Data Ethics and Some Gender(ed) Ideas

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What are we talking about
when we are talking about ethics?

Ethics is a bicycle brake on an intercontinental plane (Ulrich Beck).
I disagree.

Ethics asks
- what „innovation" means
- how we organize the connection between AI and society
- how principles that are important for a democratic society
  can be translated into a digital democratic society

(e.g. privacy, autonomy, protectiom from surveillance, fairness,   justice, accessibility, protection from harm…)
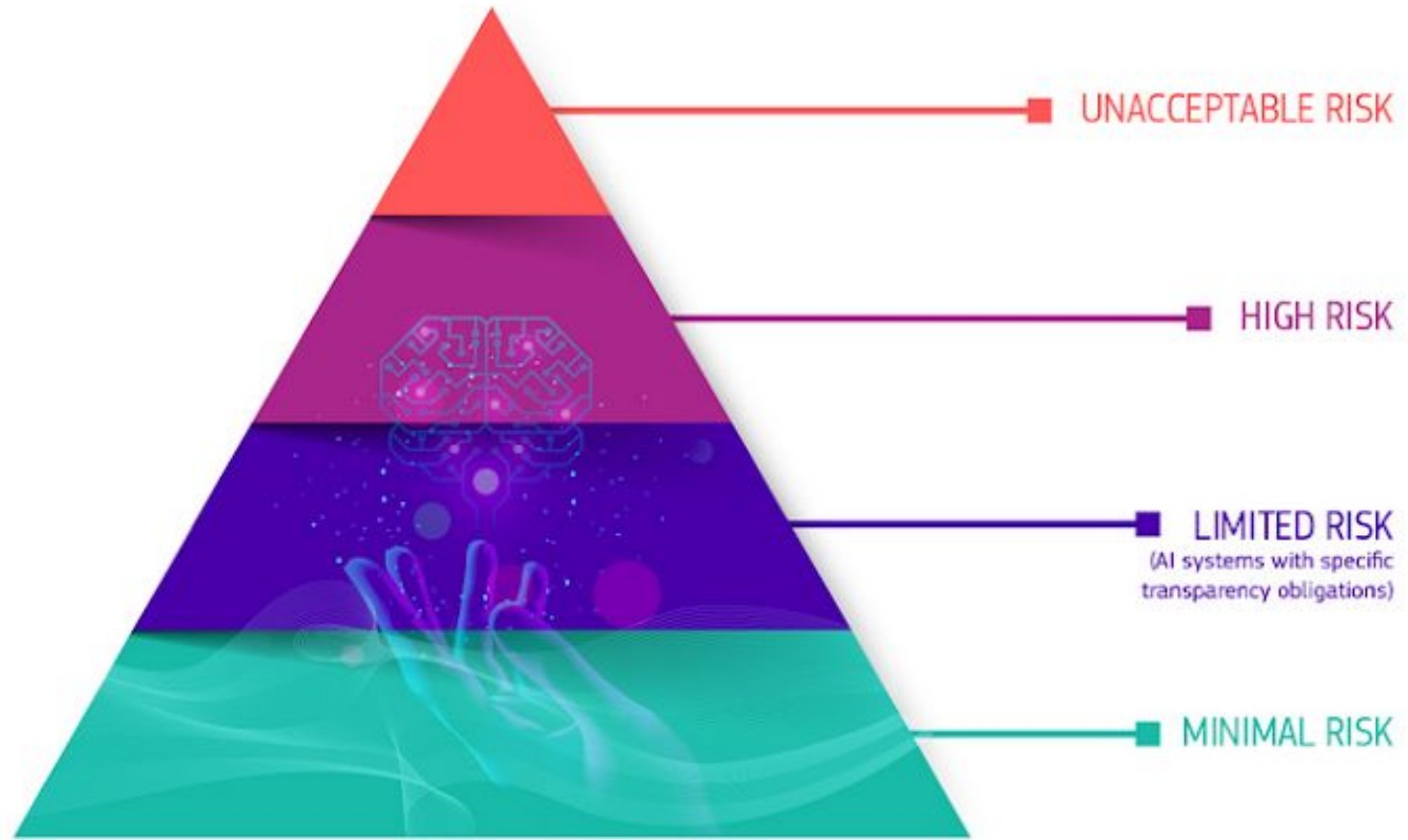
Ethics:

no distrust in innovation

but

distrust in a mindset of „move fast and break things".

