Ethics

SICSS Munich

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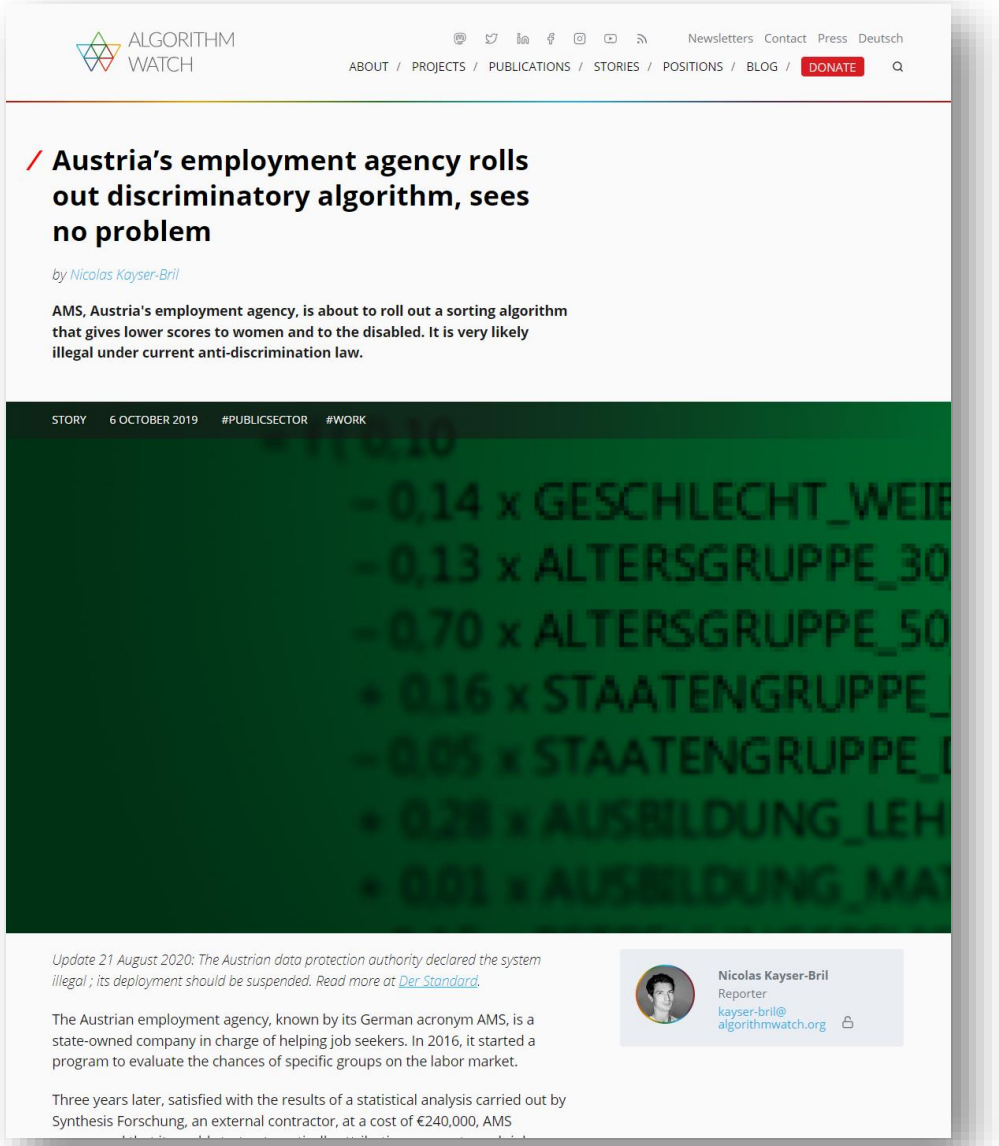
24.7.2023


AMS

- https://algorithmwatch.org/en/austrias-employment-agency-ams-rolls-out-discriminatory-algorithm/



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Austria's employment agency rolls out discriminatory algorithm, sees no problem

by Nicolas Kayser-Bril

AMS, Austria's employment agency, is about to roll out a sorting algorithm that gives lower scores to women and to the disabled. It is very likely illegal under current anti-discrimination law.

STORY 6 OCTOBER 2019 #PUBLICSECTOR #WORK

Update 21 August 2020: The Austrian data protection authority declared the system illegal ; its deployment should be suspended. Read more at Der Standard.

