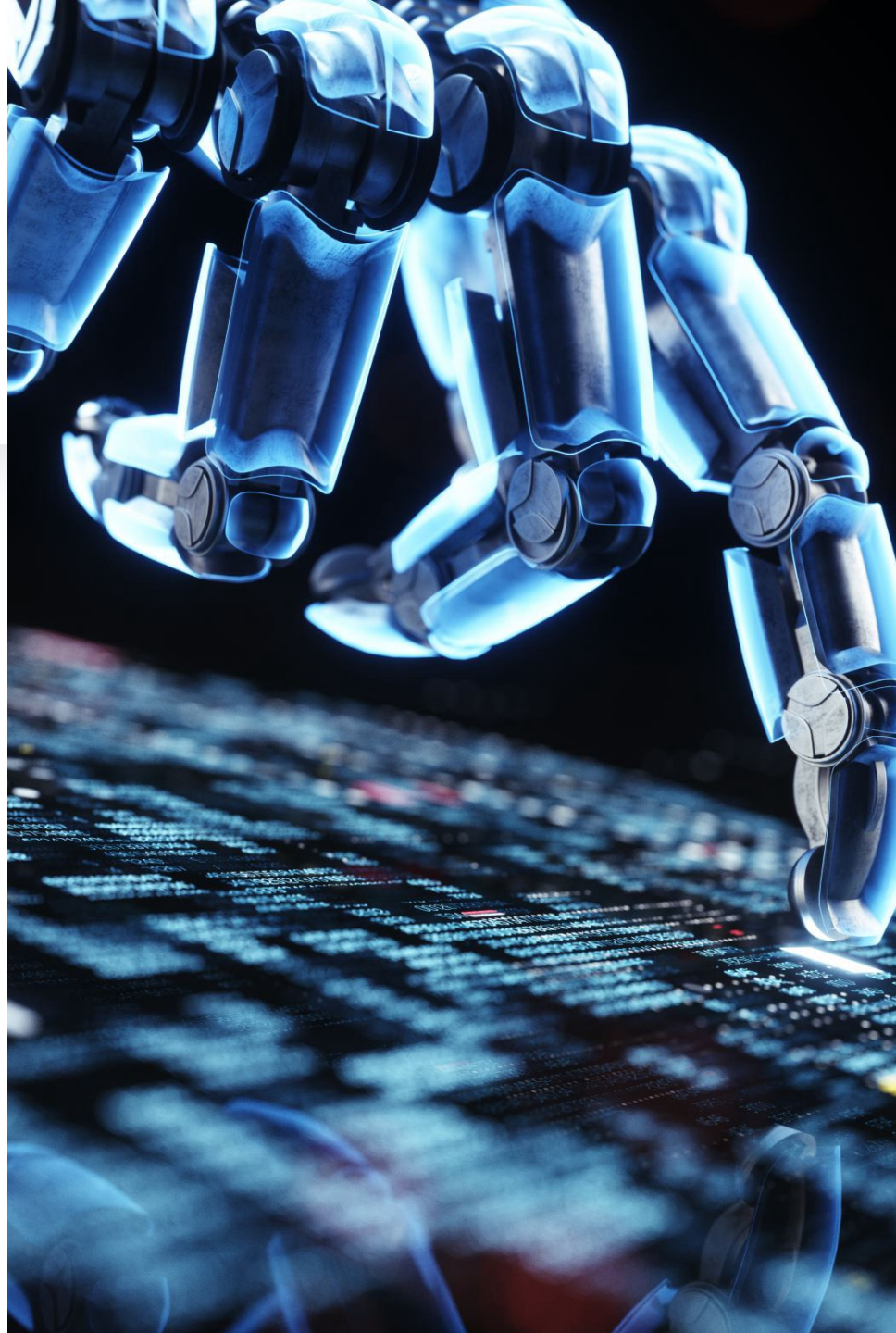


Chatting about ChatGPT

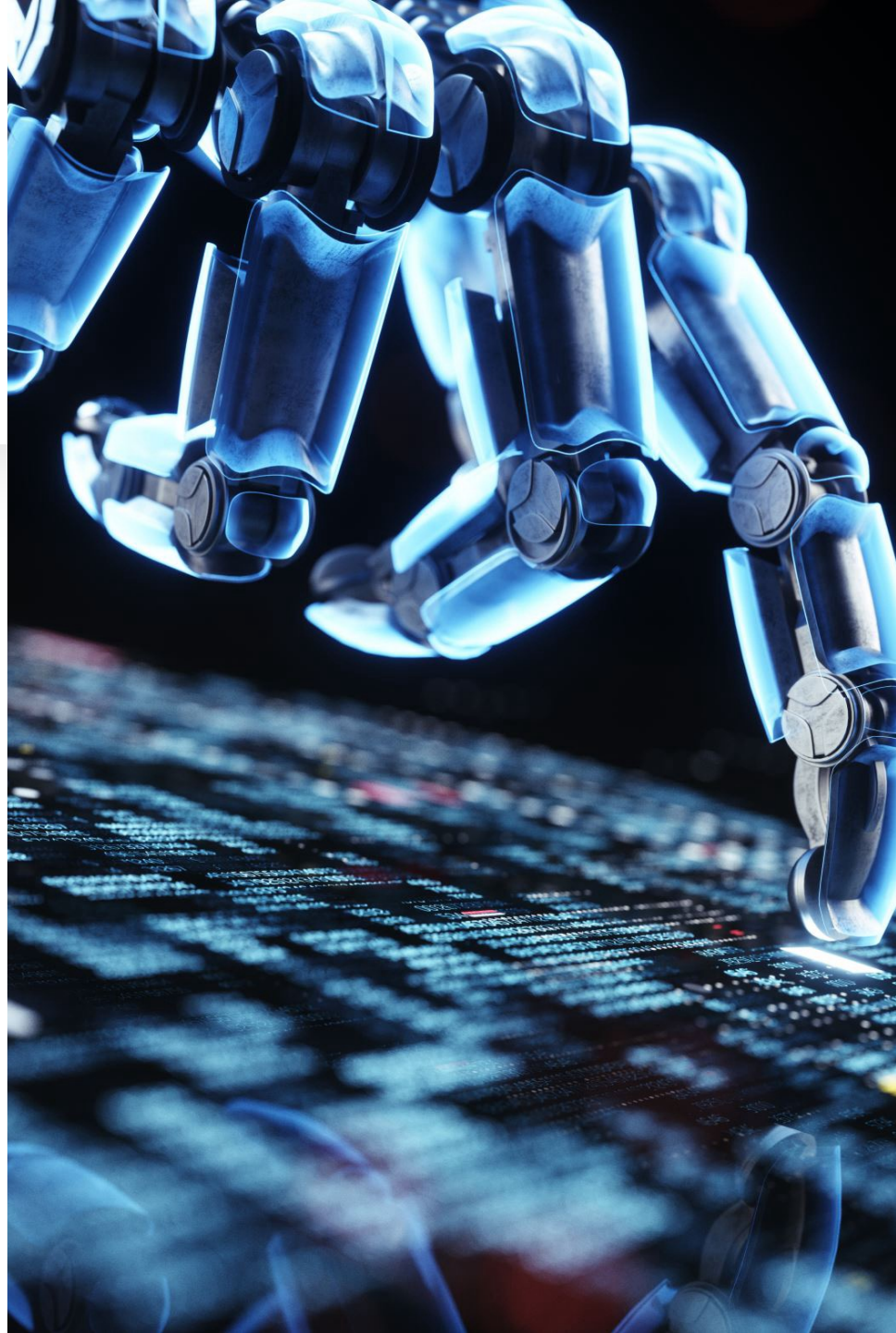
Are you familiar with ChatGPT and other kinds of “generative AI”?

- A type of “machine learning,” in which a computer model’s ability to make useful predictions improves by “training” on data
- ChatGPT = “large language models” that became possible in the past 10+ years due to accessibility of human-generated data on the internet



Chatting about ChatGPT

**Have you used ChatGPT
or a similar generative AI?
What did you use it for?
What was your
experience like?
What concerns do you
have about generative AI
and its possible uses?**



Chatting about ChatGPT

Erik Duhaime, CEO of medical-data-annotation company Centaur Labs: **“AI doesn’t replace work,” he said. “But it does change how work is organized.”**

“the language that fuels ChatGPT and its competitors is filtered through several rounds of human annotation. One group of contractors writes examples of how the engineers want the bot to behave, creating questions followed by correct answers, descriptions of computer programs followed by functional code, and requests for tips on committing crimes followed by polite refusals. After the model is trained on these examples, yet more contractors are brought in to prompt it and rank its responses.”

