

AI Ethics & Governance: Landscape and Priorities

Mission-Oriented AI: Beyond Ethics, Towards Sustainability

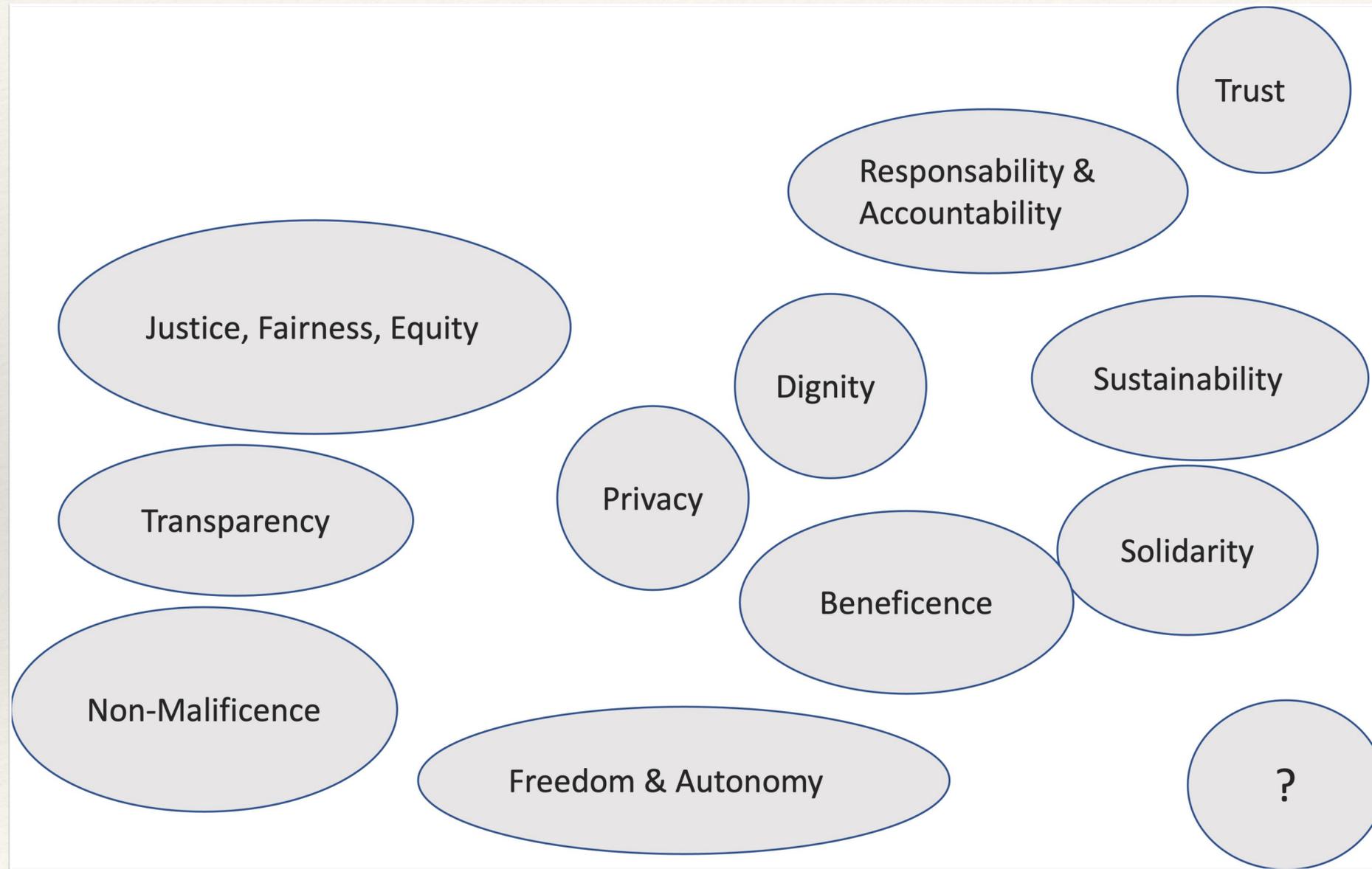
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- ❖ How are AI ethics being discussed in 2022
- ❖ AI Governance: critical questions in AI development and deployment, data governance and the evolving regulatory landscape
- ❖ AI for SDGs: AI and social economic inequalities, critical issues in digital democracies and risks to avoid in digital economies
- ❖ The social, geopolitical and security implications of AI, priorities and recommendations
- ❖ Case Study of AI in Mining / Discussion

