



The Ethics of AI and Data in Higher Education

Suchith Anand , Kathryn Bailey, Sabina Leonelli, Stephan Guttinger

“Datafication” - the process through which human activities leave a digital trail

(Beaulieu and Leonelli 2021, Data and Society: A Critical Introduction, SAGE, p.3)



The
Ethical
Data
Initiative

The rise of big data platforms raises many ethical questions

How to protect human rights in big data platforms?

Who owns the data?



The
Ethical
Data
Initiative

How digital feudalism hurts farmers

Data Values Digest #29



Suchith Anand and Kathryn Bailey
May 25, 2022



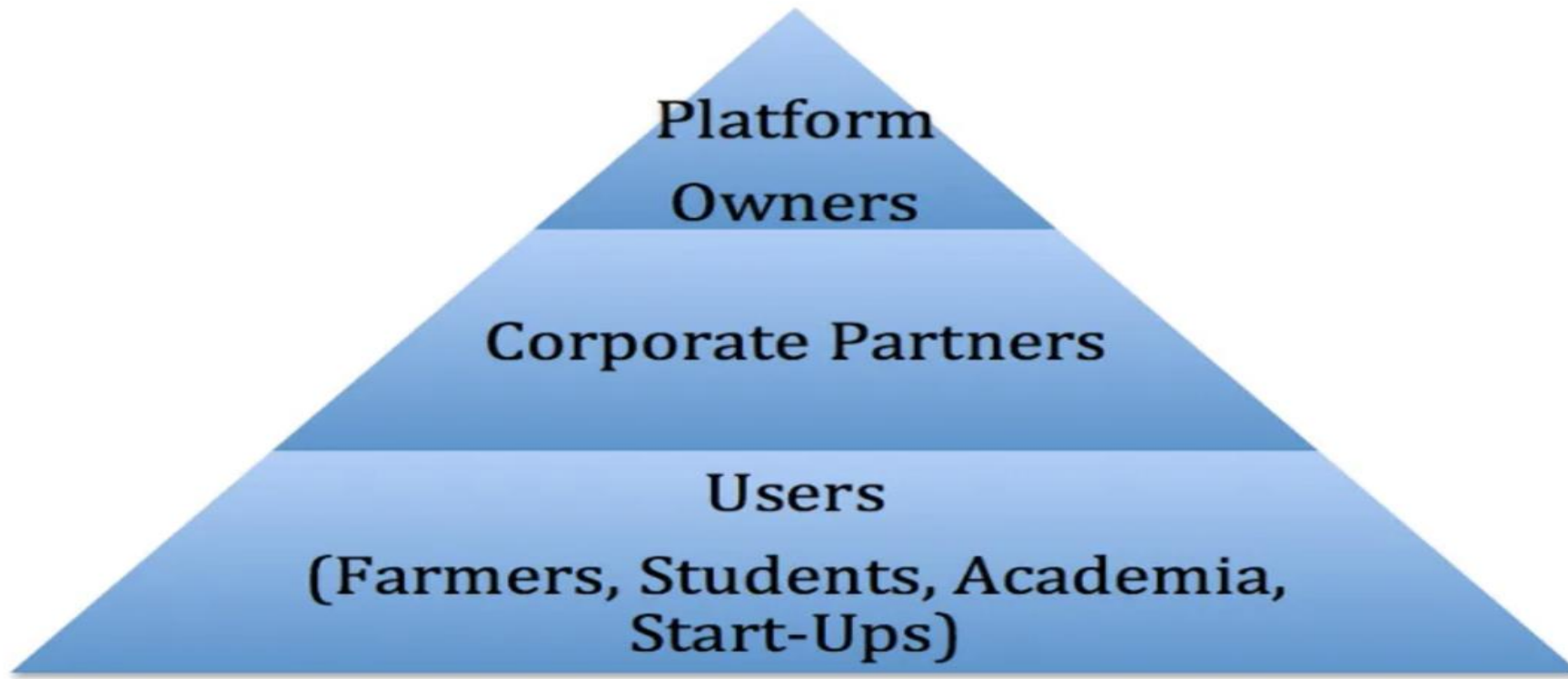
Indian women planting crops. Credit: [Shyamalamuralinath](#) on Shutterstock.