Behind the AI boom, an army of overseas workers in ‘digital sweatshops’

By [Rebecca Tan](#) and [Regine Cabato](#)
August 28, 2023 at 2:00 a.m. EDT



Internet cafes in the Philippines are now frequented by workers who sort and label data for artificial intelligence models. (Martin San Diego for The Washington Post)

<https://www.washingtonpost.com/world/2023/08/28/scale-ai-remotasks-philippines-artificial-intelligence/>

AI Is a Lot of Work

As the technology becomes ubiquitous, a vast tasker underclass is emerging – and not going anywhere.

<https://www.theverge.com/features/23764584/ai-artificial-intelligence-data-notation-labor-scale-surge-remotasks-openai-chatbots>

Chatting about ChatGPT

More than 2 million people in the Philippines perform this type of “crowdwork,” according to informal government estimates, as part of AI’s vast underbelly.

- Charisse, 23, said she spent four hours on a task that was meant to earn her \$2, and Remotasks paid her 30 cents.
- Jackie, 26, said he worked three days on a project that he thought would earn him \$50, and he got \$12.

“Because work appears and vanishes without warning, taskers always need to be on alert. Victor has found that projects pop up very late at night, so he is in the habit of waking every three hours or so to check his queue. When a task is there, he’ll stay awake as long as he can to work. Once, he stayed up 36 hours straight labeling elbows and knees and heads in photographs of crowds — he has no idea why. Another time, he stayed up so long his mother asked him what was wrong with his eyes. He looked in the mirror to discover they were swollen.”

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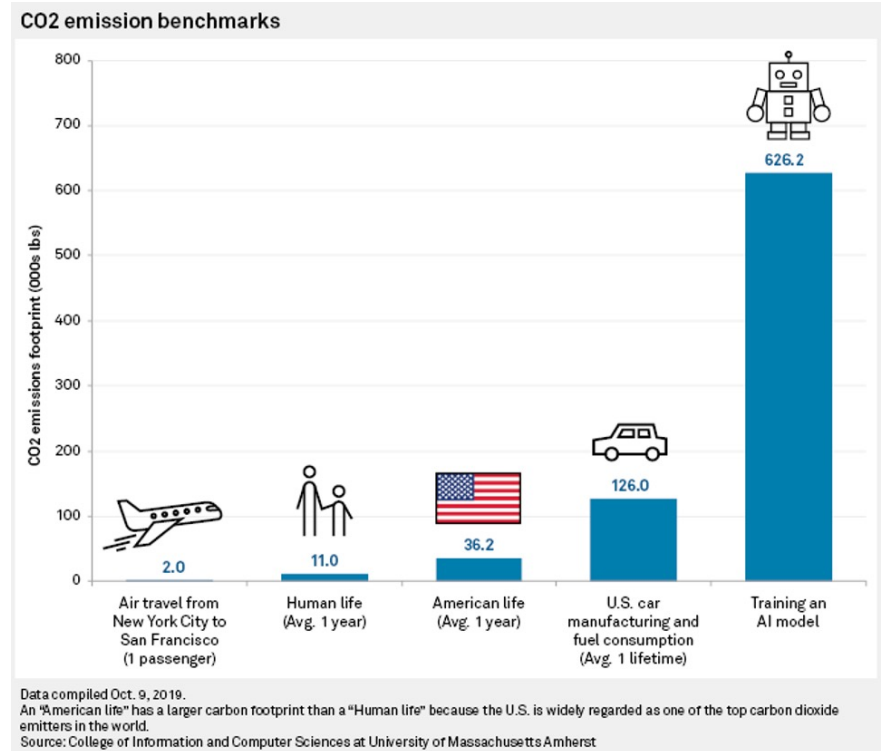
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Chatting about ChatGPT

While the average human is responsible for an estimated 5 tons of CO2 per year, the authors trained a Transformer (big) model with neural architecture search and estimated that the training procedure emitted 284 tons of CO2. Training a single BERT base model (without hyperparameter tuning) on GPUs was estimated to require as much energy as a trans-American flight.



