



# Social and Cultural Issues

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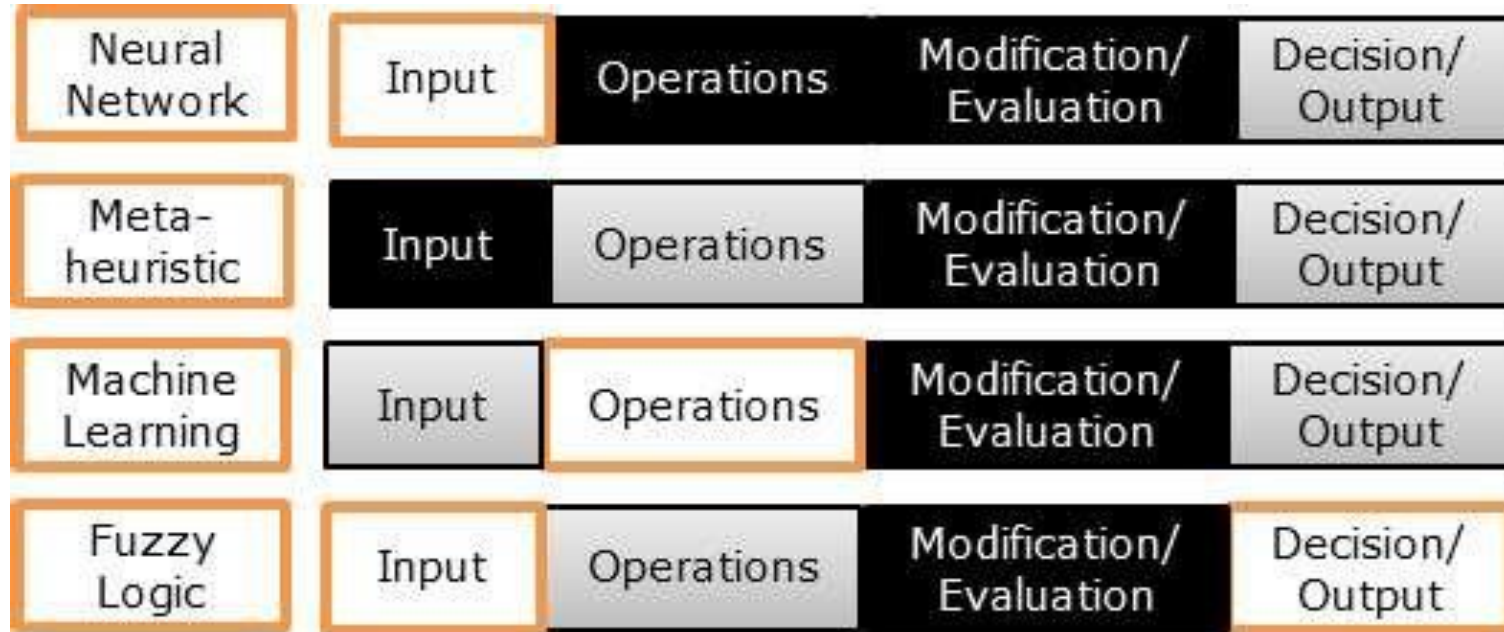
November 2, 2021

# Social and Cultural Issues

This is a class of issues that addresses the social and cultural infrastructure that builds up around analytics. These are not issues with analytics itself, but with the way analytics changes our society, our culture, and the way we learn.