<https://datavaluesdigest.substack.com/p/how-digital-feudalism-hurts-farmers>



The
Ethical
Data
Initiative





Digital Feudalism class structure: Generally speaking, privately-owned digital service providers have morphed into digital landowners, where the trade-off is user data (of little value on its own but invaluable once collected at scale and aggregated) in exchange for access to technologies and services.



The
Ethical
Data
Initiative

Examples of initiatives

W3C SDWWG – Responsible Use Guide

ODI Data Ethics Canvas

RICS (UK)

CODATA – Data Ethics Working Group (in progress)

Geonovum – Ethical Framework

SDSN TRenDS – Contracts for Data Collaboration

Omidyar Network - Ethics Explorer

URISA / GISCI (USA)

SSSI (Australia & NZ)

ASPRS (USA)

Locus Charter (Benchmark Initiative & EthicalGEO)

Data Values Manifesto (GPSDD)



The
Ethical
Data
Initiative





LOCUS CHARTER

FEBRUARY 2021

The Locus Charter is a proposed set of common international principles to support ethical and responsible practice when using location data.



OUR VISION

A world where location data is utilized for the betterment of the world and all species that live in it.

WHO WE ARE

An international collaboration of governments, organizations and



LOCUS CHARTER

The Locus Charter proposes that wider, shared understanding of risks and solutions relating to uses of location data can improve standards of practice, and help protect individuals and the public interest. We hope the Charter can improve understanding of risk, so those can be managed, and the many benefits of geospatial technologies can be realized for individuals and societies.

“Locus” is the Latin word for “place.”



The
Ethical
Data
Initiative

FOUNDING PRINCIPLES

#1

REALIZE OPPORTUNITIES:

Location data offers many social and economic benefits, and these opportunities should be realized responsibly.

#2

UNDERSTAND IMPACTS:

Users of location data have responsibility to understand the potential effects of their uses of data, including knowing who (individuals and groups) and what could be affected, and how. That understanding should be used to make informed and proportionate decisions, and to minimize negative impacts.

#3

DO NO HARM:

Physical proximity amplifies the potential harms that can befall people, flora and fauna. Data users should ensure that the individual or collective location data pertaining to all species should not be used to discriminate, exploit or harm. Rights established in the physical world must be protected in digital contexts and interactions.

#4

PROTECT THE VULNERABLE:

Vulnerable people and places can be disproportionately harmed by the misuses of location data, and may lack the capacity to protect themselves. In these contexts, data users should take additional care, act proportionately, and positively avoid causing harm.

#5

ADDRESS BIAS:

Bias in the collection, use, and combination of location datasets can either remove affected groups from mapping that conveys rights or services, or amplify negative impacts of inclusion in a dataset. Therefore care should be taken to understand bias in the datasets and avoid discriminatory outcomes.

#6

MINIMIZE INTRUSION:

Given the intimate and personal nature of location data, users should avoid unnecessary and intrusive examination of people's lives and the places they live in, that would undermine human dignity.

#7

MINIMIZE DATA:

Most business and mission applications do not require the most invasive scale of location tracking available in order to provide the intended level of service. Users should comply with practices that adhere to the data minimization principle of using only the necessary personal data that is adequate, relevant and limited to the objective, including abstracting location data to the least invasive scale feasible for the application.

#8

PROTECT PRIVACY:

Tracking the movement of individuals through space and time gives insights into the most intimate aspects of their lives. In the rare cases when aggregated and anonymized location data will not meet the specific business or mission need, location data that identifies individuals should be respected, protected, and used with informed consent where possible and proportionate.

#9

PREVENT IDENTIFICATION OF INDIVIDUALS:

As an individual's mobile location data is situated within more and more geospatial context data, its anonymity erodes, measures should be put in place to prevent subsequent use of the data resulting in identification of individuals or their location.