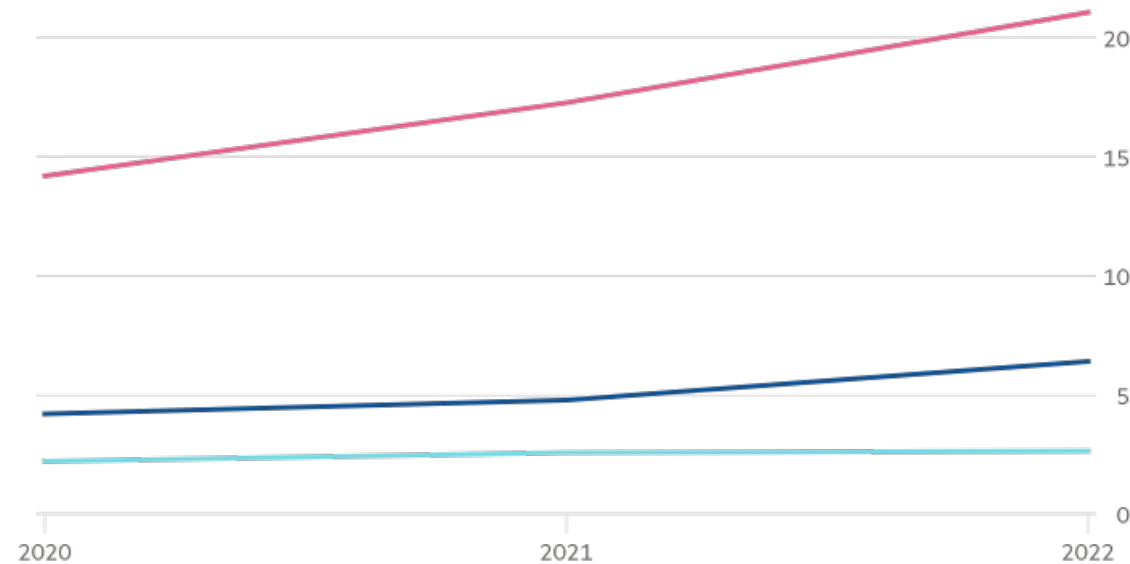
<https://dl.acm.org/doi/pdf/10.1145/3442188.3445922>

Chatting about ChatGPT

Big Tech's water consumption

Total water consumed in mn cubic metres

— Microsoft — Google — Meta



Source: Microsoft/Google/Meta

© FT

AI boom sparks concern over Big Tech's water consumption

Microsoft, Google and Meta are using more water to cool down data centres that power artificial intelligence products



The Google Cloud data centre in Hanau, Germany. In 2022, Microsoft increased its water consumption 34%, Google 22% and Meta 3% as a result of their growing use of data centres © Alex Kraus/Bloomberg

“Academics suggest that AI demand would drive up water withdrawal — where water is removed from ground or surface sources — to between 4.2bn and 6.6bn cubic meters by 2027, or about half the amount consumed by the UK each year.”

<https://www.ft.com/content/6544119e-a511-4cfa-9243-13b8cf855c13>

Chatting about ChatGPT

“Computer scientists long assumed that AI systems would become more accurate and objective as they gathered more data, but Timnit Gebru soon challenged that theory. Her Gender Shades project with Joy Buolamwini found that facial recognition services offered by IBM, Microsoft, and other companies misidentified Black women as much as 35% of the time while performing nearly perfectly with white men.”

“GPT-2’s training data is sourced by scraping out- bound links from Reddit, and Pew Internet Research’s 2016 survey reveals 67% of Reddit users in the United States are men, and 64% between ages 18 and 29. Similarly, recent surveys of Wikipedians find that only 8.8–15% are women or girls.”