Ethics means that we strive for a digital future that cares what and who could get broken on the way.

UNACCEPTABLE RISK

HIGH RISK

LIMITED RISK
(AI systems with specific transparency obligations)

MINIMAL RISK

https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/excellence-trust-artificial-intelligence_de#vertrauensbildung-durch-ersten-ki-rechtsrahmen-berhaupt
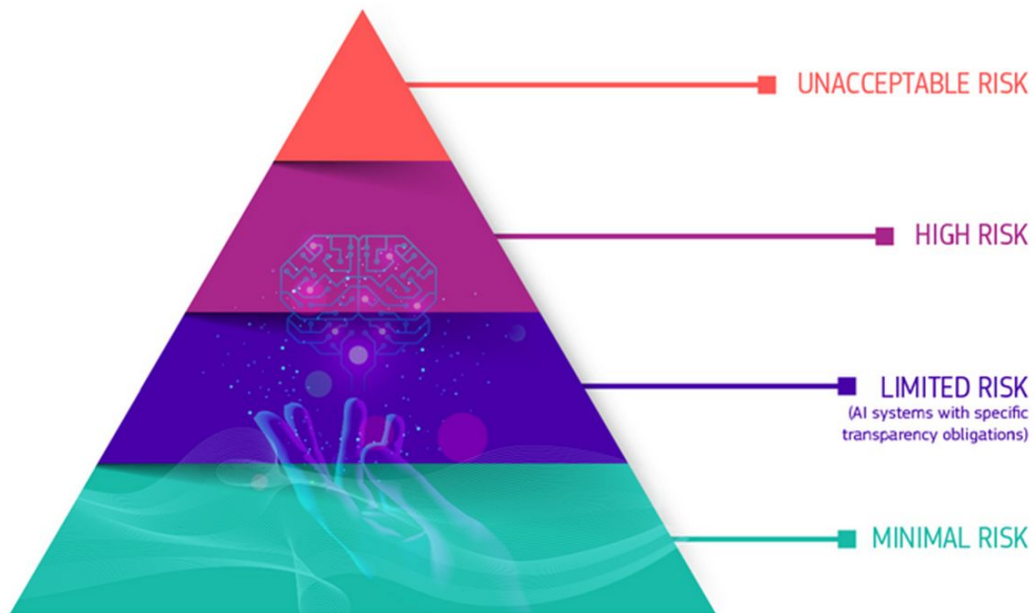
- **Unacceptable risk** – banned: e.g. threat to user's life or health; manipulation (especially of vulnerable persons)…

- **High risk**: e.g. critical infrastructures, security components of products (e.g. surgical robots), central services (credit checks)…