#10

PROVIDE ACCOUNTABILITY:

People who are represented in location data collected, combined and, used by organizations should be able to interrogate how it is collected and used in relation to them and their interests, and appeal those uses proportionate to levels of detail and potential for harms.



The
Ethical
Data
Initiative



Data governance matters

Data need to be cared for in the long term

Data quality needs to be checked

A variety of stakeholders and expertises is typically required to interpret data for new purposes

Data are easily traded and commodified, but this can create social problems

- e.g. breaches of human rights, privacy and confidentiality; exploitation of local knowledge and erasure of data contributors from downstream uses



The
Ethical
Data
Initiative



OCTOBER 30, 2023

Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence



▶ BRIEFING ROOM

▶ PRESIDENTIAL ACTIONS

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Purpose. Artificial intelligence (AI) holds extraordinary potential for both promise and peril. Responsible AI use has the potential to help solve urgent challenges while making our world more prosperous, productive, innovative, and secure. At the same time, irresponsible use could exacerbate societal harms such as fraud, discrimination, bias, and disinformation; displace and disempower workers; stifle competition; and pose risks to national security. Harnessing AI for good and realizing its



[Headlines](#) / [Society](#) / [EU AI Act: first regulation on artificial intelligence](#)

EU AI Act: first regulation on artificial intelligence

Society Updated: 19-12-2023 - 11:45
Created: 08-06-2023 - 11:40

The use of artificial intelligence in the EU will be regulated by the AI Act, the world's first comprehensive AI law. Find out how it will protect you.



Harnessing Artificial Intelligence (AI) Responsibly for Good and for All



वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

G20 New Delhi Leaders' Declaration

New Delhi, India, 9-10 September 2023

<https://www.g20.org/en/>



वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

Harnessing Artificial Intelligence (AI) Responsibly for Good and for All

61. The rapid progress of AI promises prosperity and expansion of the global digital economy. It is our endeavour to leverage AI for the public good by solving challenges in a responsible, inclusive and human-centric manner, while protecting people's rights and safety. To ensure responsible AI development, deployment and use, the protection of human rights, transparency and explainability, fairness, accountability, regulation, safety, appropriate human oversight, ethics, biases, privacy, and data protection must be addressed. To unlock the full potential of AI, equitably share its benefits and mitigate risks, we will work together to promote international cooperation and further discussions on international governance for AI. To this end, we:

- i. Reaffirm our commitment to G20 AI Principles (2019) and endeavour to share information on approaches to using AI to support solutions in the digital economy.
- ii. Will pursue a pro-innovation regulatory/governance approach that maximizes the benefits and takes into account the risks associated with the use of AI.
- iii. Will promote responsible AI for achieving SDGs.



The
Ethical
Data
Initiative

Creating an inclusive, continuous, and action oriented Global Science Advice mechanism



वसुधैव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

G20- Chief Science Advisers Roundtable (G20-CSAR)

Outcome Document & Chair's Summary

Gandhinagar, Gujarat
28 August 2023

Under the theme ‘Synergising global efforts to expand access to scholarly scientific knowledge’, the G20 countries deliberated on the need to enable immediate and universal access to appropriate publicly funded scholarly scientific knowledge to communities within and beyond G20 members. The importance of evolving approaches to offer immediate and free access to publicly funded research publications was acknowledged.

Under the theme ‘Diversity, Equity, Inclusion, and Accessibility (DEI&A) in Science and Technology Ecosystem’, the G20 nations acknowledged the contribution of traditional and indigenous knowledge systems and recommended that these systems be considered with contemporary science to foster evidence-based innovations that are culturally inspired and locally relevant. The importance of recognizing the plurality of languages and knowledge systems in inclusion-related policy discourse was emphasised.

Discussing the way forward in the fourth theme ‘Creating an inclusive, continuous, and action-oriented Global Science Advice mechanism’, the G20 countries unanimously decided to work towards creating a robust, relevant, and effective mechanism for sustained engagement, bringing together the chief science advisers and their nominated equivalents to deliberate on contemporary issues demanding effective global science advice, and aiming to address existing knowledge asymmetries for equitable global societal benefit.

