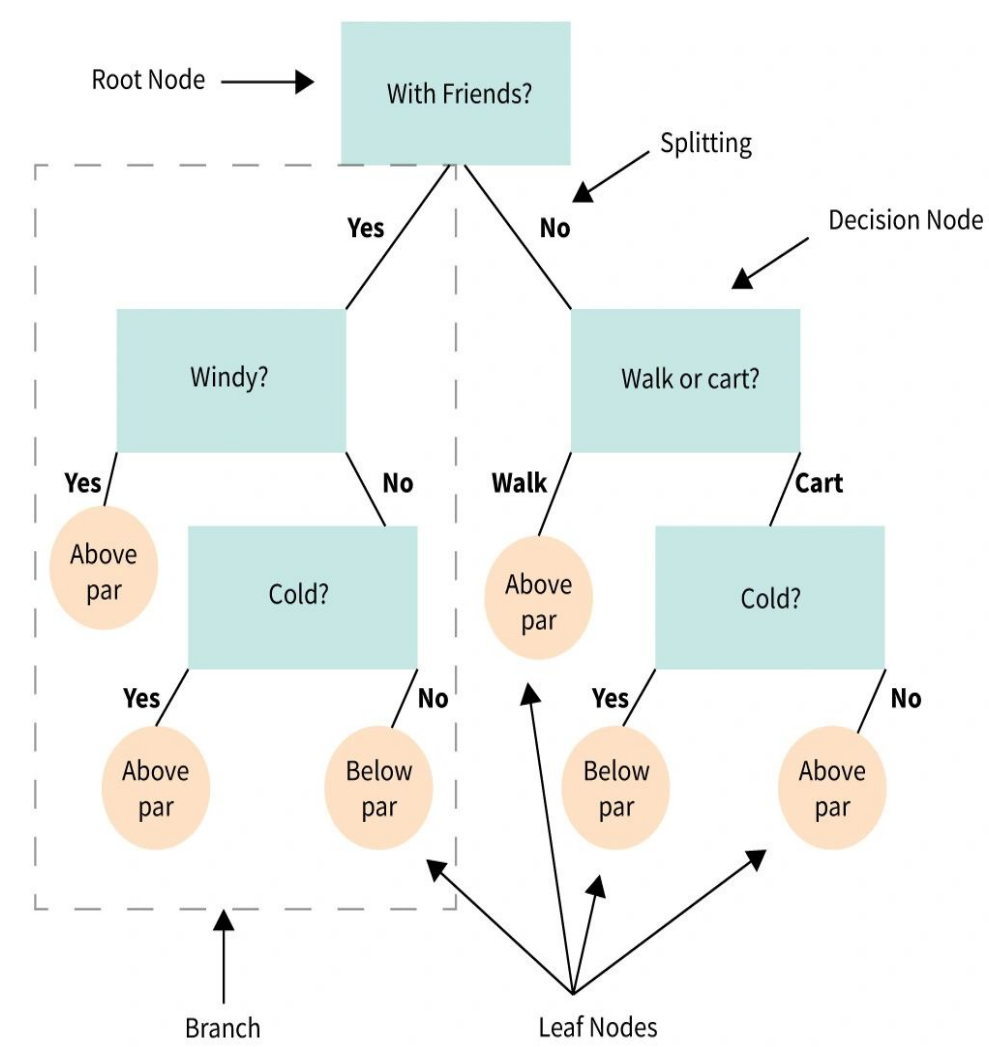
**Transportation and navigation** - optimizing routes and improving ride allocation



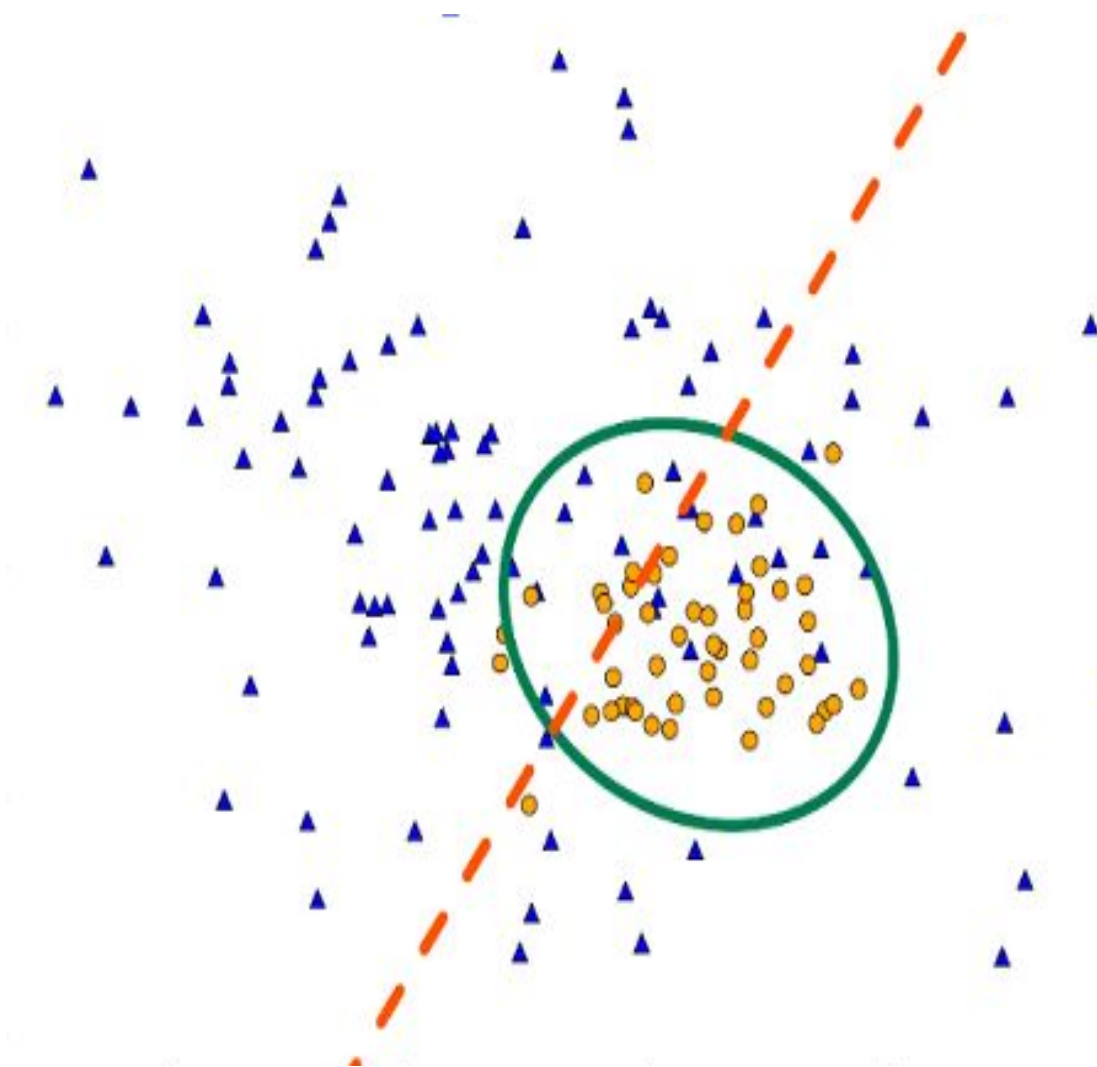
**Health, finance, and home automation** - helps users manage their health, finances, and home settings more efficiently, often providing predictive insights and automation