# Opacity and Transparency

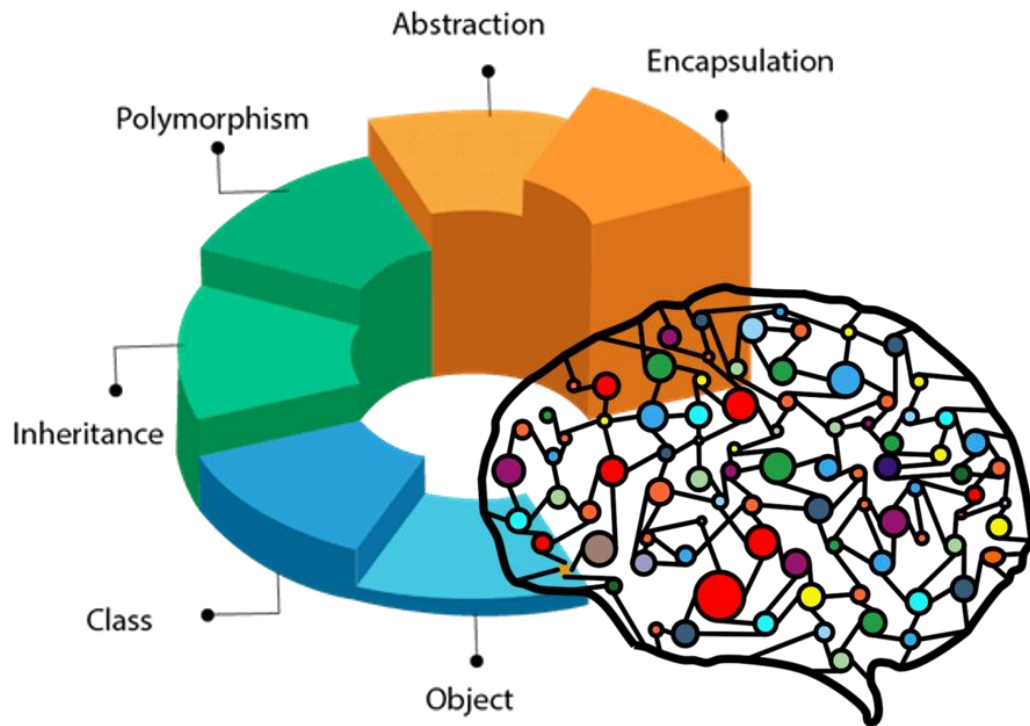


Opacity levels of AI algorithms at different stages (light blocks are transparent, grey blocks are semi-transparent/opaque, dark blocks are opaque)

“Decisions will need to be justified due to ethical concerns as well as trust, but achieving this has become difficult due to the ‘black-box’ nature many AI models have adopted.”

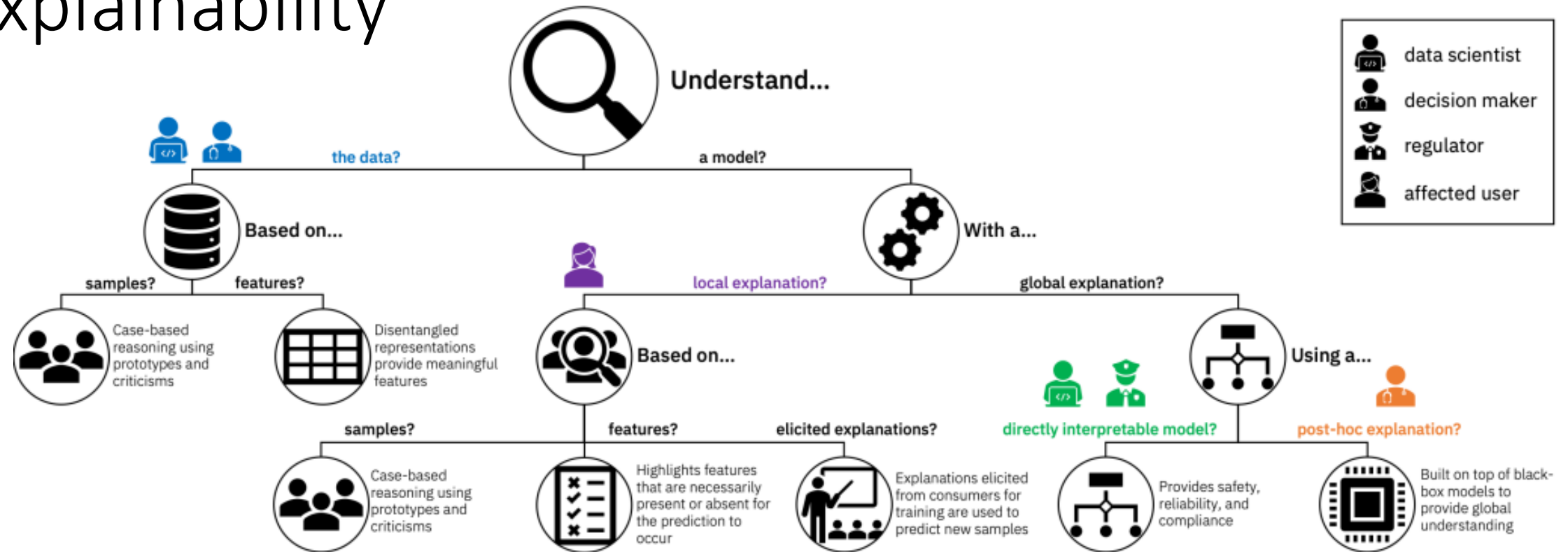
<https://www.researchgate.net/publication/329841462> Interaction Design for Explainable AI Workshop Proceedings

# Alienation



Artificial intelligence and analytics impose themselves as a barrier between one person and another, or between one person and necessary access to jobs, services, and other social, economic and cultural needs. The process can be depersonalizing and demeaning.