- **Limited risk**: e.g. chatbots (freedom of use is given)…

- **Minimal risk**: AI-supported video games or spam filters…
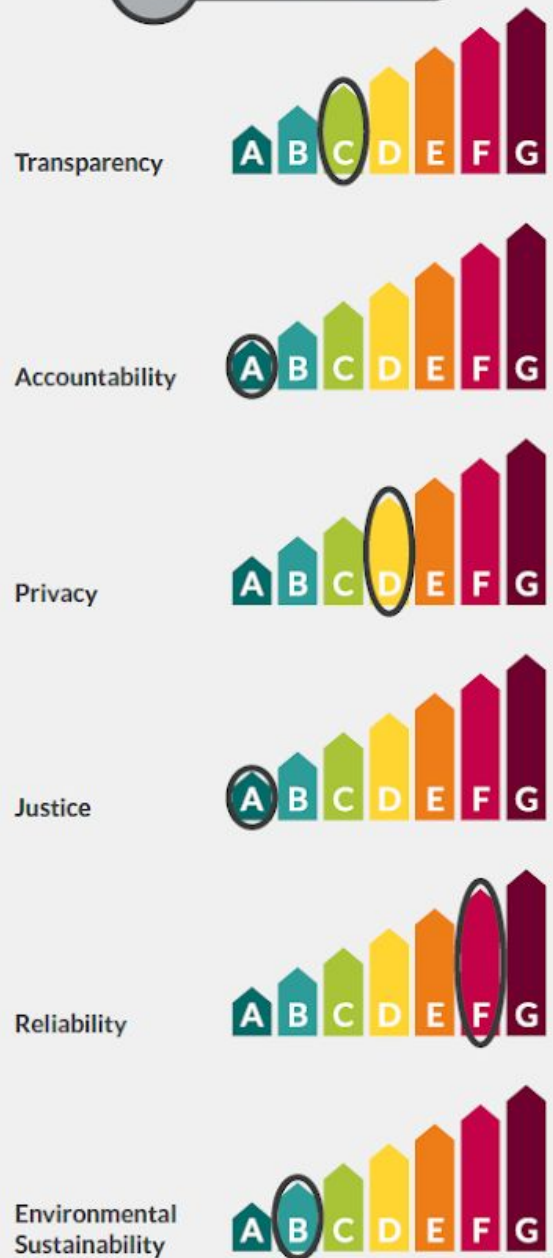
Operationalizing Values
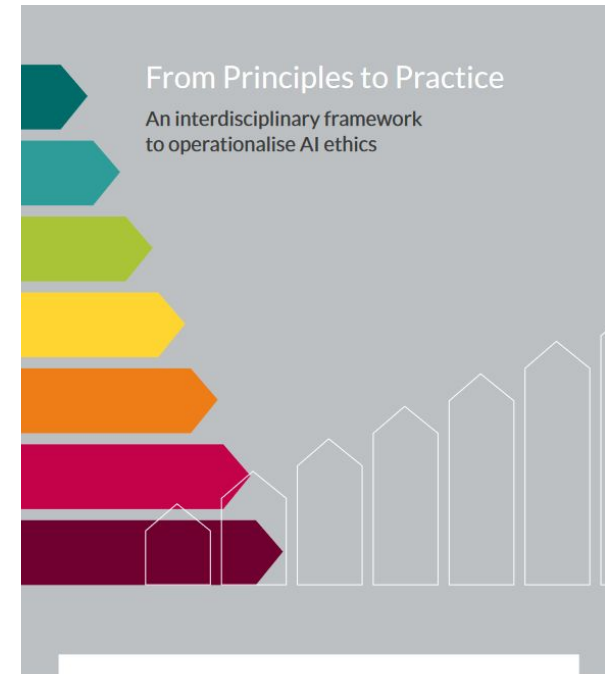
What are we talking about when we are talking about gender?

- "Gender" examines the appearances and effects of gender relations inscribed in societal, institutional, technical, religious and other contexts.