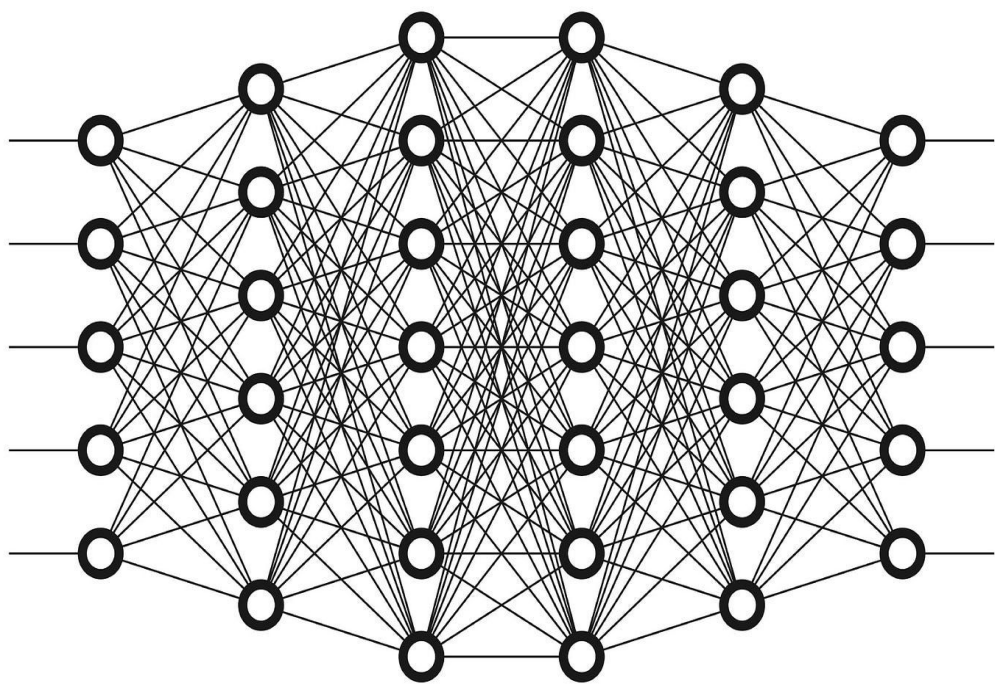
# A BRIEF HISTORY OF ARTIFICIAL INTELLIGENCE



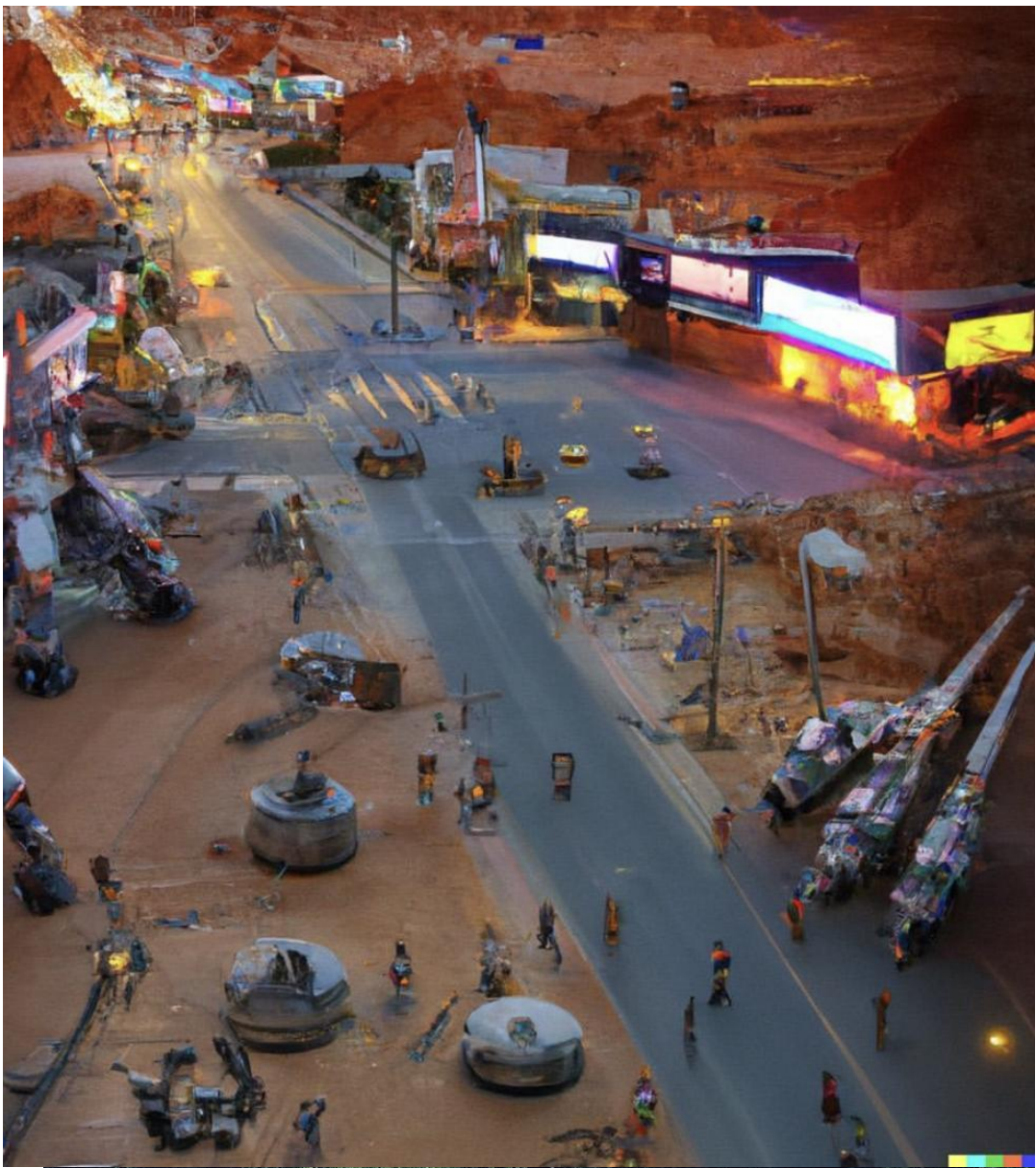
**Knowledge driven AI** focused around decision trees and modeling. Has been historic work on bayesian methods.



2000s were a focus on **statistical machine learning** and a data driven approach.