# Explainability



<https://www.ibm.com/blogs/research/2019/08/ai-explainability-360/>

“If an AI system has a ‘substantial impact on an individual’s life’ and cannot provide ‘full and satisfactory explanation’ for its decisions, then the system should not be deployed.” (Fjeld, et.al., 2020:43)

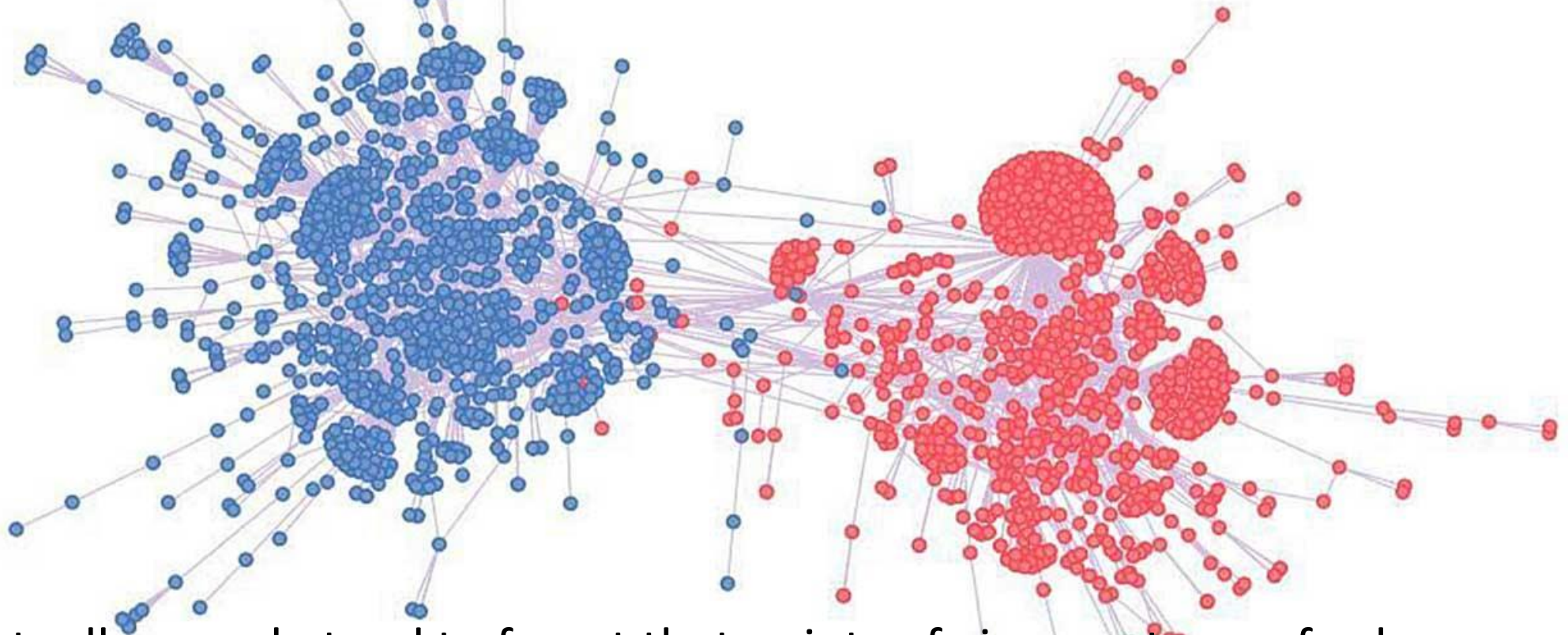
# Accountability

Who is accountable for the actions of an AI? Is it:

- The programmers
- The data providers
- The owners
- The end users?