The Austrian employment agency, known by its German acronym AMS, is a state-owned company in charge of helping job seekers. In 2016, it started a program to evaluate the chances of specific groups on the labor market.

Three years later, satisfied with the results of a statistical analysis carried out by Synthesis Forschung, an external contractor, at a cost of €240,000, AMS

Nicolas Kayser-Bril
Reporter
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Schedule

10:45 – 12:30	Intro / Lecture / Discussion
	Introducing today‘s group exercise
12:30 – 13:30	Lunch
13:30 – 15:30	Group exercise
15:30 – 15:45	Discussing results, collecting feedback
16:00 – 17:30	Guest speaker: Frauke Kreuter

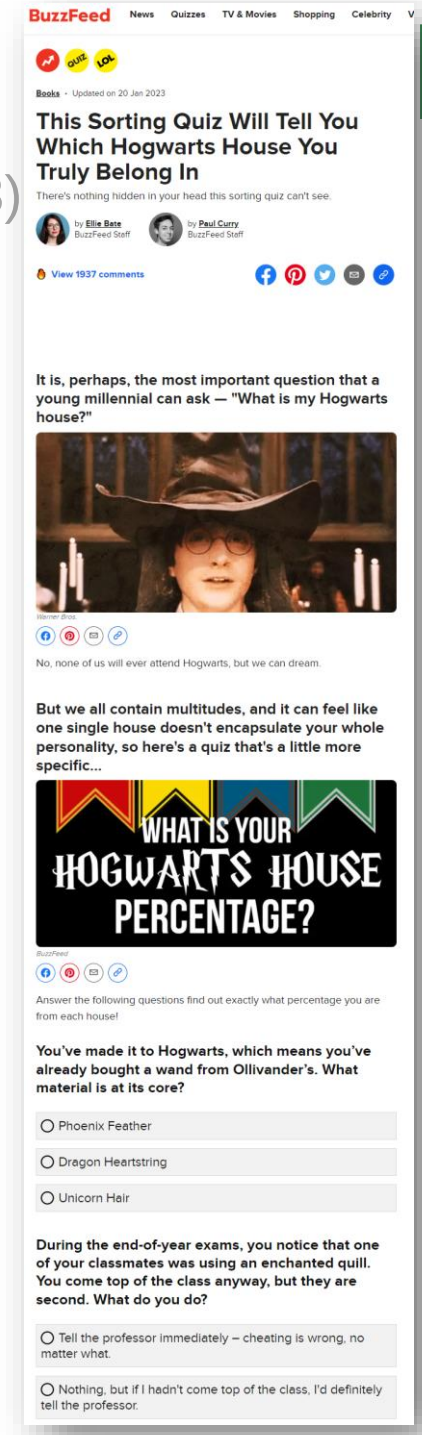
Intro

Let‘s talk about ethics

- Ethics is part of morality
- In particular it’s the application of moral action
- It’s about norms and values to which a society has committed itself
- Everyone conforms to or violates these norms/values with one’s actions
- As such, they help us become somewhat expectable to each other, which benefits our living together
- Remember that it’s not law (but norms and values)
- Academia plays an exemplary role here, especially since it is accorded a special position in most democratic Basic Laws

A classic example: *myPersonality* (Kosinski et al., 2013)

- Game-based access to 58,466 US Facebook users
  - Collect age, gender, party affinity, religion, relationship status, sexual orientation … via a (partly optional) questionnaire
  - Retrieve up 700 Likes vis-á-vis public and US-prominent FB pages
- Estimate statistical models using Likes as independent variable (input) and the survey responses (e.g., gender) as dependent variable (output)
- Concerning?