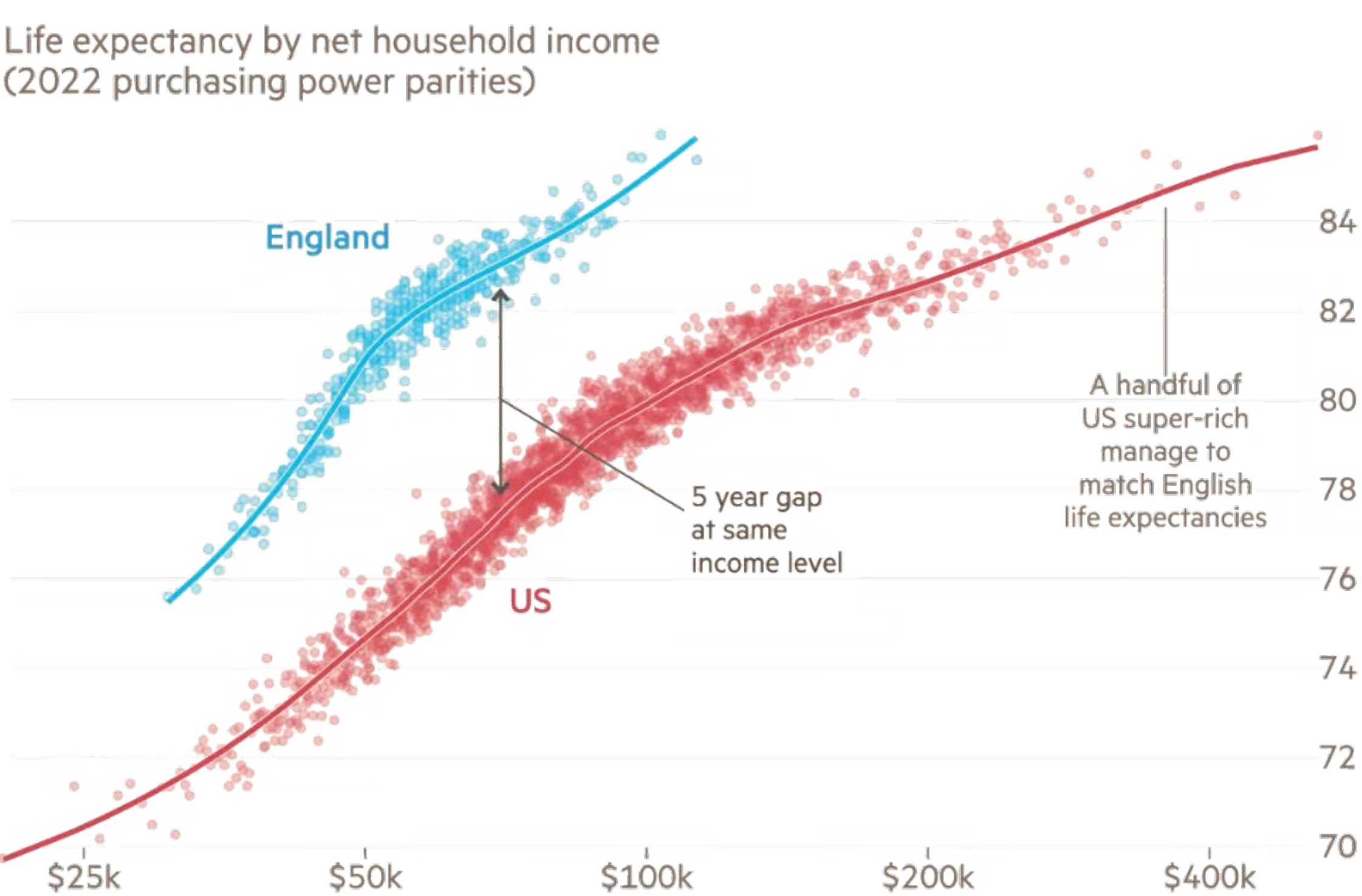
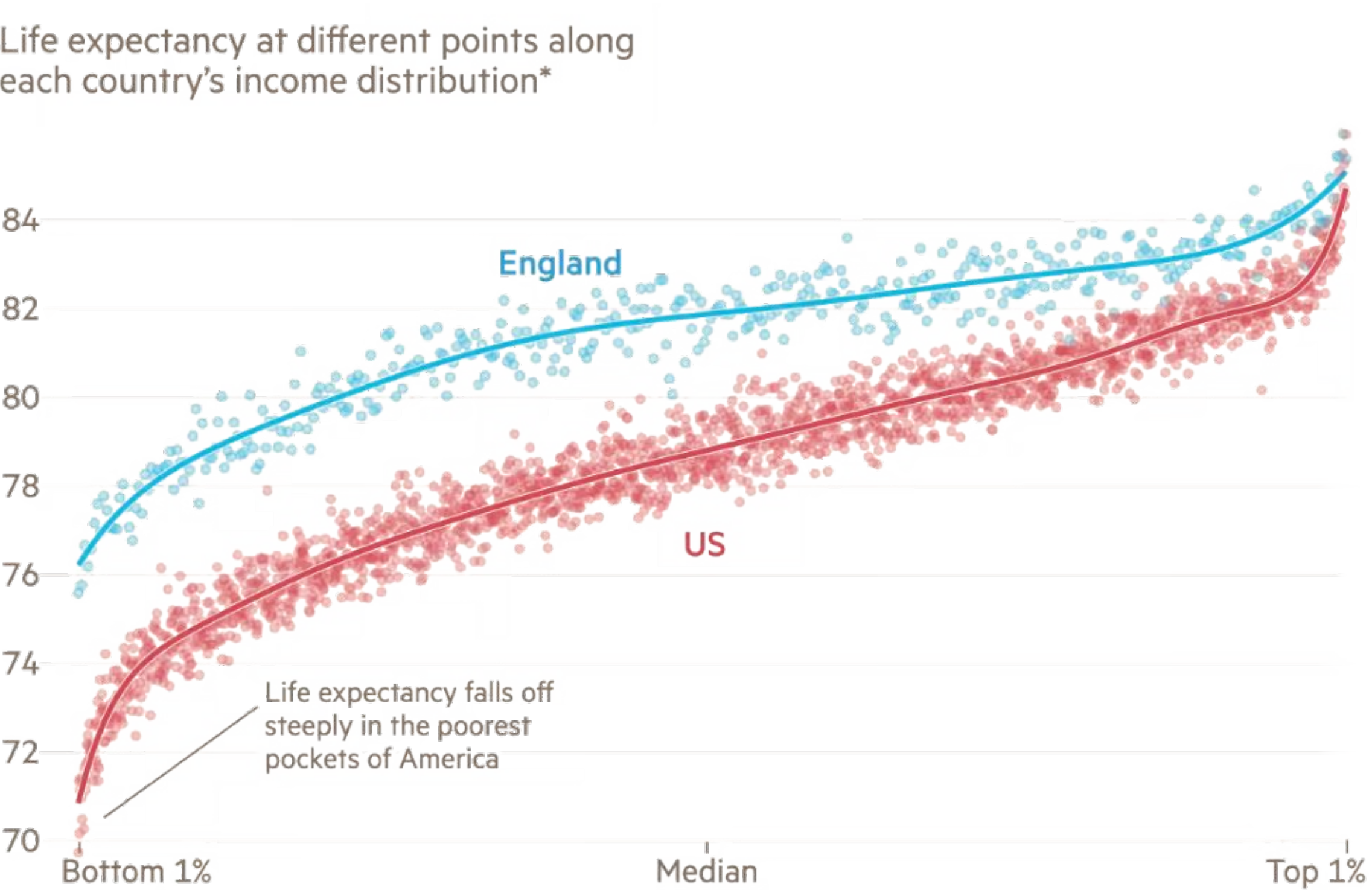
2010s had advancements in hardware (GPUs, etc.) that made **deep learning** feasible.



2020s are a rise in these **generator and transformer** models. LLMs and others.