The G20 countries aim to use the G20-CSAR platform to pave the way for further discussions and deliberations wherein members and international organisations could converge on multidisciplinary issues, impart synergistic science advice and use Science Diplomacy to enhance synergies between various stakeholders.

The G20-CSAR initiative, newly launched under the Indian Presidency, aims to create a space for voluntary knowledge and resource sharing. The goal is to exchange best practices in the science advice process based upon inclusivity, heterogeneity, interdependency, transparency, plurality of expertise, and collective interest.

The inaugural G20-CSAR meeting was held from 28th-30th March, 2023 in Ramnagar, Uttarakhand. Since then, four intersessional meetings, six side events and several bilateral meetings have been organised to arrive at the agreement on the Outcome Document and Chair's Summary.

The baton was passed on to Brazil to take the G20-CSAR initiative forward.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1953043>



Why EDI?

Data drives problem solving and better decision making.

The Ethical Data Initiative provides a neutral space to bring together diverse actors and stakeholders, shaping the future of data governance and monitoring its implications for society.

In doing so, we aim to increase equality and inclusivity in the data space; building data confidence and empowering the digital citizens of tomorrow.



**#1 bring together
diverse actors and
stakeholders to
shape the future of
data governance.**

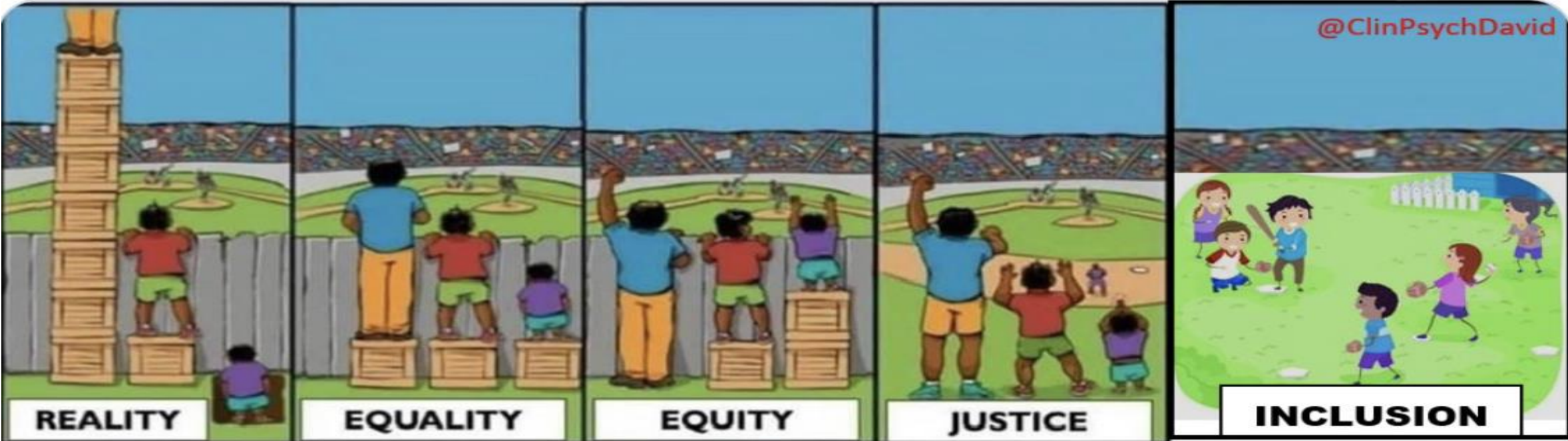
POLICY AND NETWORKS

**#2 bolster training
in ethical data
science and ethical
AI across the globe.**

EDUCATION

**#3 foster equity and
responsibility in
data practices.**

ENGAGEMENT



REALITY

One gets **more than** is needed, while the other gets **less than** is needed. Thus, a huge disparity is created.

EQUALITY

The assumption is that **everyone benefits** from the **same supports**. This is considered to be equal treatment.