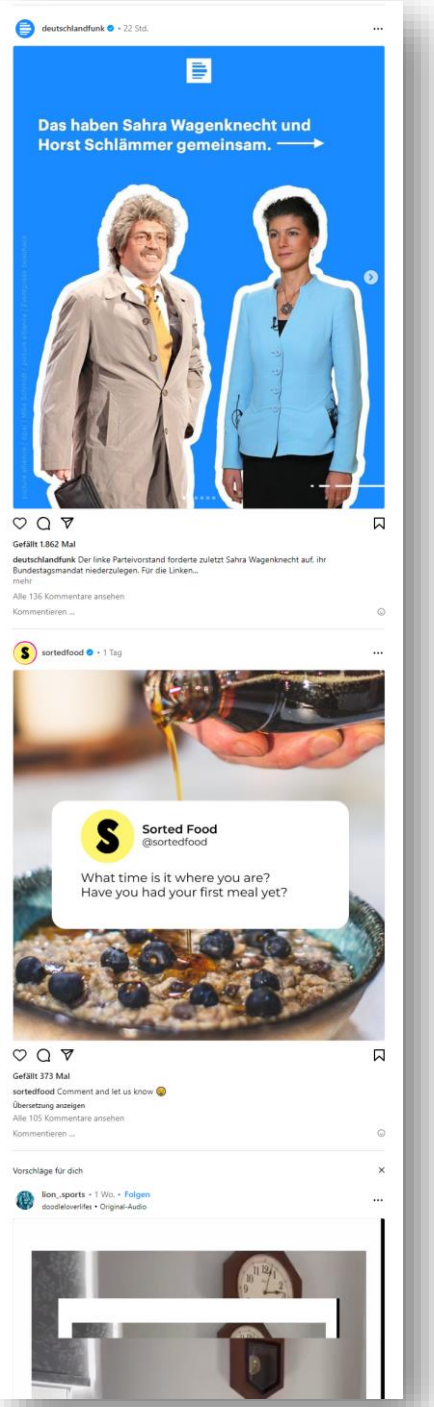


A classic example: *myPersonality* (Kosinski et al., 2013)

- A malfunction allowed to collect Like and public Facebook information data also from Facebook gamers‘ FB friends (up until 2018)
- Very similar approach was hence used for so-called „micro-targeting“
- We know only because of Christopher Wylie, the whistleblower from/on Cambridge Analytica (2018)

Another example

- My feed makes me happy, most of times, but sometimes also sad or even angry
  - That‘s because emotions can transfer between people
  - This phenomenon is called „emotional contagion“
  - Obviously, this can be a good and a bad thing
- However, we did not now much about emotional contagion via social networking sites a few years ago – so a team of researchers experimented with it:
  - For one week in 2012, some 690,000 users saw their feed with either some posts with a lot of positive emotions in it reduced or some posts with a lot of negative emotions in it reduced
  - This variation was then analyzed as potential cause for self-posting posts with positive or negative emotions
- Concerning?



Another example

- „Posts were determined to be positive or negative if they contained at least one positive or negative word, (…) which correlates with self-reported and physiological measures of well-being, and has been used in prior research on emotional expression (7, 8, 10). LIWC was adapted to run on the Hadoop Map/Reduce system (11) and in the NewsFeed filtering system, such that no text was seen by the researchers. As such, it was consistent with Facebook's Data Use Policy, to which all users agree prior to creating an account on Facebook, constituting informed consent for this research." (p. 8789)
- Better?

PNAS

CrossMark

Experimental evidence of massive-scale emotional contagion through social networks

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Edited by Susan T. Fiske, Princeton University, Princeton, NJ, and approved March 25, 2014 (received for review October 23, 2013)

Emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. Emotional contagion is well established in laboratory experiments, with people transferring positive and negative emotions to others. Data from a large real-world social network, collected over a 20-y period suggests that longer-lasting moods (e.g., depression, happiness) can be transferred through networks [Fowler JH, Christakis NA (2008) *BMJ* 337:a2338], although the results are controversial. In an experiment with people who use Facebook, we test whether emotional contagion occurs outside of in-person interaction between individuals by reducing the amount of emotional content in the News Feed. When positive expressions were reduced, people produced fewer positive posts and more negative posts; when negative expressions were reduced, the opposite pattern occurred. These results indicate that emotions expressed by others on Facebook influence our own emotions, constituting experimental evidence for massive-scale contagion via social networks. This work also suggests that, in contrast to prevailing assumptions, in-person interaction and nonverbal cues are not strictly necessary for emotional contagion, and that the observation of others' positive experiences constitutes a positive experience for people.

computer-mediated communication | social media | big data

Emotional states can be transferred to others via emotional contagion, leading them to experience the same emotions as those around them. Emotional contagion is well established in laboratory experiments (1), in which people transfer positive and negative moods and emotions to others. Similarly, data from a large, real-world social network collected over a 20-y period suggests that longer-lasting moods (e.g., depression, happiness) can be transferred through networks as well (2, 3).