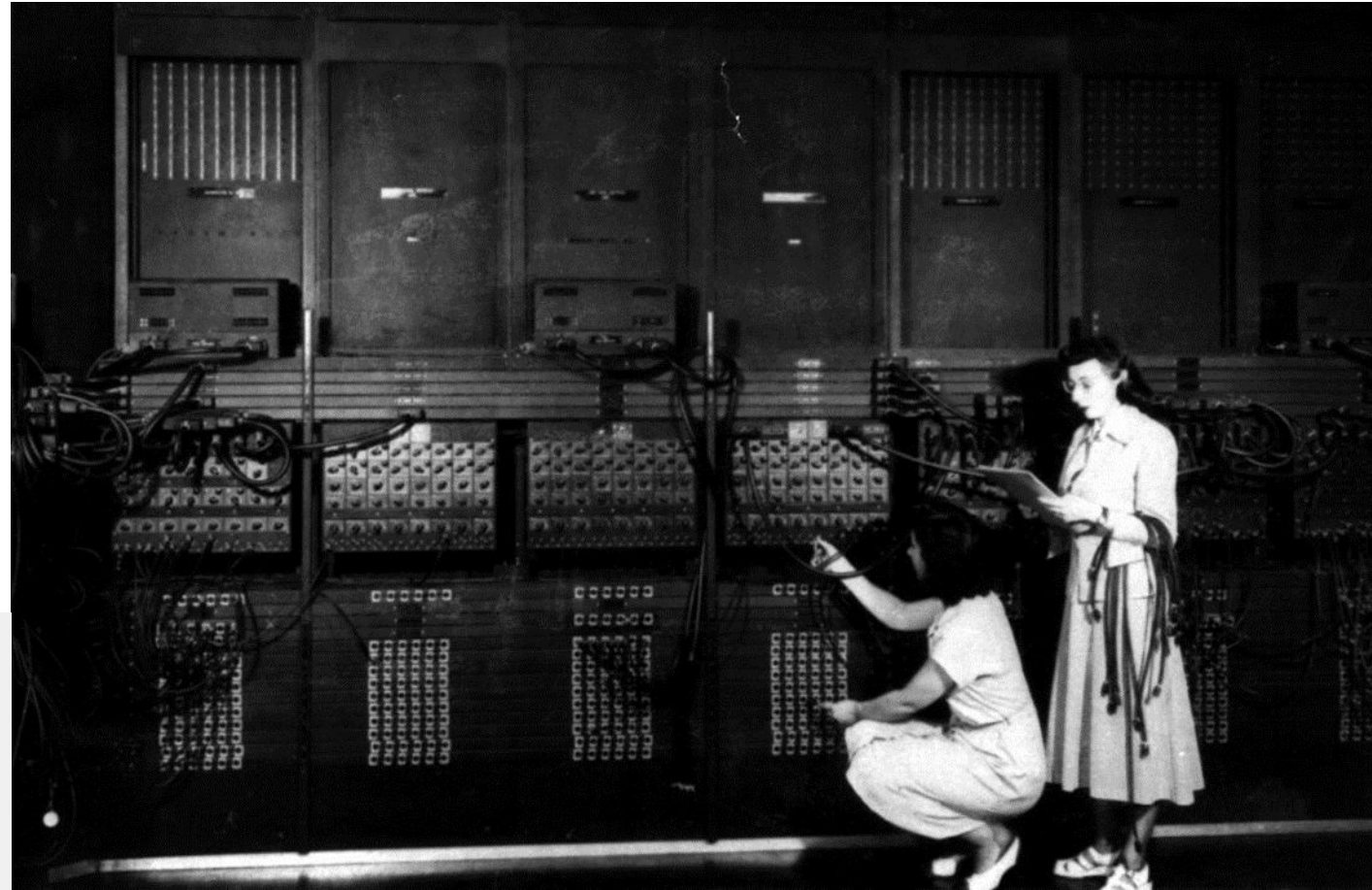- AI research, the AI industry and AI implementations do have a gender problem.