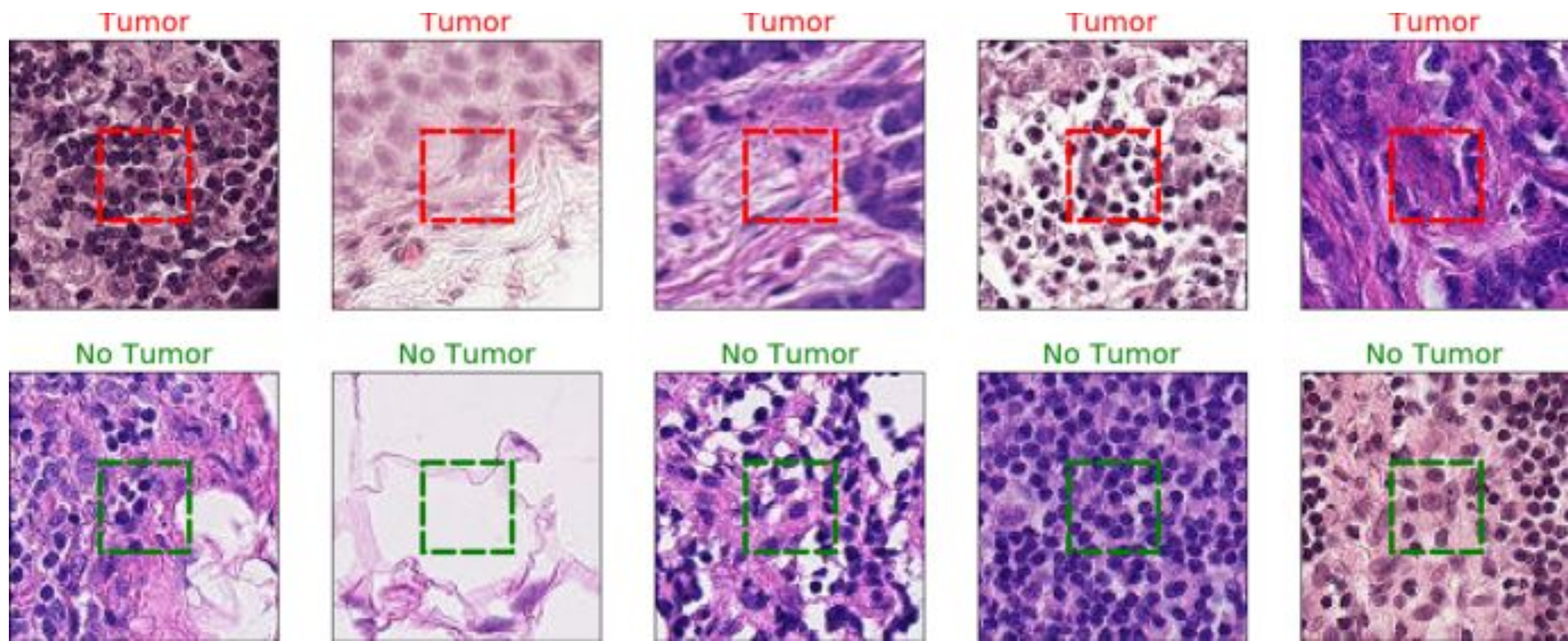


# DATA DRIVEN MACHINE LEARNING





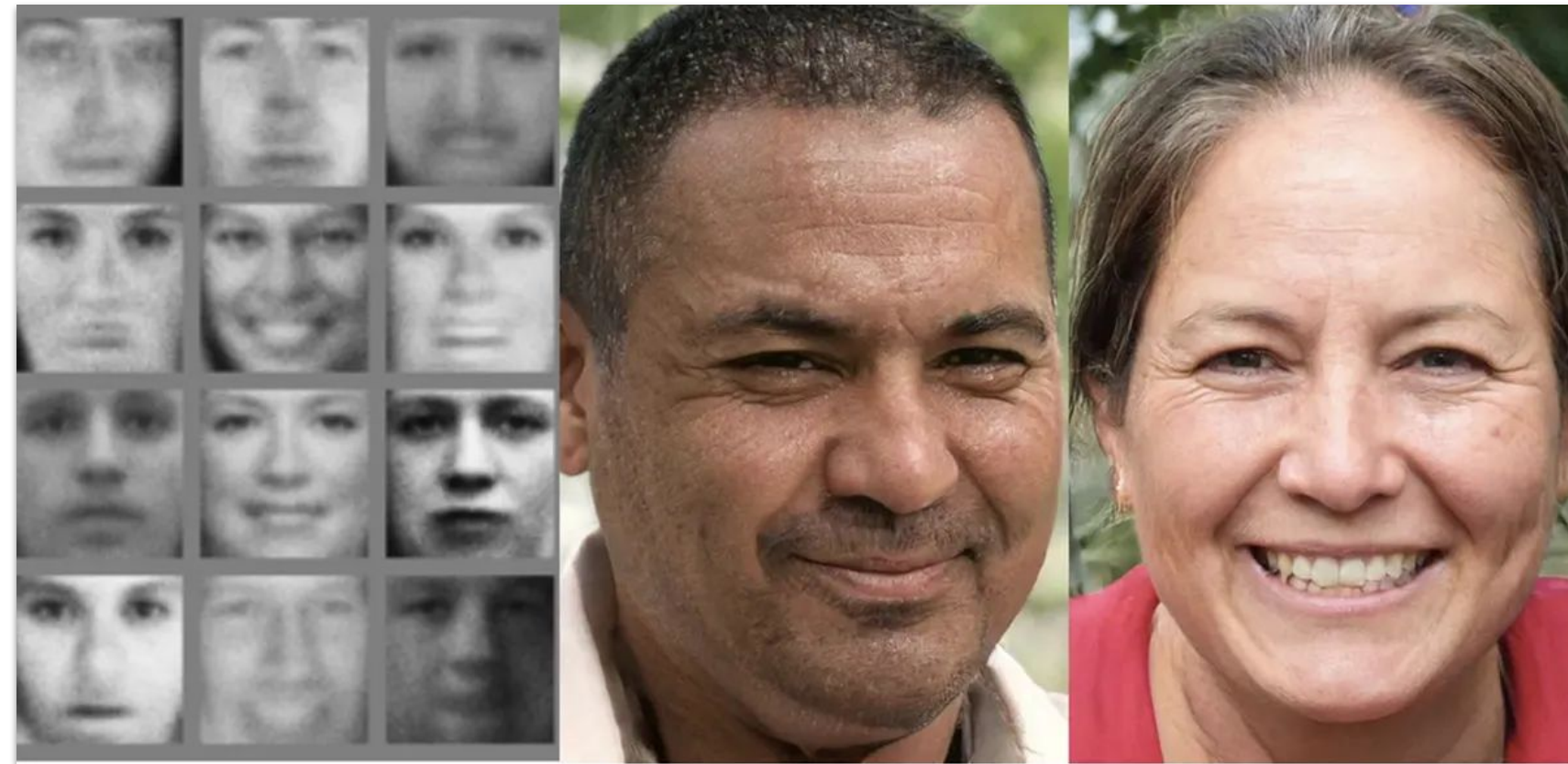
# EMULATING THE BRAIN



Can find patterns that humans don't usually see - can do really early detection of cancer tumors based on images.



# THINGS ARE HAPPENING REALLY FAST



A four year evolution.

The left is a landmark paper for 2014 in generating fake images using Generative Adversarial Networks. The right is NVidia in 2018. Not better algorithms, just better computation.

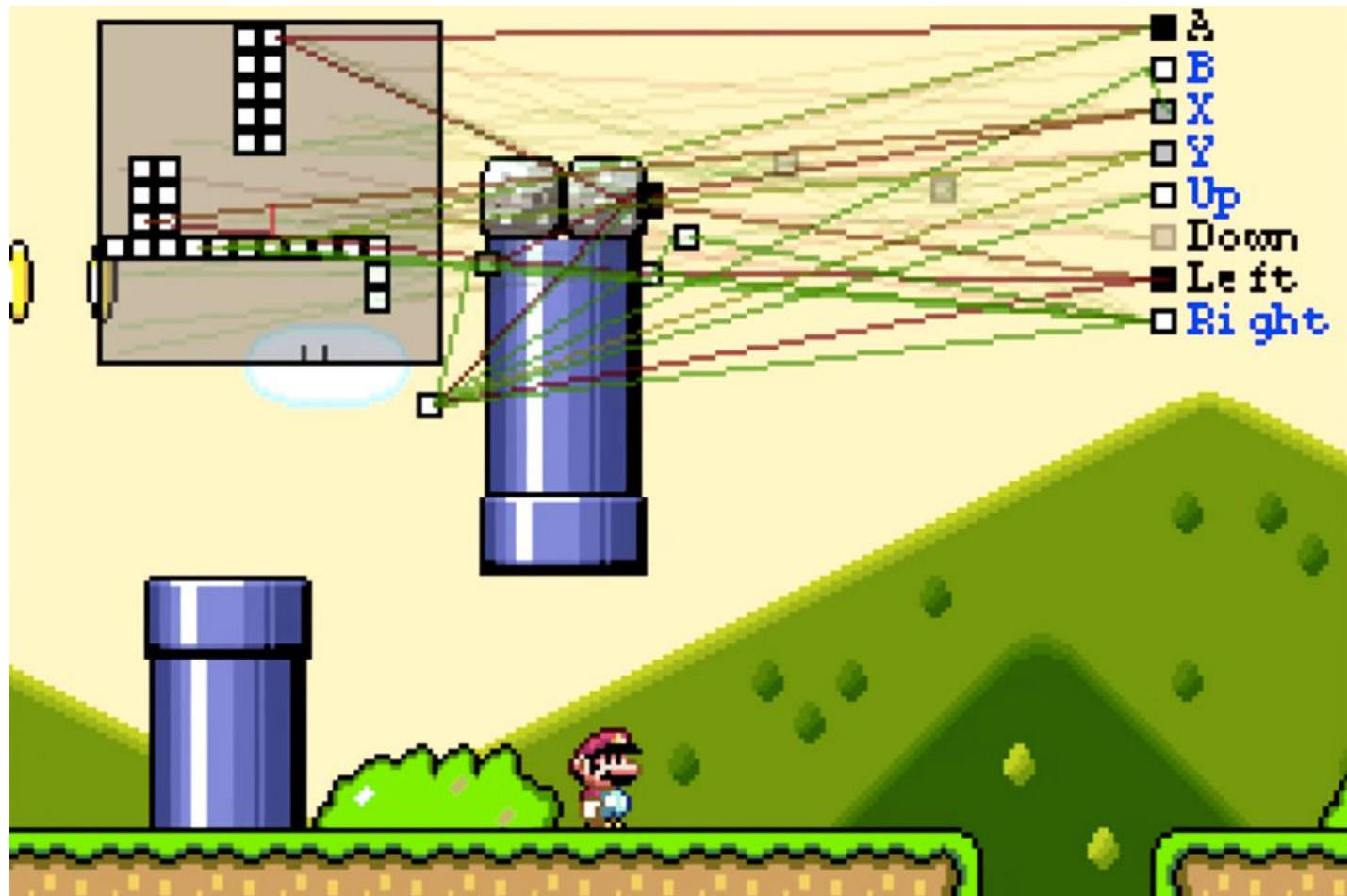


A one year evolution.