- Google later fired Gebru for trying to publish her research on bias in AI

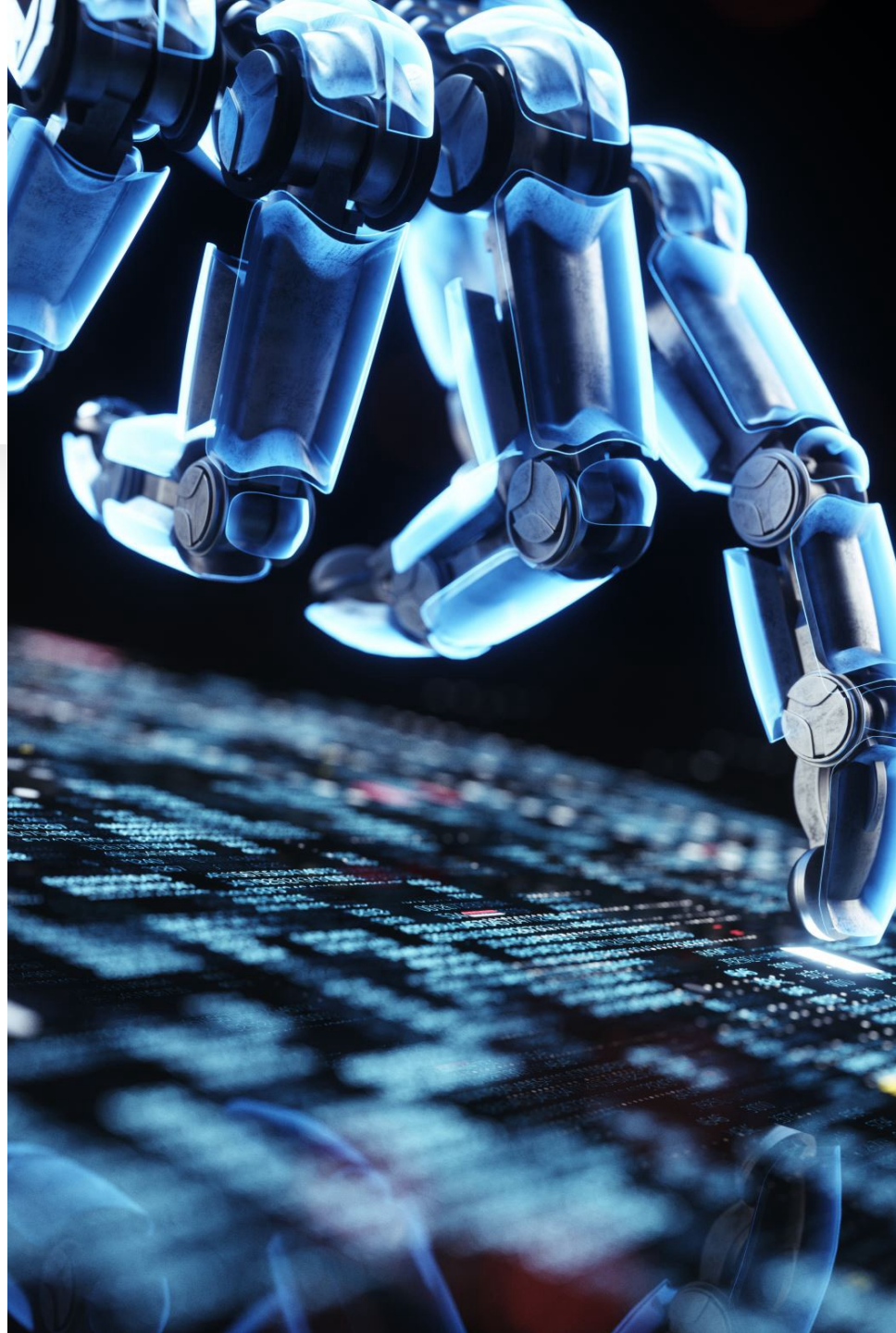


<https://hbswk.hbs.edu/item/chatgpt-did-big-tech-set-up-the-world-for-ai-bias-disaster>