Ethical Values in AI Guidelines



Overarching ethical values and principles

1. Transparency
2. Justice, Fairness, Equity
3. Non-Malificence
4. Responsibility and Accountability
5. Privacy
6. Beneficence
7. Freedom and Autonomy
8. Trust
9. Sustainability
10. Dignity
11. Solidarity

Whose Values? What Priorities?

Of 84 documents containing ethical guidelines:

- ❖ 22.6% produced by private sector *vs* federation of worker union 1.2%
- ❖ 40.5% produced by USA and UK *vs* African and 0 by Latin American countries
- ❖ 32.1% say multistakholder *referring to public-private partnerships (not PPP)*

Of 100 highly cited ML papers published at premier ML conferences, ICML and NeurIPS:

- ❖ Performance, efficiency, simplicity, etc. rank highest.
- ❖ Privacy, non-maleficence, justice, bias etc. rank lowest.

“... demonstrate the strong interest of these stakeholders to shape the ethics of AI in ways that meet their respective priorities. The private sector’s involvement in the AI ethics arena has been called into question for potentially using such high-level soft policy as a portmanteau to either render a social problem technical or to eschew regulation altogether.”

Global Landscape of AI Ethics, Anna, Jobin, Marcello Ienca, Effy Vayena, September 2019

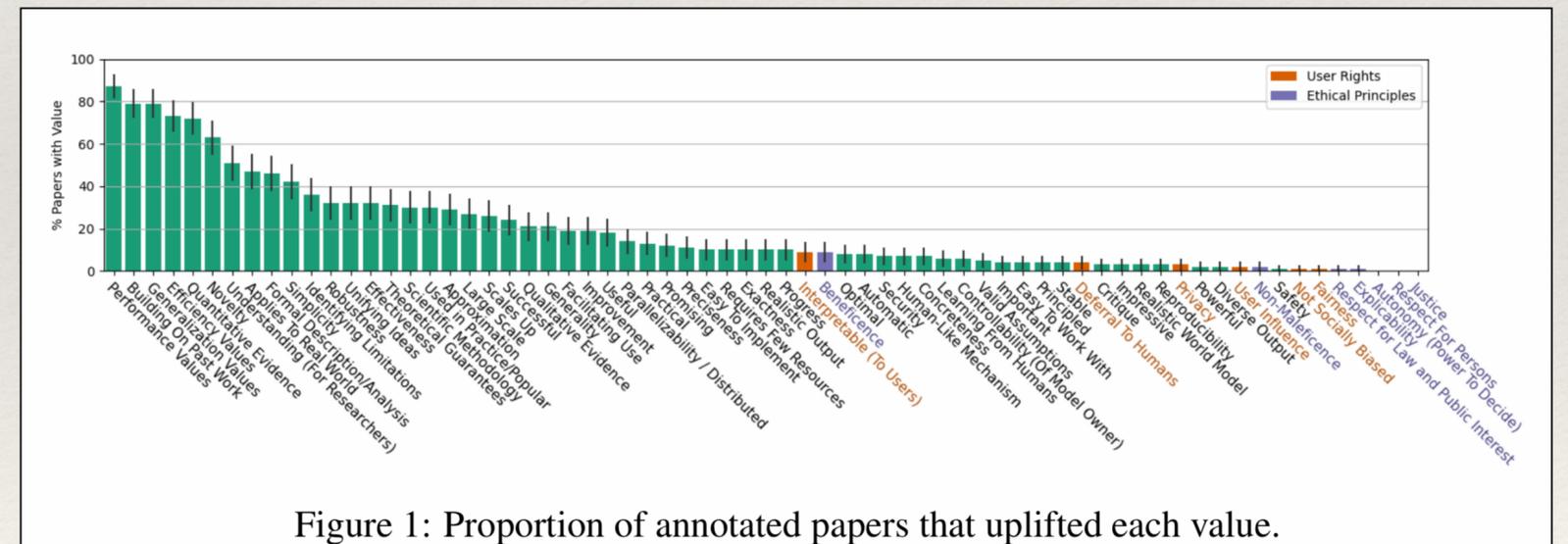


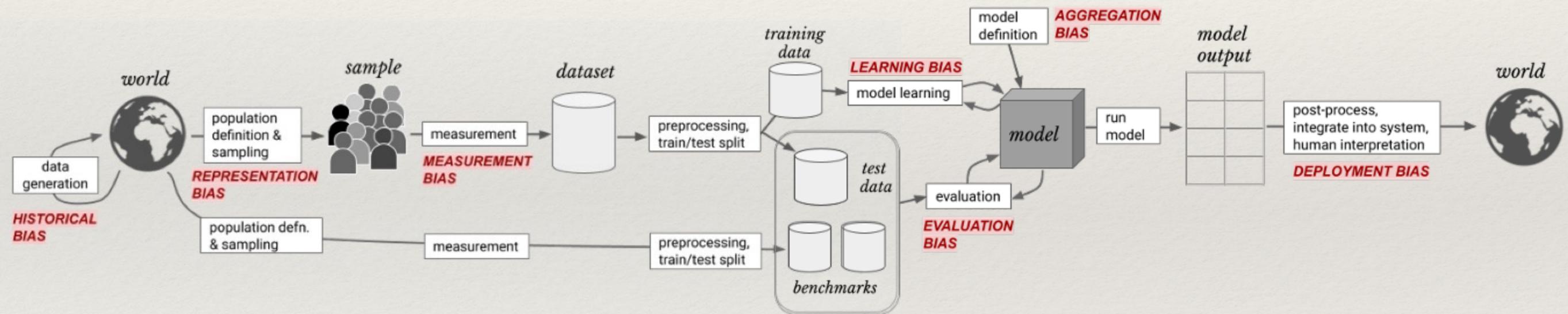
Figure 1: Proportion of annotated papers that uplifted each value.

The Values Encoded in Machine Learning Research, Birhane et al., June 2021

AI Ethics

Micro-Ethics

Macro-Ethics



A Framework for Understanding Sources of Harm throughout the Machine Learning Life Cycle, Suresh and Gutttag, June 2021

Granular Analysis: data to model

Micro-Ethics

Focus on the data used to train AI models and the algorithmic model development:

- Data collection, annotation, preparation
- Ownership and rights to use the data (laws versus data sovereignty)
- Model validation and monitoring (biases can be induced by the data and by the algorithmic design).