Latest models - avocado chair in 2021, crazy images in 2022.



...AND THEY KEEP GETTING BETTER THAN HUMANS ON A LOT OF THINGS





# THEY ARE BEGINNING TO TALK

Model: GPT-4

RA

can you please define what a large language model for me?  
in about a paragraph.



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A large language model, such as GPT-4, is an advanced artificial intelligence system designed to generate human-like text based on a given input. It is typically built using deep learning techniques and trained on massive amounts of text data from diverse sources, such as books, articles, and websites. By analyzing patterns and correlations in this data, the model learns to understand context, grammar, facts, and even some level of reasoning. The size of the model, usually measured in terms of parameters, allows it to capture and store vast amounts of knowledge, which it can then use to generate coherent, contextually relevant, and creative responses to user queries. Large language models like GPT-4 have numerous applications, including machine translation, content generation, summarization, question-answering, and more, making them a valuable tool in the field of natural language processing and AI.





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try again, but, explain it for a grade school student.



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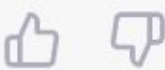
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A large language model is like a really smart computer friend that can talk and write like people. It learns how to do this by reading lots and lots of books, articles, and things on the internet. It's really good at understanding words and sentences, so it can help you with many things like writing stories, answering questions, or even translating languages. Just like a smart helper, this computer friend uses what it learned to give you helpful answers and ideas when you talk to it.



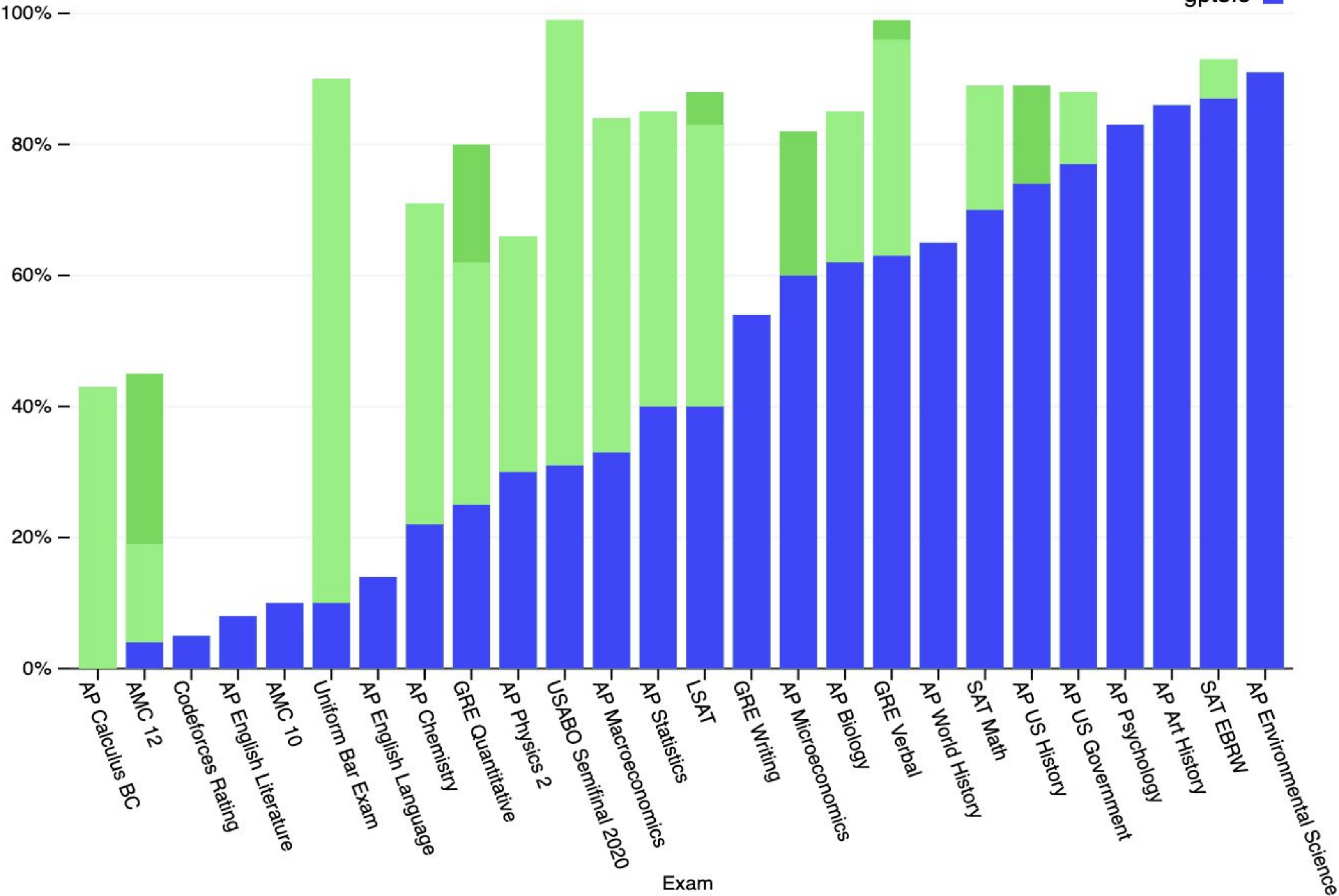


# THEY ARE REDEFINING GRUNT WORK

Exam results (ordered by GPT-3.5 performance)

Estimated percentile lower bound (among test takers)