The interpretation of this network effect as contagion of mood has come under scrutiny due to the study's correlational nature, including concerns over misspecification of contextual variables or failure to account for shared experiences (4, 5), raising important questions regarding contagion processes in networks. An experimental approach can address this scrutiny directly; however, methods used in controlled experiments have been criticized for examining emotions after social interactions. Interacting with a happy person is pleasant (and an unhappy person, unpleasant). As such, contagion may result from experiencing an interaction rather than exposure to a partner's emotion. Prior studies have also failed to address whether nonverbal cues are necessary for contagion to occur, or if verbal cues alone suffice. Evidence that positive and negative moods are correlated in networks (2, 3) suggests that this is possible, but the causal question of whether contagion processes occur for emotions in massive social networks remains elusive in the absence of experimental evidence. Further, others have suggested that in online social networks, exposure to the happiness of others may actually be depressing to us, producing an "alone together" social comparison effect (6).

Three studies have laid the groundwork for testing these processes via Facebook, the largest online social network. This research demonstrated that (*i*) emotional contagion occurs via text-based computer-mediated communication (7); (*ii*) contagion of psychological and physiological qualities has been suggested based on correlational data for social networks generally (7, 8); and (*iii*) people's emotional expressions on Facebook predict friends' emotional expressions, even days later (7) (although some shared experiences may in fact last several days). To date, however, there is no experimental evidence that emotions or moods are contagious in the absence of direct interaction between experiencer and target.

On Facebook, people frequently express emotions, which are later seen by their friends via Facebook's "News Feed" product (8). Because people's friends frequently produce much more content than one person can view, the News Feed filters posts, stories, and activities undertaken by friends. News Feed is the primary manner by which people see content that friends share. Which content is shown or omitted in the News Feed is determined via a ranking algorithm that Facebook continually develops and tests in the interest of showing viewers the content they will find most relevant and engaging. One such test is reported in this study: A test of whether posts with emotional content are more engaging.

The experiment manipulated the extent to which people (N = 689,003) were exposed to emotional expressions in their News Feed. This tested whether exposure to emotions led people to change their own posting behaviors, in particular whether exposure to emotional content led people to post content that was consistent with the exposure—thereby testing whether exposure to verbal affective expressions leads to similar verbal expressions, a form of emotional contagion. People who viewed Facebook in English were qualified for selection into the experiment. Two parallel experiments were conducted for positive and negative emotion: One in which exposure to friends' positive emotional content in their News Feed was reduced, and one in which exposure to negative emotional content in their News Feed was reduced. In these conditions, when a person loaded their News Feed, posts that contained emotional content of the relevant emotional valence, each emotional post had between a 10% and

Significance

We show, via a massive (N = 689,003) experiment on Facebook, that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. We provide experimental evidence that emotional contagion occurs without direct interaction between people (exposure to a friend expressing an emotion is sufficient), and in the complete absence of nonverbal cues.

Author contributions: A.D.I.K., J.E.G., and J.T.H. designed research; A.D.I.K. performed research, A.D.I.K. analyzed data; and A.D.I.K., J.E.G., and J.T.H. wrote the paper.

The authors declare no conflict of interest.

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www.pnas.org/cgi/doi/10.1073/pnas.1320040111

What about you?

1. Think about yet another example (or: examples) that you might have stumbled over or could think of with regard to your particular field of academic interest.
2. Pair with your neighbour and discuss your examples.
3. Share discussion outcomes with the whole group.

Why ethics now and particularly in CSS?

- Less control over more data
- Stark increases in computing power
- Internationalization and thus inconsistencies with regard to …
  - Law
  - Norms
  - Expectations
- Potentially far-reaching effects …
  - And even more so in the times to come

Let‘s do that more systematically …

- Rules-based approach
- Principles-based approach

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- Rules-based approach
- Principles-based approach

- Focus on making the world a better place through our actions because these actions have consequences
- Rooted in philosophical stream of consequentialism (think Bentham, Mill and Utilitarismus/Utilitarianism)
- Thereof derived rules for actions
- Kind-of-like thinking from the end

Let‘s do that more systematically …

- Rules-based approach
- Principles-based approach

- Focus on norms or duties that mankind has to lead our actions, no matter their consequences
- Rooted in philosophical stream of deontology (think Kant and Aufklärung/Enlightenment)
- Thereof derived principles for actions
- Kind-of-like thinking about the means