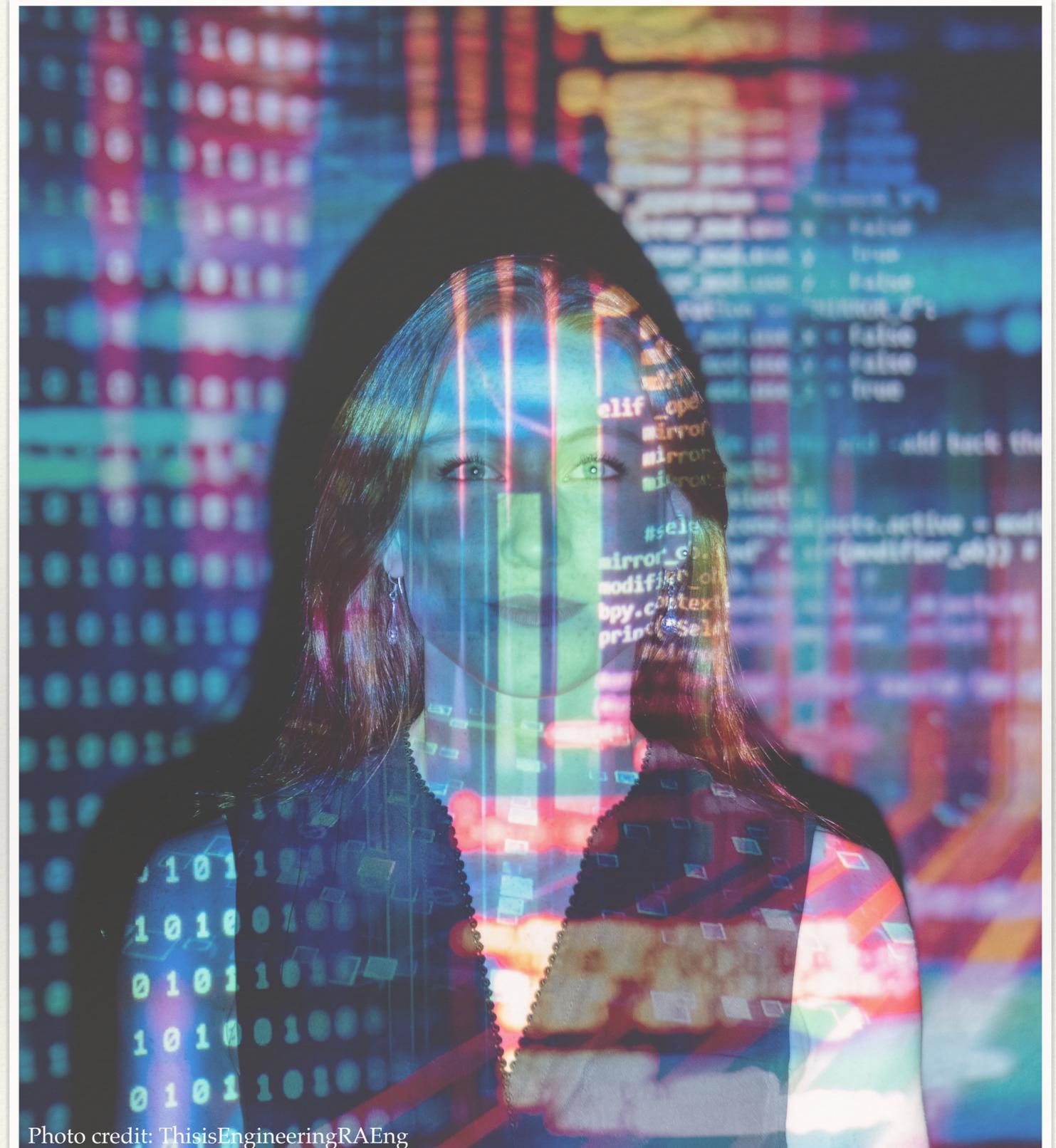


Photo credit: ThisisEngineeringRAEng

Context Analysis and Systemic Solutions

Macro-Ethics

Focus on the social, economic and political impacts of AI and Data Governance:

- Bias in Data or AI model can cause large scale impact on entire communities and genders
- Digital Gap is creating Digital Monopolies
- Gender Equality in Digital Economy
- Digital Democracy, Geopolitics & National Security
- Human Rights and Sustainable Development Goals



Photo credit: Dion Beetson

Photo credit: Allan Wadsworth

Macro-Ethics Problems require Systemic Solutions

*The scope of advantage AI will bring
depends on the social, political system & the investment environment
it is deployed in.*



The 2022 Digital Landscape

1. Digital economy has grown 40% faster than Canada's overall GDP over the past 10 years.
2. The monthly global data flow is estimated to more than triple by 2026.
3. By 2030, the application of AI in agriculture, energy, transportation, and water management -alone- would result in gross domestic product (GDP) growth of 4.4%.
4. Warnings of Digital Monopoly were expressed already in 2016 by the World Bank.
5. Socioeconomic inequalities and the digital gap are reinforcing existing inequalities.
6. Weak alignment between the prioritization of Science, Technology and Innovation (STI) initiatives and the distribution of the societal benefits they bring (UNDESA).
7. This divide disproportionately affects women globally *“The digital ecosystem is reflecting and amplifying gender inequalities in society”*.
8. The deepening of socioeconomic inequalities is a contributing factor to *distrust in democratic institutions and the fractioning of societies*.
9. Socioeconomic inequalities are fertile ground for the Information War, a national security issue.