„Siri" means: beautiful woman guiding you to victory

AI's Gender Problem:
- structural gap
- representation gap
- justice gap

1. Structural Gap [Equality]
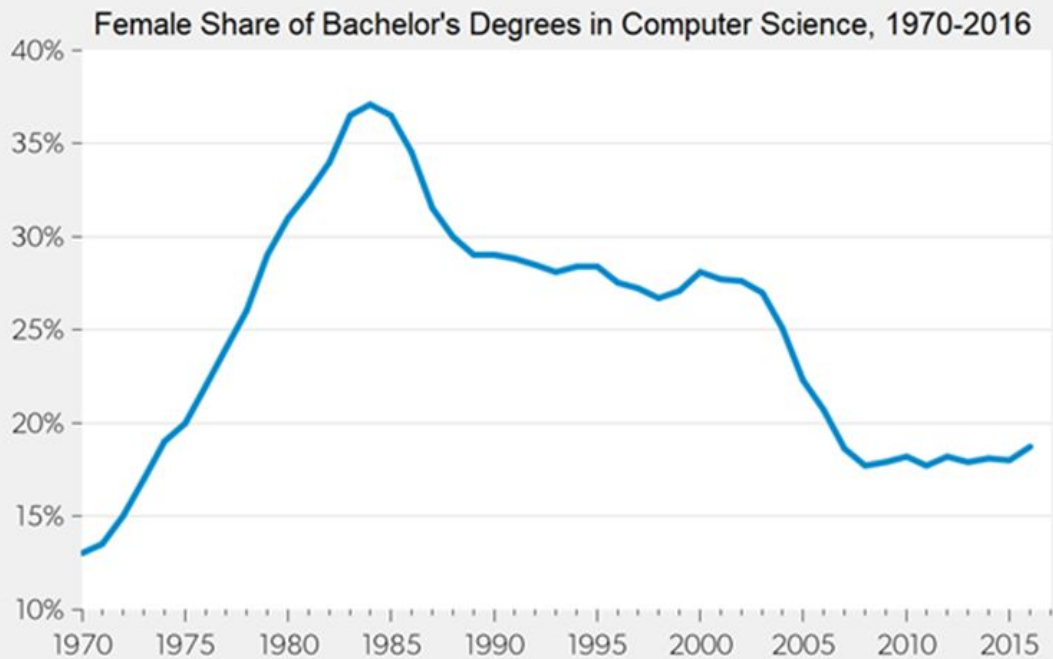
Two women wiring the right side of the ENIAC with a new program, ca. 1946. Courtesy US Army. Standing: Marlyn Wescoff, Crouching: Ruth Lichterman.
https://behindthescenes.nyhistory.org/computers-womens-work/

Female Share of Bachelor's Degrees in Computer Science, 1970-2016

Source: US Department of Education

WEF: Global Gender Gap Report

WEF 2018:

22% of AI professionals globally are female.