gpt-4  
gpt-4 (no vision)  
gpt3.5





# Practical tools and opportunities





# GENERAL USE CASES

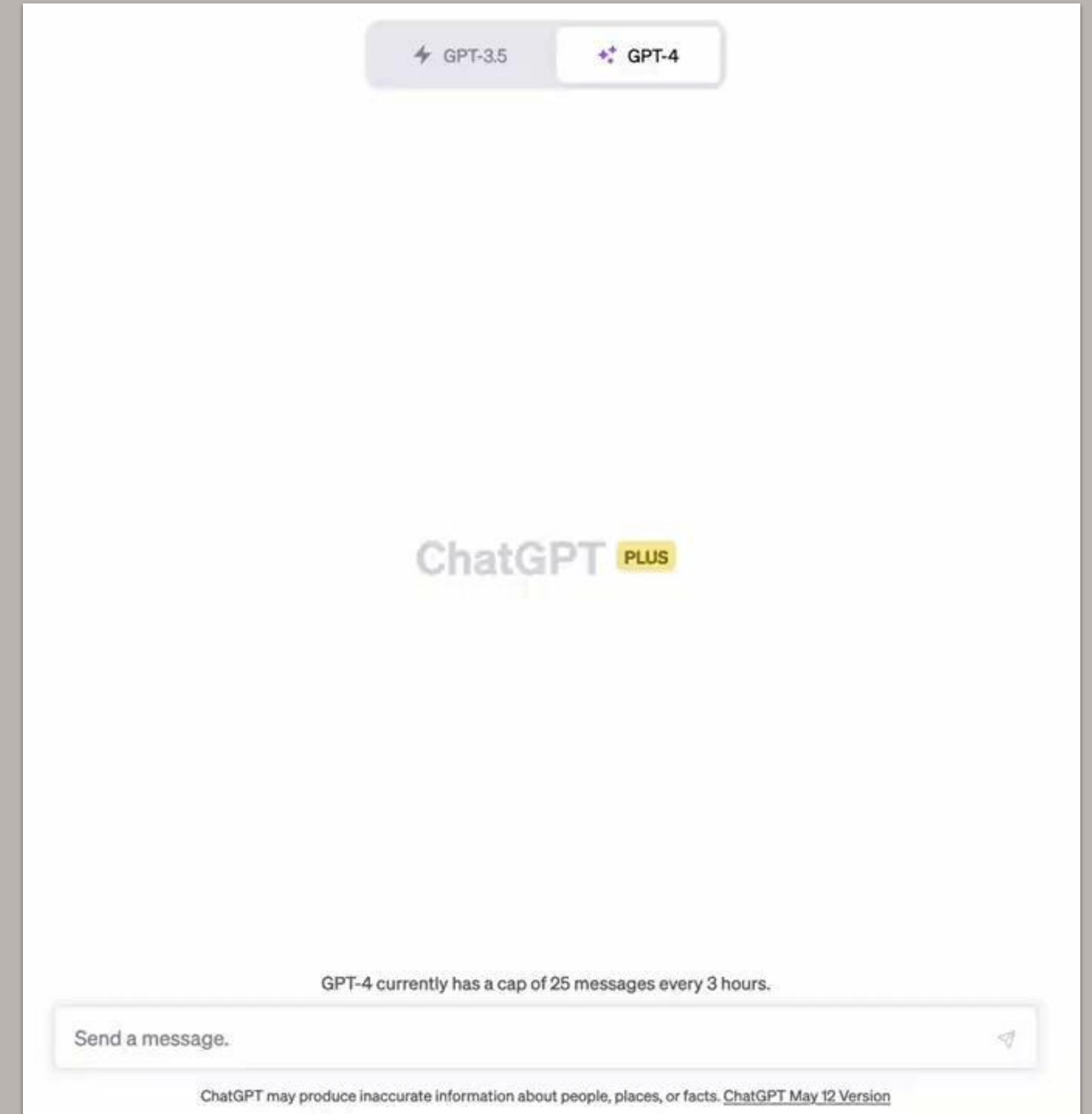
What it does	How it can help you
Writing	Generating blog posts, articles, emails, creative writing pieces, and more. And in the styles of famous authors, poets, and journalists.
Creative expression	Assisting in the creation of music, art, and dance.
Translation	Translating text into different languages.
Conversation	Chatting with users on a variety of different topics.
Customer service	Providing automated customer support.
Personalization	Customizing content to different individuals based on preferences and interests.



## GENERATING JOB DESCRIPTIONS

You can prompt and refine these systems to create you a first draft of a job description.

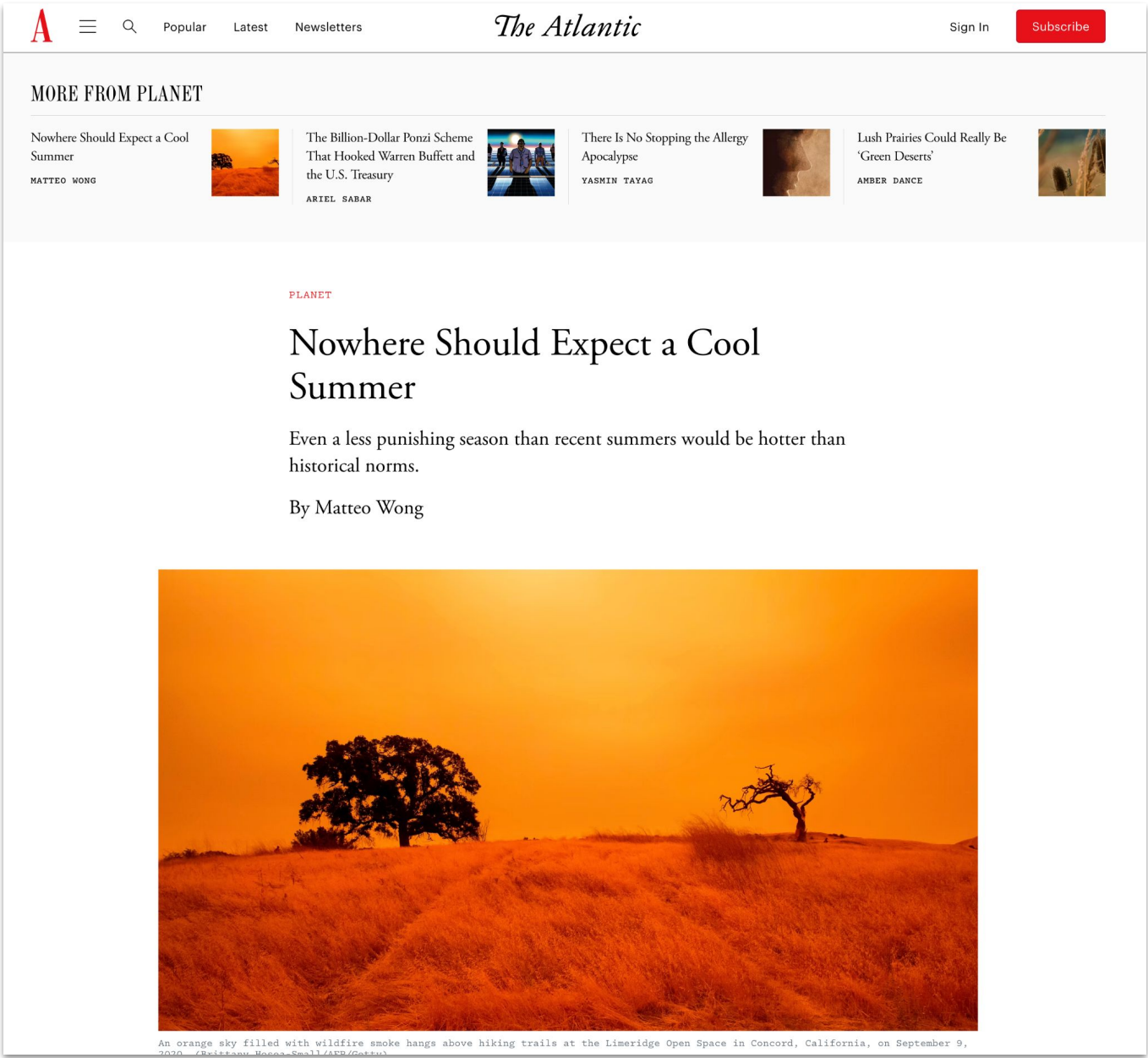
*Write me a job description for a VP of development at my non-profit. I'm looking for somebody who has 10 years of experience and 5 years in a leadership role. just write the the job responsibilities and required experience section. It can be in bulleted form.*