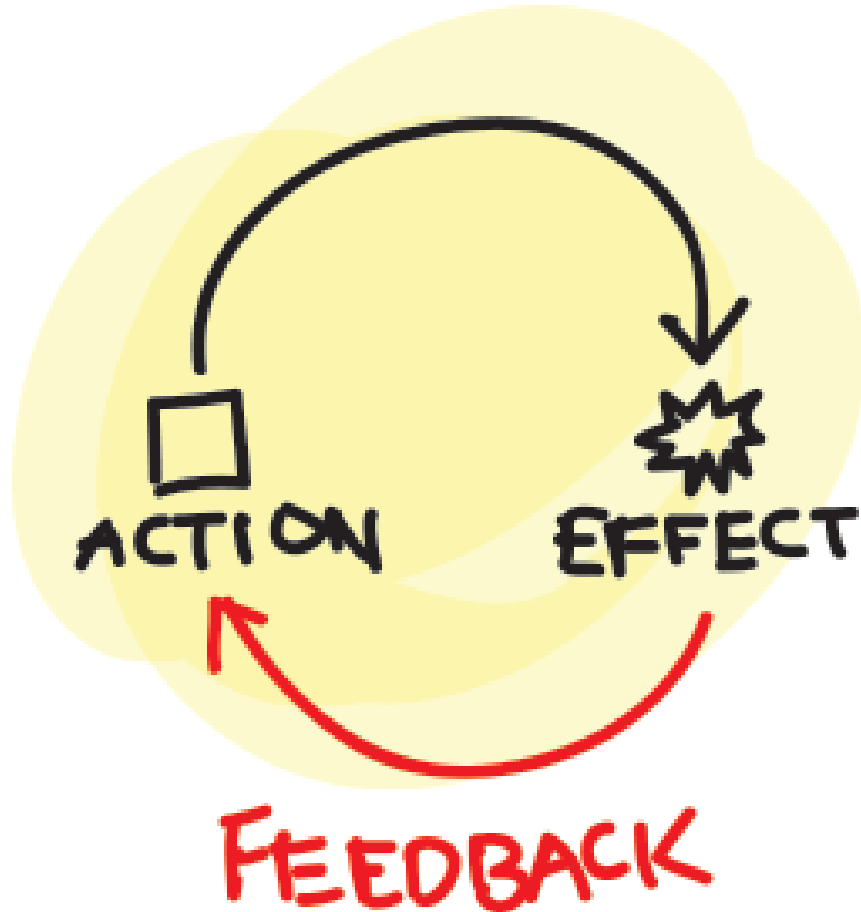
# Social Cohesion and Filter Bubbles



“Eventually, people tend to forget that points of view, systems of values, ways of life, other than their own exist... Such a situation corrodes the functioning of society, and leads to polarization and conflict.”

<https://spectrum.ieee.org/finally-a-means-for-bursting-social-media-bubbles>

# Feedback Effects



“Careful consideration of the social dynamics of predictive information will be essential to their ethical use.”

<https://rossdawson.com/self-perpetuating-feedback-loops-ai-predictive-policing/>

<https://towardsdatascience.com/dangerous-feedback-loops-in-ml-e9394f2e8f43>



# Inclusion

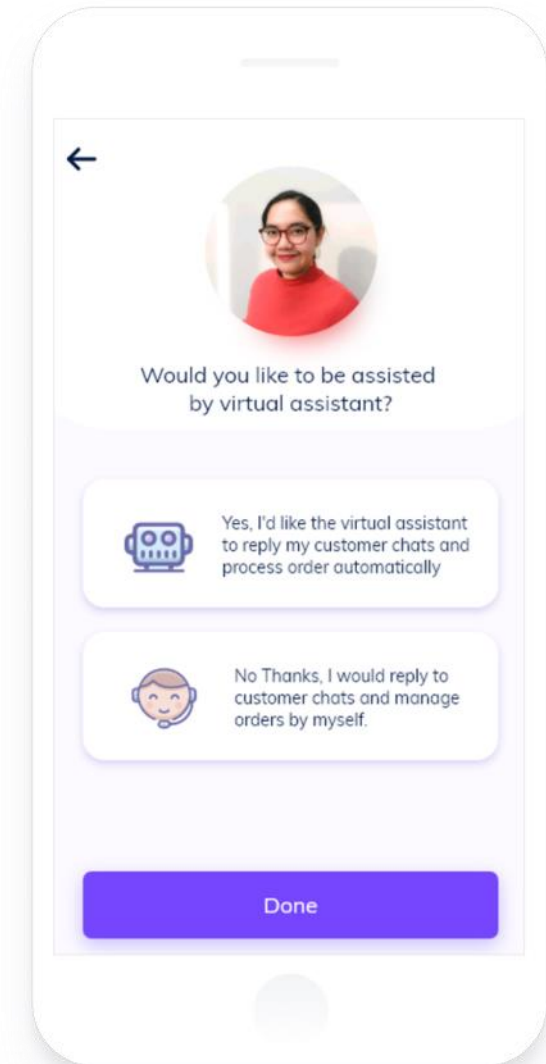
New types of artificial intelligence lead to new types of interaction. In such cases, it is of particular importance to look at the impact on traditionally disadvantaged groups.



# Consent

- Consent:
  - Requires both knowledge and permission
  - Applies to both provider and recipient of services
  - Includes rights over access, use, and erasure of data, repurposed data
- Refusal of Consent
  - May be unethical?
- Remedies
  - How are harms identified and remedied?
  - What meaningful alternatives are provided?

<https://link.springer.com/article/10.1007/s00146-021-01262-5>



# Surveillance Culture



<http://ipsr.ku.edu/SSRC/>

Surveillance Studies... is producing new and important theoretical and empirical understandings of human behavior.