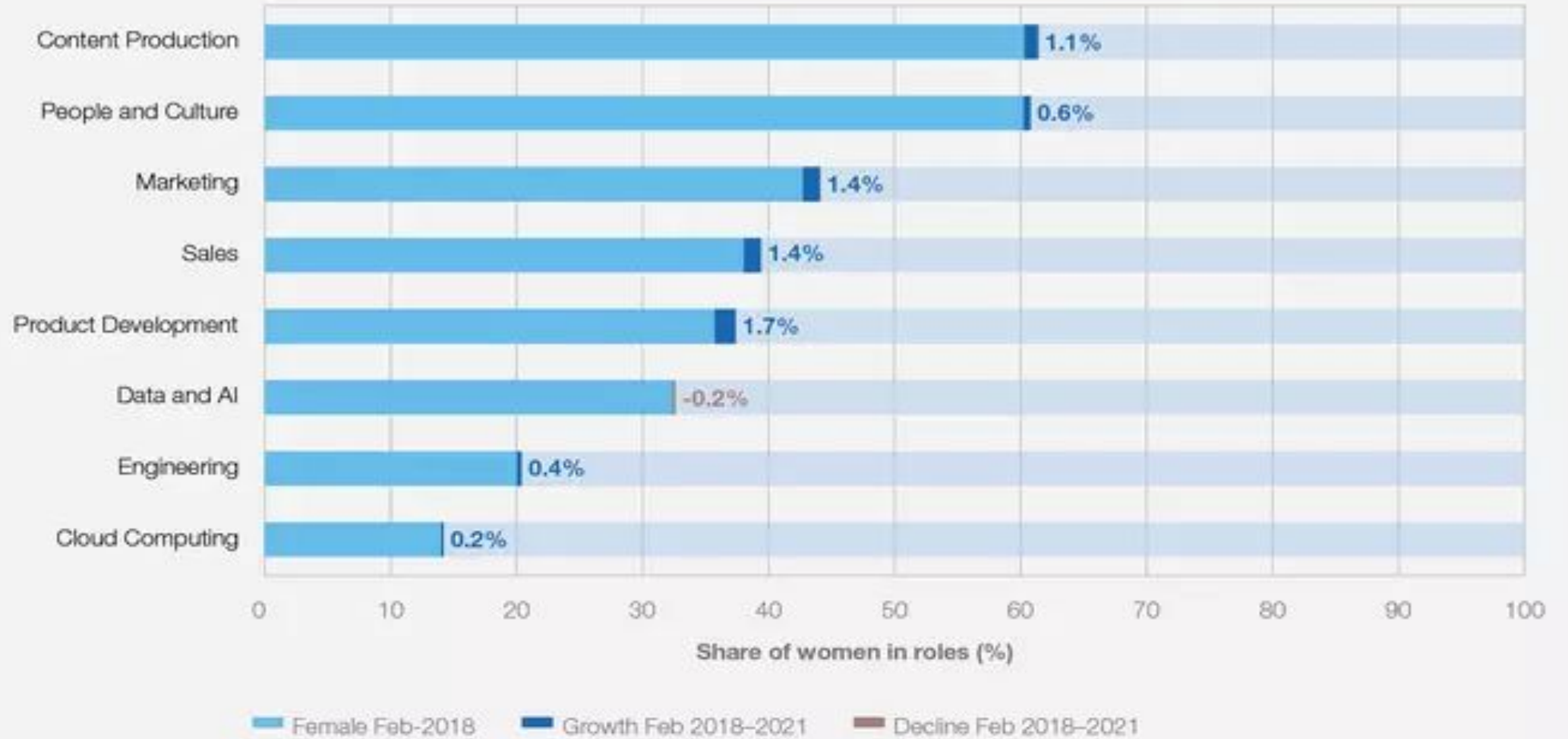Share of professionals with AI skills, by gender and geography in "AI Nations":

1. USA   f 23%   m 77%
2. India   f 22%   m 78%
3. Germany   f 16%   m 84%

…..

10. UK   f 20%   m 80%

…

14. Brazil   f 14%   m 86%
19. Mexico f 15%   m 85%

FIGURE 3.2 Change in gender composition of emerging jobs, February 2018–February 2021

Share of women in roles (%)

- Female Feb-2018
- Growth Feb 2018–2021
- Decline Feb 2018–2021

https://es.weforum.org/publications/global-gender-gap-report-2021/in-full/gggr2-gender-gaps-in-jobs-of-tomorrow/

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- „Data and AI": 74% of all employees are men (*WEF 2020*).

- „Cloud Computing": 92% of all employees are men (*WEF 2020*).

- 13.83 percent of **AI paper authors** are women, the proportion of AI papers co-authored by at least one woman has not improved since the 1990s. (repository arXiv 1,372,350) (*Nesta Foundation*)

- The percentage of new **female tenure-track faculty** has remained largely constant at slightly over 21 percent (*AI Index Report 2019)*.

- **Start-ups**: For every £1 of venture capital investment in the U.K., all-female founder teams get less than 1 pence. All-male founder teams get 89 pence. (*UK VC & Female Founders report, Nov 2020)*

Gender / Intersectionality / „Diversity"

- "The number of women and people of color decreased at the same time that the tech industry was establishing itself as a nexus of wealth and power."
  West, Whittaker, Crawford (2019), Discriminating Systems, AI Now, 11.