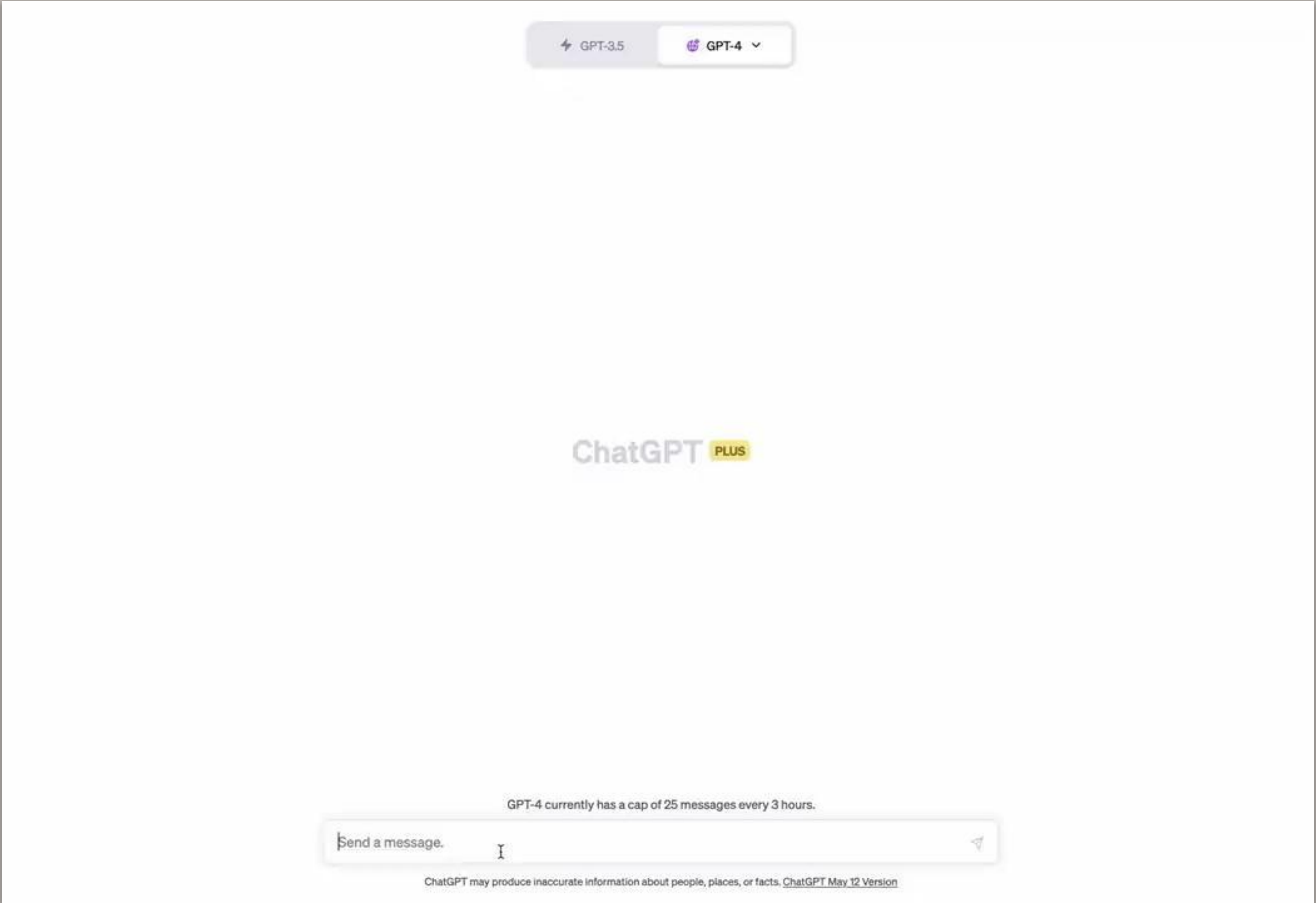


READING THE INTERNET FOR YOU

You can ask ChatGPT to summarize a web page from over the Internet.



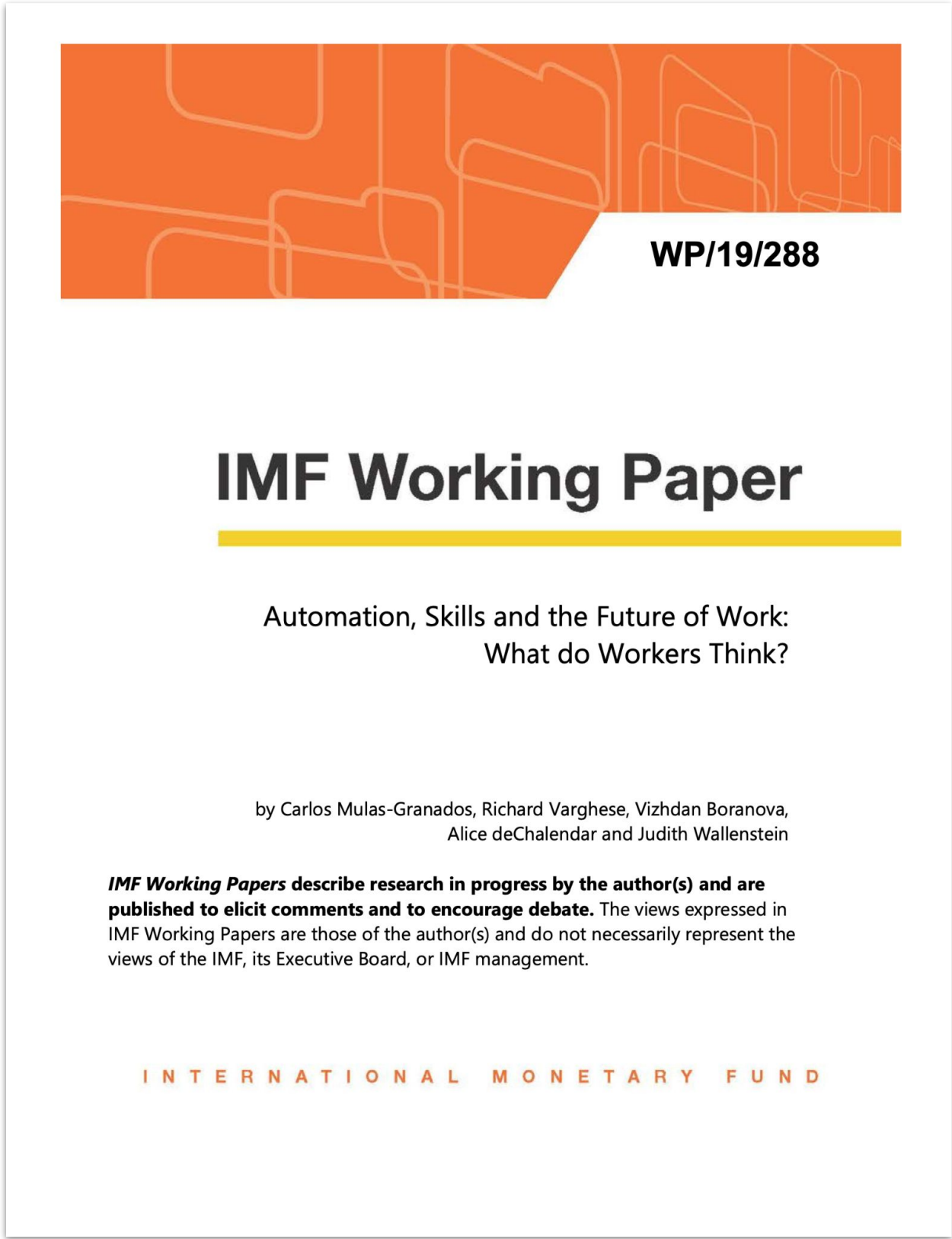
tl;dr  
<https://www.theatlantic.com/science/archive/2023/05/pacific-northwest-heat-wave-record-breaking-wildfires/674076/>





# ASKING QUESTIONS ABOUT DOCUMENTS

Using ChatABC, you can upload documents and then ask questions about them.





ANALYZING DATA

You can just upload a CSV to ChatGPT and then ask it questions about the data.

Country <span>⬇️⬆️</span>	Covered by a carbon tax or an emissions trading system percent			
	1989 <span>⬇️⬆️</span>	2020 <span>⬇️⬆️</span>	Absolute Change <span>⬇️⬆️</span>	Relative Change <span>⬇️⬆️</span>
Afghanistan	0.0%	0.0%	+0.0 pp	
Albania	0.0%	0.0%	+0.0 pp	
Algeria	0.0%	0.0%	+0.0 pp	
Andorra	0.0%	0.0%	+0.0 pp	
Angola	0.0%	0.0%	+0.0 pp	
Antigua and Barbuda	0.0%	0.0%	+0.0 pp	
Argentina	0.0%	35.5%	+35.5 pp	
Armenia	0.0%	0.0%	+0.0 pp	
Australia	0.0%	0.0%	+0.0 pp	
Austria	0.0%	28.8%	+28.8 pp	
Azerbaijan	0.0%	0.0%	+0.0 pp	
Bahamas	0.0%	0.0%	+0.0 pp	
Bahrain	0.0%	0.0%	+0.0 pp	
Bangladesh	0.0%	0.0%	+0.0 pp	
Barbados	0.0%	0.0%	+0.0 pp	
Belarus	0.0%	0.0%	+0.0 pp	
Belgium	0.0%	37.0%	+37.0 pp	