Chatting about ChatGPT

Concerns about AI

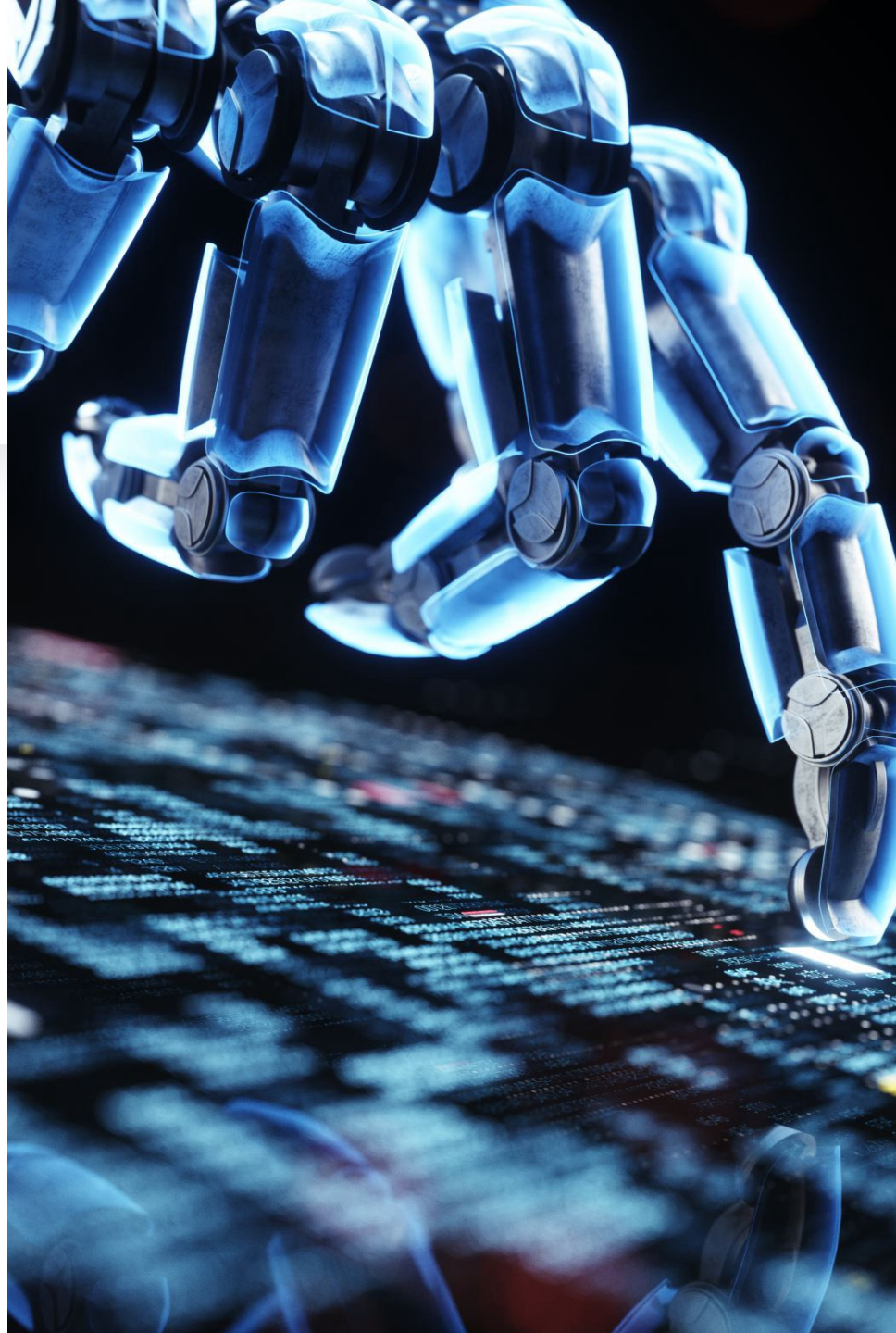
- Exploitation of human labor
- Environmental impact
- Amplification of bias, false claims, fictitious citations
 - ChatGPT's knowledge limited to what it scraped in 2021
- Copyright infringement and surveillance of users
- Academic integrity



Chatting about ChatGPT

What should the course policy be about use of ChatGPT and other generative AI in completing class assignments?