Let‘s do that more systematically …

- Rules-based approach
- Principles-based approach

- Today, these two are mixed and mingled a lot
- Both allow to think about the same things similarly or differently and might come to different outcomes
- Modern ethical frameworks thus merge arguments from both …
- … but call themselves quite often „principles“ as well (while not necessarily being deontological all the way)

Four Principles (Salganik, 2017)

- Respect for persons
- Beneficience
- Justice
- Respect for law and public interest

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- Decisions should be made by participants themselves, not by researchers for them
- Get informed consents and offer opt-out‘s at any time

Four Principles (Salganik, 2017)

- Respect for persons
- Beneficience
- Justice
- Respect for law and public interest

- Do not harm
- Also, minimize risk
- If the remainder is good enough, go with it
- Get a-priori IRB approval

Four Principles (Salganik, 2017)

- Respect for persons
- Beneficience
- Justice
- Respect for law and public interest

- Be fair and square between those who shoulder the research and those who benefit from it
- Protect vulnerable people/participants
- But also: Do not exclude them and thus hinder access to scientific progress for those so particularly in need

Four Principles (Salganik, 2017)

- Respect for persons
- Beneficience
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- Respect for law and public interest

- Similar to beneficience, but with broader perspective
- Be transparent about your goals and intentions

The Times They Are A-Changin’

- Salganik‘s principles are a combination from The Belmont Report (1974) and The Menlo Report (2010), two US-Senate/Congress-initiated responses to ethical misconduct in academia
- Very much applicable to studies containing humans (at least somehow)
- More and more industrial and legal (e.g., AI Act) expectations
  - Yes, ethical principles with/for humans are still and even more crucial
  - However, with more autonomous decision-making, data and software require their own principles as well
  - And let‘s not forget the actual decision-making and its potential consequences
- But academic reseach is more as it needs its integrity to deserve the trust people rightfully have into it and thus depicts a moral exemplary character with the highest standards

Three Principles (Haim, 2023)

- People are the focus
- Data and software are secure, robust and traceable
- Decisions are fair and transparent

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- People are the focus
- Data and software are secure, robust and traceable
- Decisions are fair and transparent

- Decisions should be made by participants themselves, not by researchers for them
- Focus on the scientific interest and only collect what is really necessary
- Participants have to have souvereinity over their data at all times
- Brief, get informed consent, particularly respect the „informed“, acknowledge data privacy, debrief
- Get IRB approval before anything

Three Principles (Haim, 2023)

- People are the focus
- Data and software are secure, robust and traceable
- Decisions are fair and transparent

- Store data secure, respect privacy, and keep track of where you got it from
- Develop software with security and robustness in mind (at all times)
- Build software professionally by including tests, code reviews, and adequate maintenance
- Think about all parts of necessary infrastructure and the (legal) attachments

Three Principles (Haim, 2023)

- People are the focus
- Data and software are secure, robust and traceable
- Decisions are fair and transparent