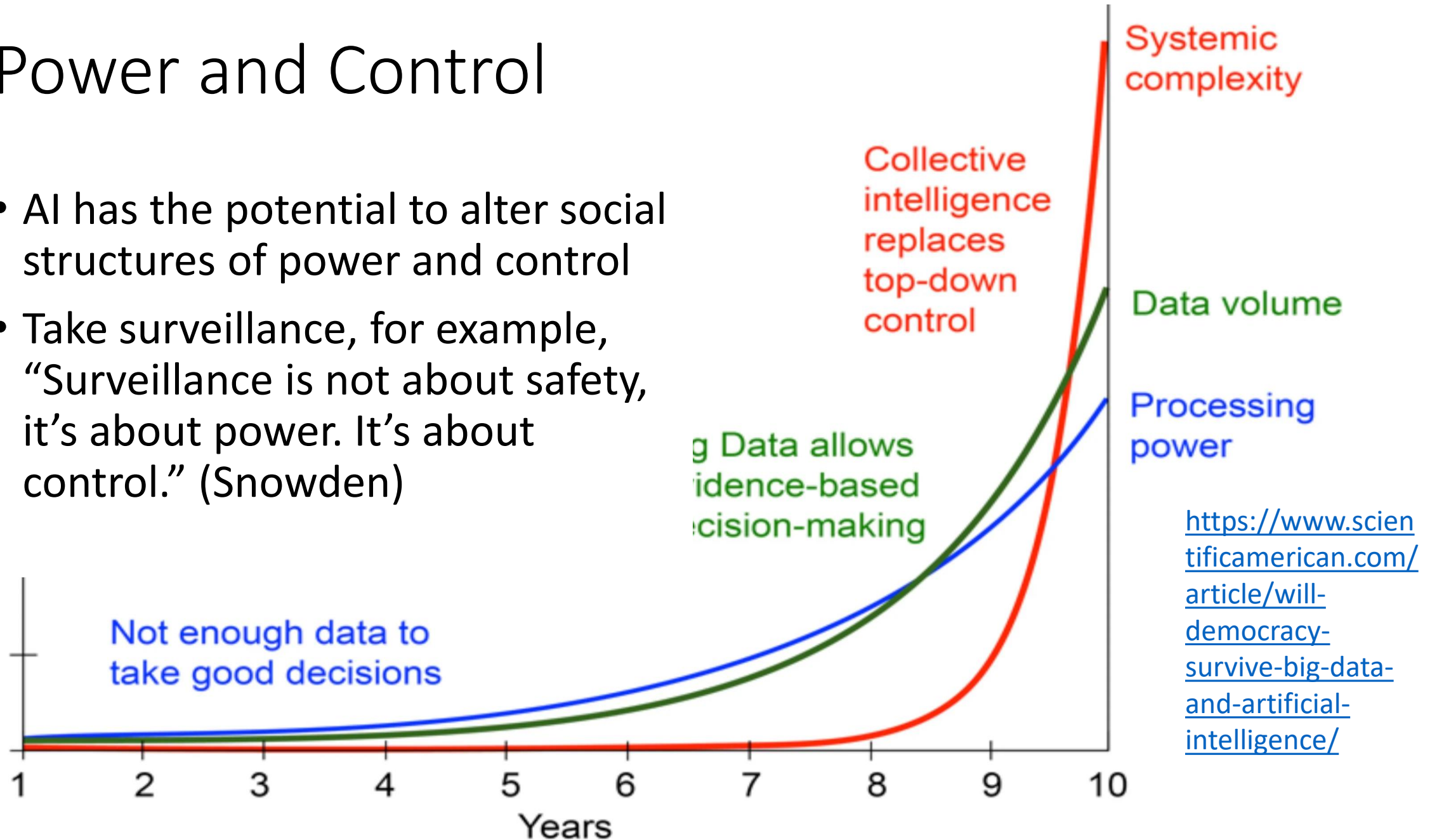
“The substitution of algorithmic certainty for any semblance of participatory, democratic society.”

<https://www.theguardian.com/books/2019/feb/02/age-of-surveillance-capitalism-shoshana-zuboff-review>



# Power and Control

- AI has the potential to alter social structures of power and control
- Take surveillance, for example, “Surveillance is not about safety, it’s about power. It’s about control.” (Snowden)



# Who Does What?

We are being sold a picture of a future with AI where it provides the calculations, and we provide the creativity and empathy.

But there's no reason to believe that in the future AI will not be about to outperform humans in *both*.

**The Future of AI**

Computational Power (gear icon)      Creative (lightbulb icon)

Instant Pattern Recognition (bar chart icon)      Empathetic (hands holding heart icon)

**AI + HI**

Administrative Coordination & Control (robot icon)      Strategy Development (person with magnifying glass icon)

Monitoring/Reporting (clipboard icon)      Managing Employees (group of people icon)

Data Interpretation & Problem-solving (gears icon)

**Turalt** | the technology of empathy      turalt.com      @turalt

The infographic is split into two vertical panels: a blue panel on the left for AI and a yellow panel on the right for Human Intelligence (HI). In the center, a robot and a man in a suit are holding hands, with three small hearts between them. The text 'AI + HI' is prominently displayed in the center. Arrows point from the robot to 'Administrative Coordination & Control' and 'Monitoring/Reporting' on the left, and from the man to 'Strategy Development', 'Managing Employees', and 'Data Interpretation & Problem-solving' on the right. The bottom of the infographic includes the Turalt logo and social media information.