Civil Society, Trust and National Security

Cyberwars, and cyberattacks such as foreign interference aimed at identifying divisive events and trends to undermine liberal democratic norms and values, are made possible by the weakening of “*generalized trust which enables complicated market interactions, community involvement, and trade and cooperation among states*” . *A World Without Trust*, Jacquelyn Schneider, Foreign Affairs 2022

Russia

56. **Russia is a highly sophisticated cyber threat actor.** Russia engages in malicious cyber threat activity, including *** cyber espionage and foreign interference, to support a wide range of strategic intelligence priorities. These include:

- foreign and military intelligence collection against diplomatic, economic and military targets, including private sector entities and academic institutions;
- reconnaissance of critical infrastructure industrial control systems and telecommunications providers; and
- **identification of divisive events and trends in rival states to conduct influence campaigns and undermine liberal democratic norms and values.**⁷³



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Priorities: Global Collaboration Required

1. The global **alignment** between the economic, social, environmental dimensions of AI and data-driven economies must be strengthened.
2. Cybersecurity strategies must focus on resilient **trust** in institutions. Undermining **sovereign governance** weakens a “generalized trust which is necessary to enable complicated market interactions, community involvement, and trade and cooperation among states”.
3. CSR, ESG, DEI plans must support, with budgets, **Civil Society Organizations**’ independent initiatives in data and AI, development, and governance.
4. New mechanisms to facilitate the exploration of **consensus** around the governance of the commons in digital economies are critical.
5. Prioritize **equal opportunity** for women to participate in AI development and governance, and will benefit equally from Digital Economies
6. Focus on measuring the **impacts** of AI on society, on the planet. **Measure**, measure, measure.



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Operating Environment :

Trust in AI and institutions & policy and regulatory design.