▶ 1989 ○ ○ 2020

CHART

MAP

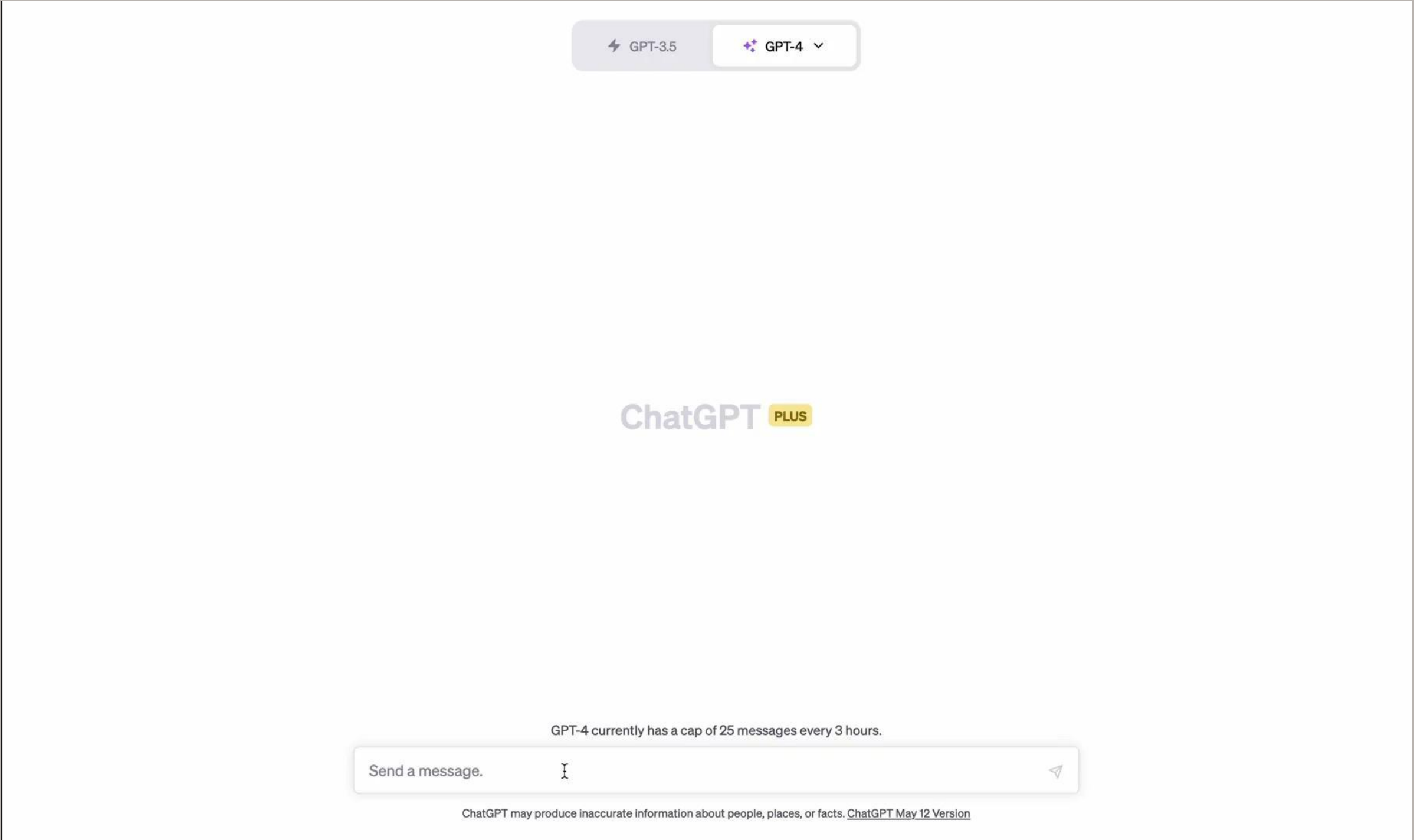
TABLE

SOURCES

⬇️ DOWNLOAD

🔗

https://ourworldindata.org/carbon-pricing





## CREATE MARKETING DATA

Just ask it to create some marketing copy for you. (But make sure to edit it!)

*I'm going to be giving a webinar on how non profit leaders should think about and use generative AI. Generate 10 options for the title for the webinar that range from the witty to the serious.*





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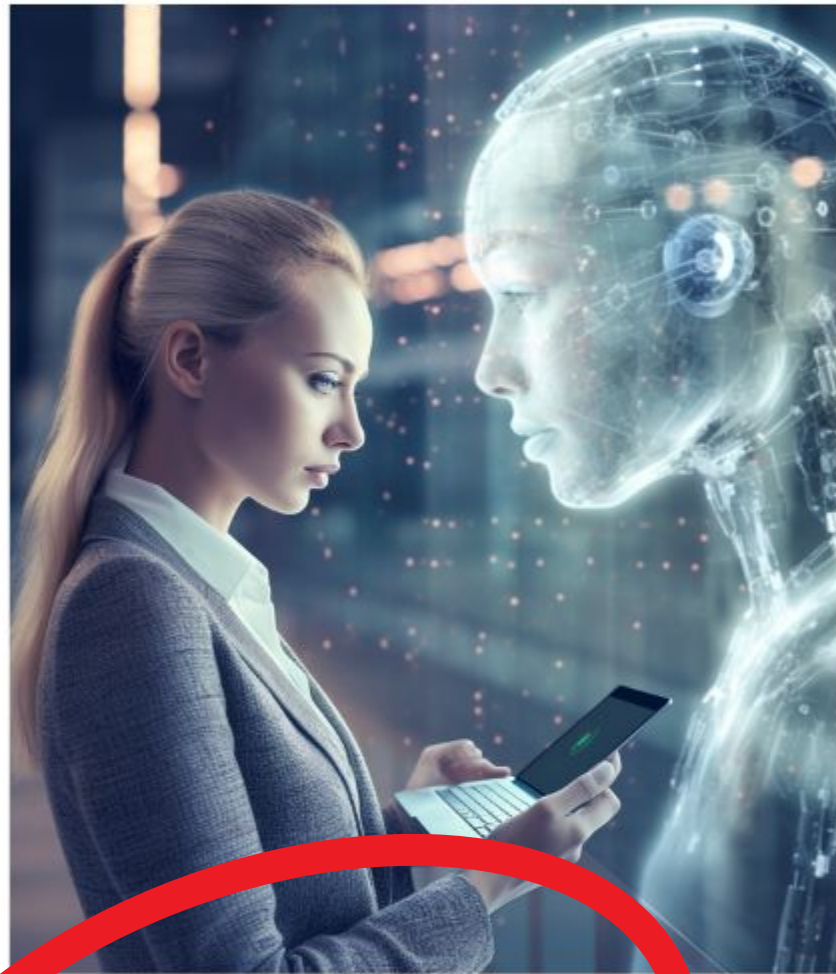
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# Things to watch out for



# Hallucinations and bias

- Nobody really understands how these generative AI systems work
- These are “stochastic parrots”
- Large language models make up stuff *all the time*
- These systems are trained from the Internet, and the Internet is not a great place



# Personally identifiable information

- The data that you enter into an AI app is potentially not at all entirely private to you and you alone
- All data entered into these systems end up on the servers of these companies
- DO NOT use generative AI to correspond with your legal teams
- Develop a clear privacy policy that outlines what data can or cannot be sent to the systems

# Claiming credit

- Who is “responsible” for the output of these models?
- One recommendation - the publisher of the output “owns” the output
- Use it for a first draft, but fact check and refine the outputs



# Things to do

- Talk to your employees about AI, and establish a plan or use policy for acceptable usage of AI tools within your organization
- Brainstorm how AI can increase your organization's productivity or creative output
- Educate employees and yourself about the bias and inaccuracies AI can introduce

# Things to not do

- Do not ignore AI
- Do not copy and paste text or any other response from an AI tool without thoroughly reviewing that content for appropriateness and factual accuracy
- Do not misappropriate AI for human emotion



# Thank You