<https://twitter.com/turalt/status/1224777355878653952>

# An Oppressive Economy



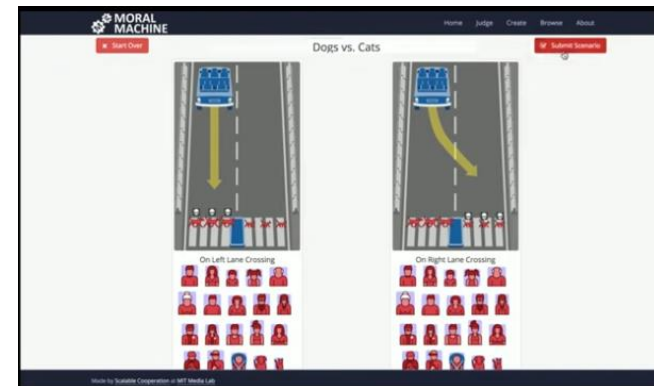
“Scholarship — both the content and the structure — is reduced to data, to a raw material used to produce a product sold back to the very institutions where scholars teach and learn.” (Watters, 2019)

<https://er.educause.edu/articles/2020/7/dx-and-it-commodification-beyond-paas-fail>

# Loss of Sense of Right and Wrong

- There is the sense that analytics and AI can not reason, cannot understand, and therefore cannot know the weight of their decisions. What would AI with a conscience look like?
- Do right and wrong become what the machine allows it to be? This is perhaps the intuition being captured by people who are concerned that AI results in a loss of humanity.

<https://www.scs.org.sg/articles/ethics-and-ai-teaching-our-machines-to-tell-right-from-wrong>

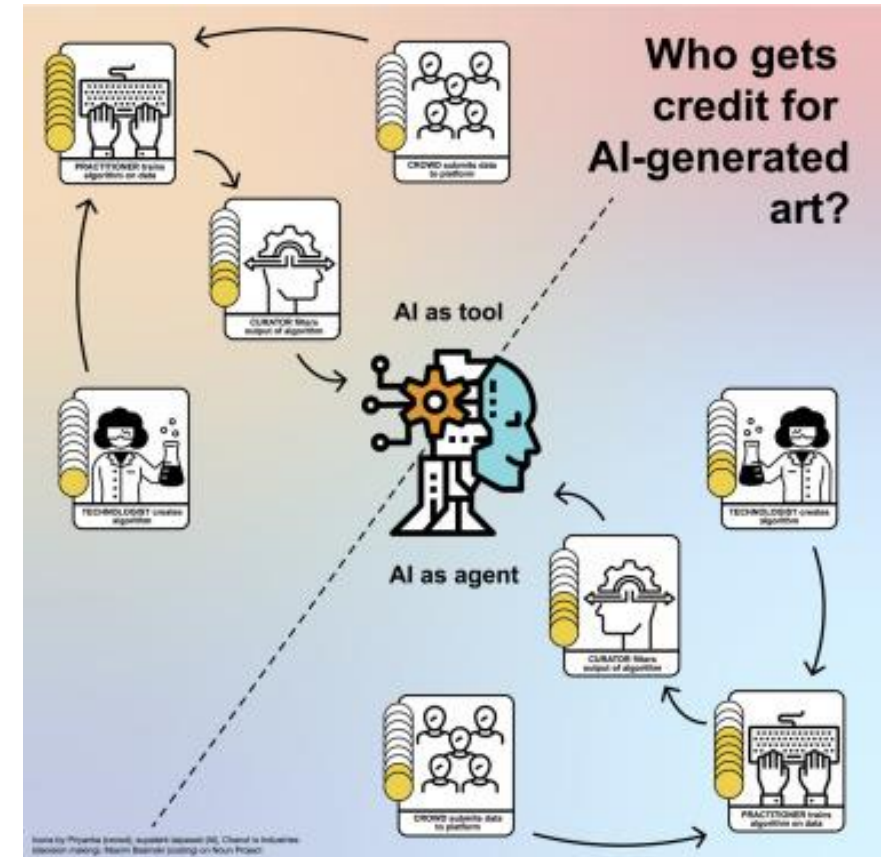


<http://moralmachine.mit.edu/>

# Ownership

- Should AI algorithms be patented?
- Can IPR restrict uses of data?
- Who are the creators of AI-generated art?
- What if it's *all possible* art?
- Could humans be blocked out of content creation?
- What impact might regulation have?