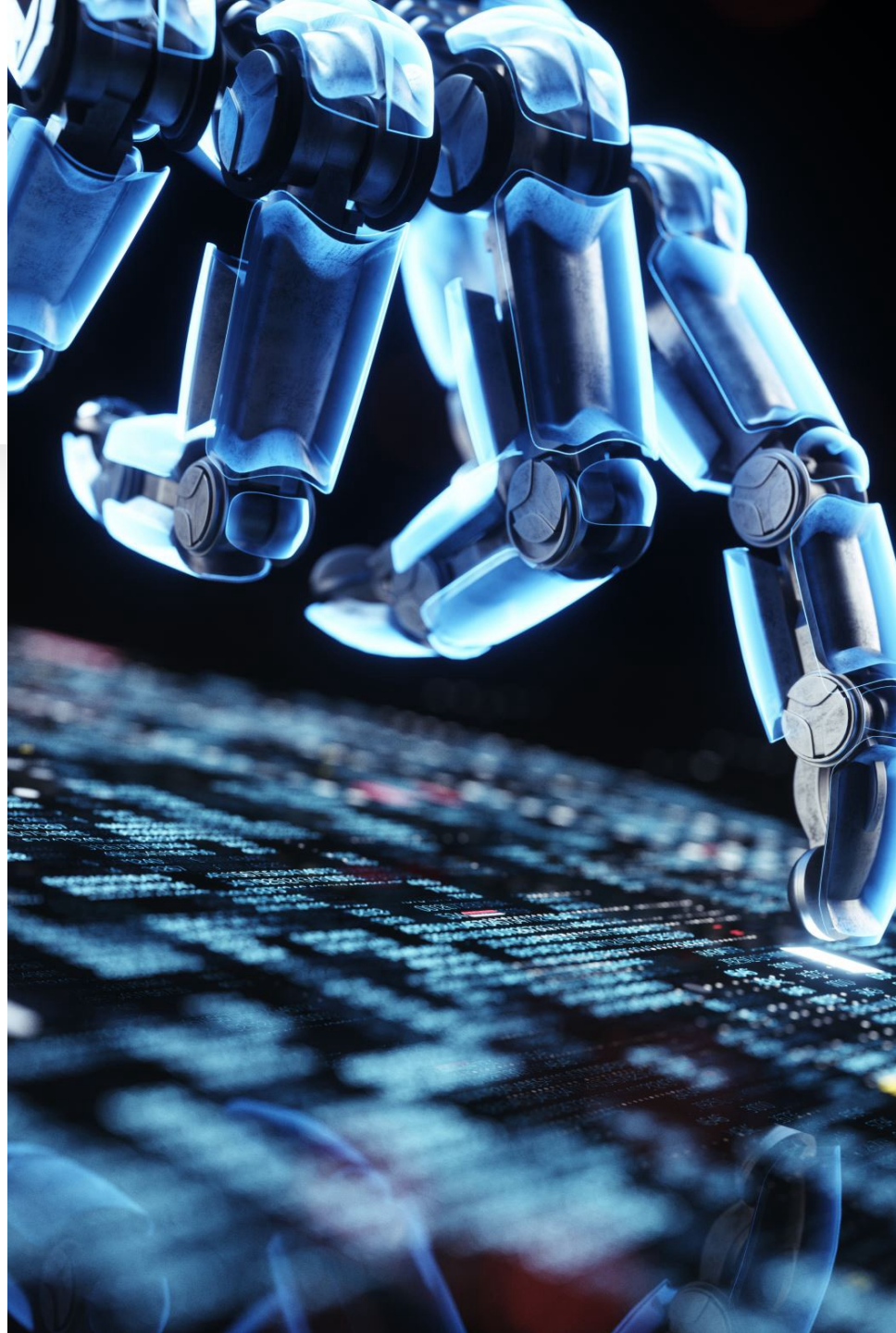
- Prohibition?
- Allow with some requirements? Which?



Chatting about ChatGPT

Some options

- Prohibition
- Allow if you properly cite your usage
- Allow if you submit transcripts of all your interactions
- Allow if you submit transcripts and briefly explain how your use of it addresses the concerns we've discussed



Resources about ChatGPT

General background

- <https://docs.google.com/document/d/1TAXqYGid8sQz8v1ngTLD1qZBx2rNKHeKn9mcfWbFzRQ/edit>
- <https://teaching.resources.osu.edu/teaching-topics/ai-considerations-teaching-learning>
- <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

On labor exploitation

- <https://www.theverge.com/features/23764584/ai-artificial-intelligence-data-notation-labor-scale-surge-remotasks-openai-chatbots>
- <https://www.washingtonpost.com/world/2023/08/28/scale-ai-remotasks-philippines-artificial-intelligence/>

On amplifying bias

- <https://www.washingtonpost.com/technology/2023/04/25/artificial-intelligence-bias-eoc/>
- <https://hbswk.hbs.edu/item/chatgpt-did-big-tech-set-up-the-world-for-ai-bias-disaster>

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