- AI Paradox: Countries with the highest level of gender equality are among those with the lowest proportion of women in ICT.
  UNSECO 2022

- **Equality is not only an ethical consideration; it also affects the quality of products and the economic strength of a nation.**
  https://dobetter.esade.edu/en/women-ai

„Pipeline Problem"

Approx. 50% of women leave the field after 10-15 years
(lack of promotion opportunities,
unequal pay,
lack of flexibility,
lack of support,
management styles,
cultural stereotypes,
prejudices)

Computer Engineer Barbie

Structural Gap:

Equality / diversity are important

…but

- we need to consider the contexts.

 - not everybody speaks for the group somebody ascribes to them.

 - the burden for establishing structural justice should not be shifted to those who are burdened by discrimination.
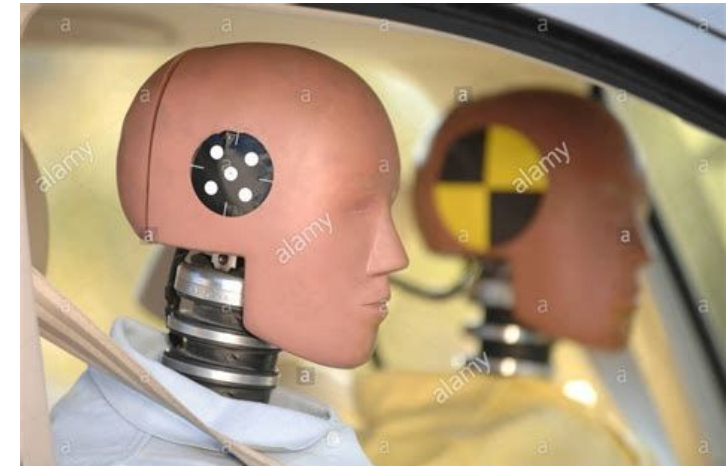
2. Representation Gap [Difference]

Gender data gap / Female representation gap:

Women/minorities are
- not represented
- underrepresented
- misrepresented in data sets

"If your big data is corrupted by silences, the truths you get are half-truths, at best."
Caroline Criado Perez (2019), Invisible Women, XII.

more data, better data, comprehensive data

☐privacy issues; „paradox of exposure"

„…those who stand to significantly gain from being counted could also be in the most danger from the sam é counting and classifying act". (Eubanks, 105)

3. Justice Gap / Bias

New problems: widespread risk of bias/discrimination

- predictive policing

- job advertisements and hiring

- natural language processing

- face recognition

- prevention of welfare fraud and child neglect/abuse;

  o Poor parents are oversampled, poor children overtargeted. Automized welfare models are in danger to „confuse […] parenting while poor with poor parenting". (Eubanks 2017, 158)

Technical solutions (DADM, FAccT…) / „fair AI" are important.

But

- Mostly a definition of bias is used that can easily be operationalized technically (e.g. biased distribution of error rates for a single variable).
- Structural/indirect discrimination is hard to be recognized by "fair AI".

Manipulated images

The video falsely shows the Ukrainian President telling his forces..

Old problems, new scale:

- Societal problems can be exacerbated by digital technologies

e. g. **deepfakes**

- 96% of randomly chosen online videos with deepfake components had pornographic content, many with face swaps of women whose faces you would recognize.

(https://regmedia.co.uk/2019/10/08/deepfake_report.pdf)

To Wrap It Up

- „Women will catch up."

- "The WEF report highlights the message to policy-makers that countries that want to remain competitive and inclusive will need to make gender equality a critical part of their nation's human capital development."

- Gender questions are not only about gender. They are exemplary for questions that arise in a diverse and democratic society. They can be rethought as questions about children and the elderly, about race, class, ethnicity and disabilities.

Innovation

- is a societal and economic necessity

- is not a single product or a lot of single products

- is a process that involves **research on AI and on society,** involving **diverse groups of researchers and representatives from society.**

from deepdreamgenerator
prompt: Female Researchers in AI

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