<https://www.sciencedirect.com/science/article/pii/S2589004220307070>





# Responsibility

**AI** itself

The **Developer**

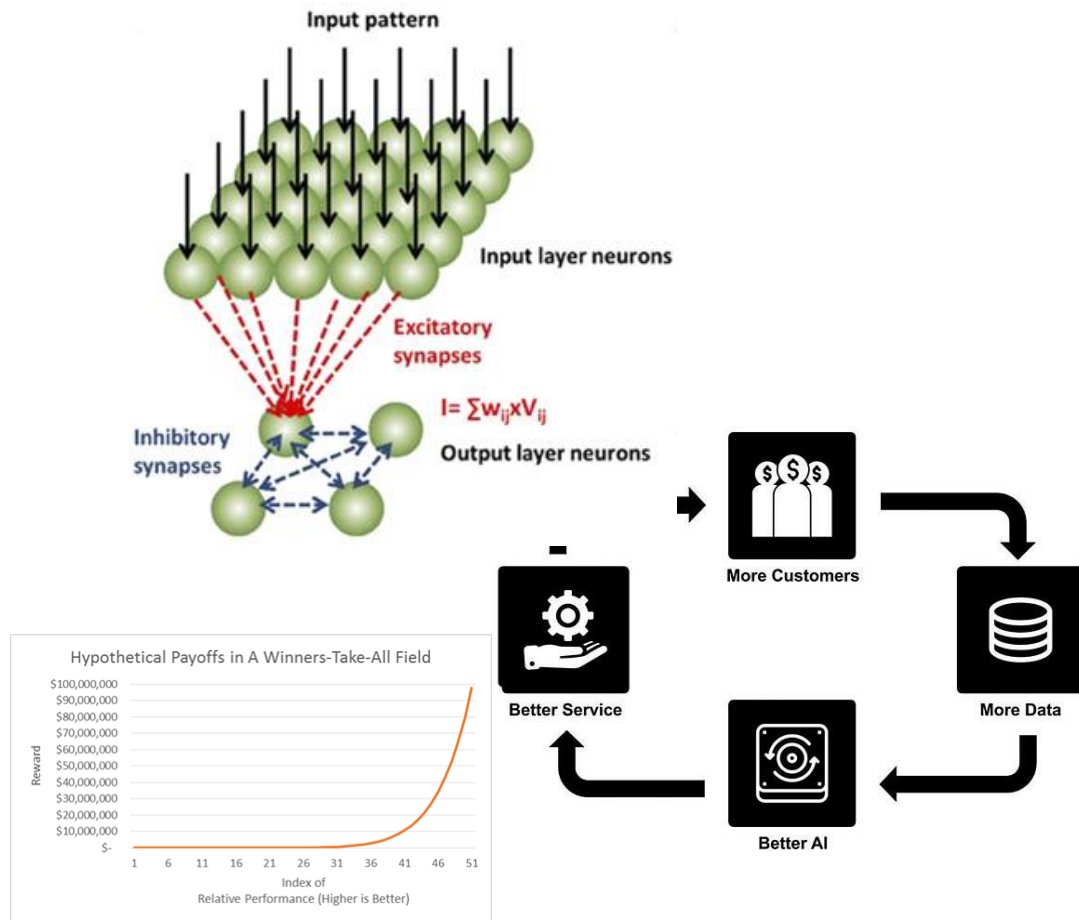
The **Owner**



“AI technologies can place further distance between the result of an action and the actor who caused it, raising questions about who should be held liable and under what circumstances. These principles call for reliable resolutions to those questions.” (Fjeld, et.al., 2020:34)

<https://www.datasciencecentral.com/profiles/blogs/ai-responsibility-taming-the-algorithm>

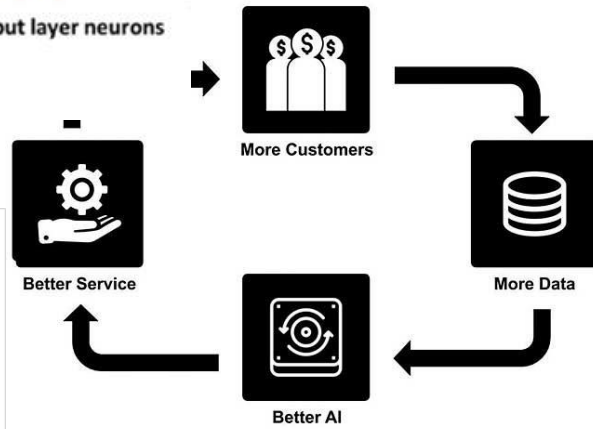
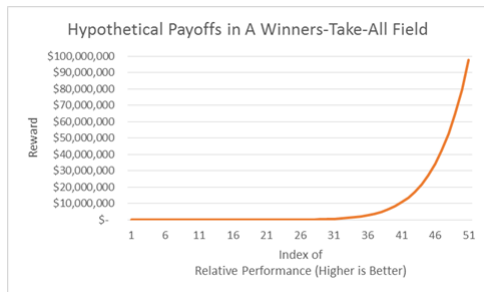
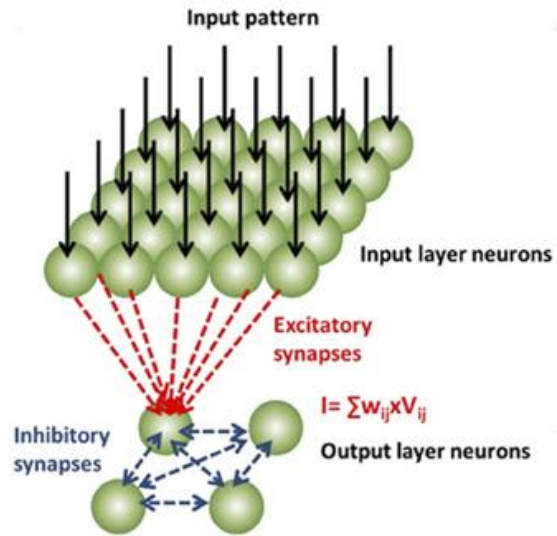
# Winner Takes All