EQUITY

Everyone gets the support they need, which produces equity.

JUSTICE

All 3 can see the game without supports or accommodations because **the cause(s) of the inequity was addressed**. The systemic barrier has been removed.

INCLUSION

Everyone is **INCLUDED** in the game. **No one** is left on the outside; we didn't only remove the barriers keeping people out, we made sure they were valued & involved.

Image credits- David Murphy



The Ethical Data Initiative

Framework for responsible research and innovation

Anticipate, reflect, engage, act (AREA)

Anticipate

Describe and analyse the impacts, intended or otherwise, that might arise. Do not seek to predict but rather support the exploration of possible impacts (such as economic, social and environmental) and implications that may otherwise remain uncovered and little discussed.

Reflect

Reflect on the purposes of, motivations for and potential implications of the research, together with the associated uncertainties, areas of ignorance, assumptions, framings, questions, dilemmas and social transformations these may bring.

Engage

Open up such visions, impacts and questioning to broader deliberation, dialogue, engagement and debate in an inclusive way.

Act

Use these processes to influence the direction and trajectory of the research and innovation process itself.

<https://www.ukri.org/about-us/epsrc/our-policies-and-standards/framework-for-responsible-innovation/>



The
Ethical
Data
Initiative



Data ethics: Towards responsible data practices

PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A

MATHEMATICAL, PHYSICAL AND ENGINEERING SCIENCES

✓ You have access

Check for updates

View PDF

Tools Share

Cite this article

Section

Abstract

1. Introduction

Competing interests

Funding

Introduction

What is data ethics?

Luciano Floridi✉ and Mariarosaria Taddeo

Published: 28 December 2016 | <https://doi.org/10.1098/rsta.2016.0360>

Abstract

This theme issue has the founding ambition of landscaping *data ethics* as a new branch of ethics that studies and evaluates moral problems related to data (including generation, recording, curation, processing, dissemination, sharing and use), algorithms (including artificial intelligence, artificial agents, machine learning and robots) and corresponding practices (including responsible innovation, programming, hacking and professional codes), in order to formulate and support morally good solutions (e.g. right conducts or right values). Data ethics builds on the foundation provided by computer and information ethics but, at the same time, it refines the approach endorsed so far in this research field, by shifting the level of abstraction of ethical enquiries, from being

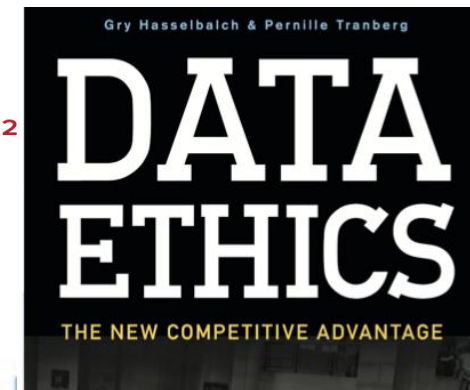
<https://royalsocietypublishing.org/doi/10.1098/rsta.2016.0360>

Details References

This Issue



28 December 2016
Volume 374, Issue 2



The
Ethical
Data
Initiative

Data Ethics

The Data Ethics Framework prepared by UK GDS also guides appropriate and responsible data use in government



<https://www.gov.uk/government/publications/data-ethics-framework>



The
Ethical
Data
Initiative



Data is key for achieving UN SDG aims



Education and capacity development are important for achieving UN SDG aims



The Ethical Data Initiative



Campaign for Data Ethics in Education



Home

Get Involved ▾

Meet the Team

News

Contact

The Campaign advocates for the integration of data ethics in all higher education courses focused on data science and research. It aims to educate the next generation of data and research professionals about their legal and ethical obligations when it comes to using, reusing, and sharing data.

Join the Campaign for Data Ethics in Education



[Click to View Campaign Partners](#)



<https://ethicaldatainitiative.org/campaign-for-data-ethics-in-education/>

About the Campaign

The African Association of Universities (AAU), the University of Nottingham, and the Ethical Data Initiative launched the Campaign for Data Ethics in Education in Summer 2023. The Campaign aims to highlight the importance

Data ethics training for PhD students

GEOSPATIAL
SYSTEMS
CENTRE FOR DOCTORAL TRAINING

Find out more
about our CDT
programme

Our 4 year training programme has
been created by our team of world-
leading geospatial scientists.