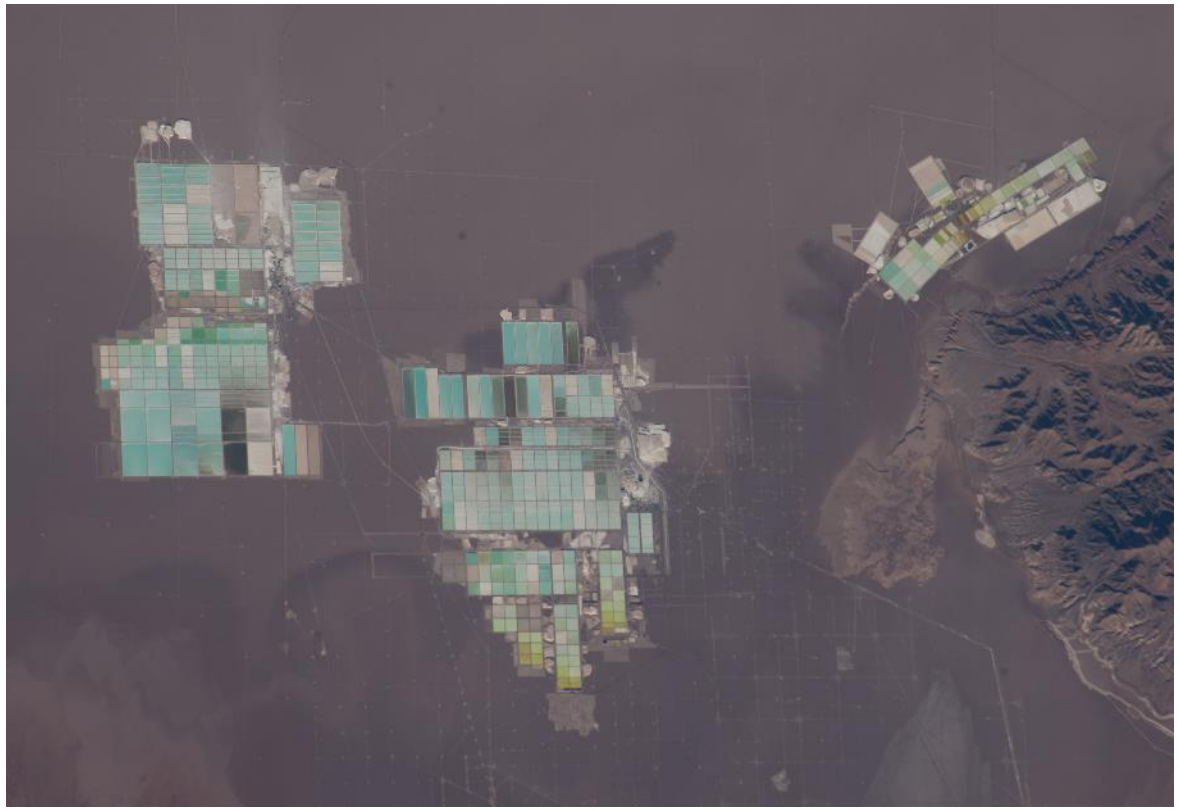
- Think about discrimination in your data and models
- Revise and think again
- Test it!
- Explain rulesets, learning processes, data, and decisions
- If possible, allow adjustments (for which you need to keep track about where data comes from; see second principle)

And there‘s more …

- Principle discussion on AI
  → Crawford, K. (2021). *Atlas of AI*. Yale University Press.
- Principles as pointed out by various values statements
  → https://doi.org/10.24251/hicss.2019.258
- Principles Guidelines for the industry as laid out by the EU
  → https://ec.europa.eu/futurium/en/ai-alliance-consultation.1.html
- Ethics guidance (for EU-supported research) from the EU
  → https://erc.europa.eu/manage-your-project/ethics-guidance
- US Health Dptm. principles for ethical research
  → https://www.nih.gov/health-information/nih-clinical-research-trials-you/guiding-principles-ethical-research
- …


JUST ONE
MORE THING..

Ethics mean something else too



Doc Searls / Flickr

NASA Johnson / Flickr

Ethics mean something else too

- “Computational ...” always also means resource consumption
- Simulations and machine learning are “computation-heavy”
- Lithium (batteries) and copper (conductors) from Bolivia, Chile and Argentina, cobalt (batteries) from Congo, silicon (semiconductors) from China and the US
  - Sometimes extracts nutrients from the soil
  - Geopolitically, especially lithium very contested
- Very much water (cooling during production and operation)
  - For server farms in the middle of nowhere partly at the expense of indigenous peoples
  - For local large-scale operations sometimes at the expense of the local population
- Electricity for data center and server
  - Energy production and CO2 footprint depending on country / region / method / ...

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- Salganik, M. J. (2019). *Bit by bit: Social research in the digital age*. Princeton University Press. https://www.bitbybitbook.com/

Group Exercise

Today is about discussion and getting to know each other

- You‘ll discuss two study designs with particular regard to …
  - Identifying ethical issues both addressed and left out
  - Thinking about ethical principles
  - Praising well-planted ethical considerations
  - Proposing changes to aspects less-so
  - Getting to know each other through discourse 😉

Schedule

13:30 – 14:30	
20min	Read method section of study 1
20min	Group up with those who have the same **color** and discuss ethical issues, principles, and potential changes
20min	Ungroup and get together as a whole to collect the case together

14:30 – 15:30	
20min	Read method section of study 2
20min	Group up with those who have the same `number` and discuss ethical issues, principles, and potential changes
20min	Ungroup and get together as a whole to collect the case together

Feedback

- START
- STOP
- KEEP