“How can the data-based monopolies of some large corporations, and the ‘winner-takes-all’ economies associated with them, be addressed? How can data be managed and safeguarded to ensure it contributes to the public good and a well-functioning economy?” (Eckersley, et.al., 2017)

<https://blogs.darden.virginia.edu/brunerblog/2014/03/when-winners-take-all/>

# Winner Takes All



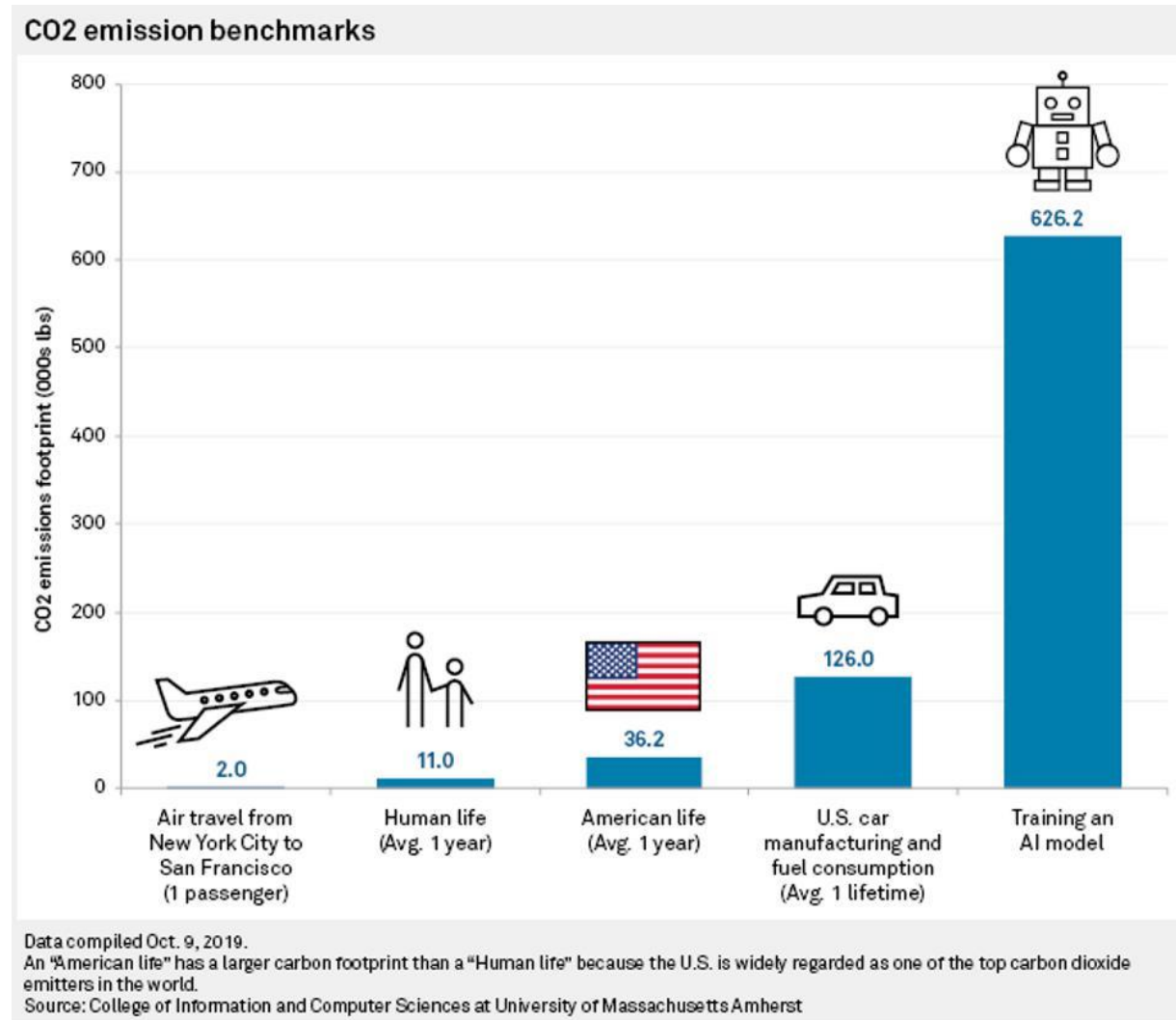
- Focus on relative performance
- Concentration of rewards
- Overcrowding (aka wannabees)
- Mass markets
- Network effects
- Lock-in and barriers to exit
- Feedback loops

<https://blogs.darden.virginia.edu/brunerblog/2014/03/when-winners-take-all/>

# Environmental Impact

“AI-based systems are highly compute-intensive. They must process a great deal of data, expanding the need for servers and dependence on energy to cool data centers.”

<https://www.forbes.com/sites/glenn-gow/2020/08/21/environmental-sustainability-and-ai/>



# Safety

The impact on safety could be direct, as in the Uber case, or indirect, as in the case of misleading content.

- Inadequate safety culture
- Misdiagnosis and Errors
- Blind spots
- Patterns of behaviour
- Vulnerability to attacks
- Compliance and Regulation