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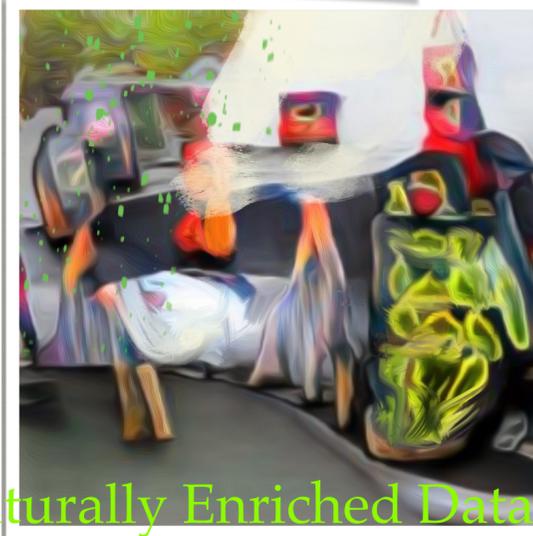
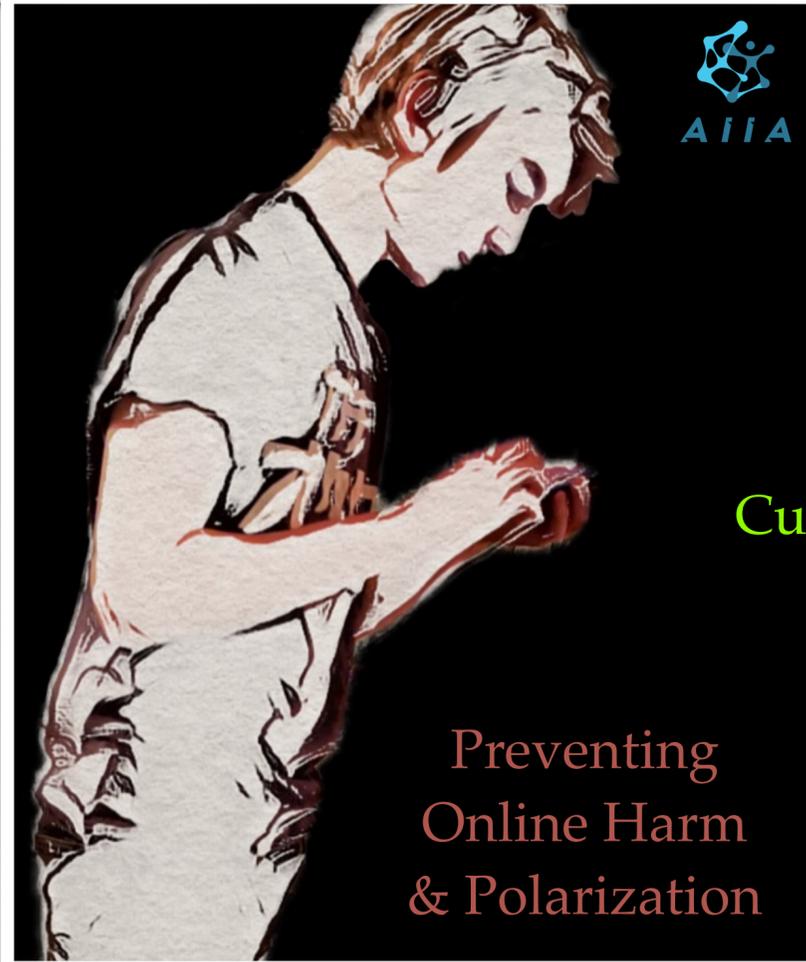
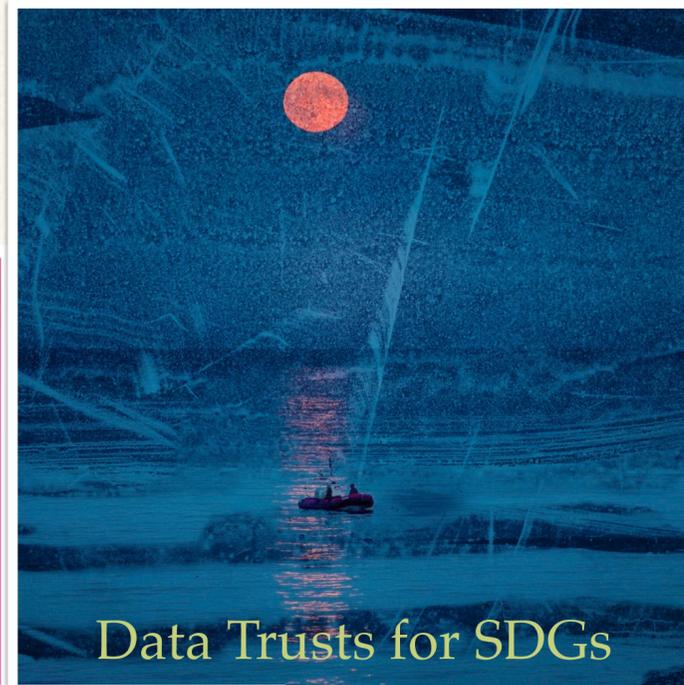
- ❖ Design Civic Engagement mechanisms.

- ❖ Build capacity through creative knowledge and learning approaches.

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- ❖ Inform AI Policy that reflects the values of different communities and sectors.

- ❖ Provide analysis and recommendations of emerging regulatory frameworks on AI and Data Governance.

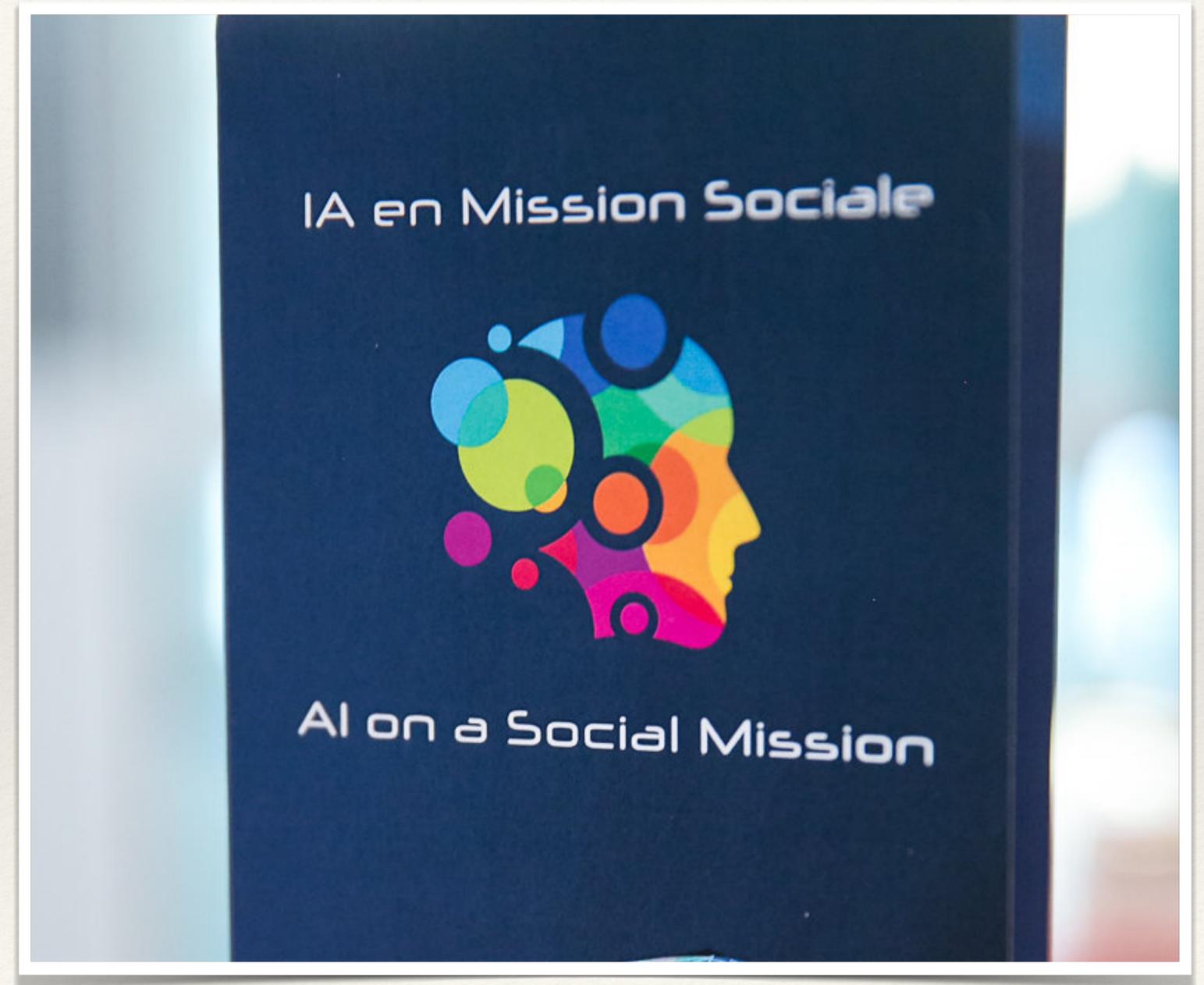


Benefits of STEAM in AI

- ❖ Contribute to algorithmic literacy (technical and social)
- ❖ Interrogating the ethical, social and legal dimensions of AI and finding solutions in real time
- ❖ Supporting democratic understanding and adoption
- ❖ Social contract/legitimacy and social relevance
- ❖ Promotes engagement, critical thinking, problem solving and innovation
- ❖ Increases dialogue, iteration with society
- ❖ Facilitates communication between social and technical disciplines

AI with a Social Mission

- ❖ Critical Issues in AI ethics, Policy and Governance
- ❖ In-Depth, constructive discussions
- ❖ Global High-Level Experts
- ❖ Cross-Sectoral & Multidisciplinary
- ❖ Onboarding Design that ensures inclusive and diverse perspectives



You & AI Game

The You & AI Board Game is a serious game on the political economy of AI.



Photo credit: Joshua Hoehne

Case Study 1

AI in Mining:

- ❖ Kobold Metals and Shanxi Coal Mine Safety
- ❖ Patent Ownership Distribution



Photo credit: Dion Beetson

Thank you!

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