In partnership with



The University of
Nottingham



The
Ethical
Data
Initiative

Data Ethics and RRI Faculty training in Universities



**AFRICAN INSTITUTE FOR CAPACITY DEVELOPMENT
(AICAD)**



ONLINE SHORT COURSE

Graduate Supervisory
Training Course

The short course aims to provide Masters and PhD research supervisors with requisite knowledge of relevant approaches and skills to make their supervision practices well-targeted at the individual Masters and PhD students.

**INTRODUCTION OF THE COURSE
TO BE HELD ON
MAY 2ND -15TH 2023**



The
Ethical
Data
Initiative



Research
frameworks and
their importance in
ethical research.

FAIR

Findable Accessible Interoperable Reusable

Wilkinson, M. D. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci. Data* 3:160018 doi: 10.1038/sdata.2016.18 (2016).



The
Ethical
Data
Initiative



What is FAIR DATA?



Data and supplementary materials have sufficiently rich metadata and a unique and persistent identifier.

FINDABLE



Metadata and data are understandable to humans and machines. Data is deposited in a trusted repository.

ACCESSIBLE



Metadata use a formal, accessible, shared, and broadly applicable language for knowledge representation.

INTEROPERABLE



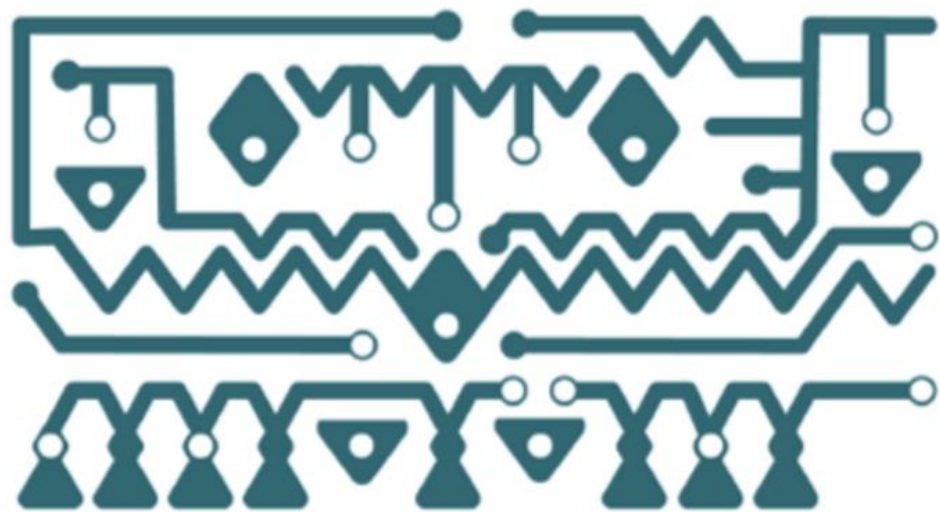
Data and collections have a clear usage licenses and provide accurate information on provenance.

REUSABLE

Association of European Research Libraries. (2017). *Implementing FAIR Data Principles: The Role of Libraries*. <https://libereurope.eu/wp-content/uploads/2017/12/LIBER-FAIR-Data.pdf>



The
Ethical
Data
Initiative



CARE Principles for Indigenous Data Governance

<https://www.gida-global.org/care>



The
Ethical
Data
Initiative





Research Data Alliance International Indigenous Data Sovereignty Interest Group. (September 2019). "CARE Principles for Indigenous Data Governance."
The Global Indigenous Data Alliance. GIDA-global.org

<https://www.gida-global.org/care>



The
Ethical
Data
Initiative



CARE Principles for Indigenous Data Governance

Collective Benefit.

Data ecosystems shall be designed and function in ways that enable Indigenous Peoples to derive benefit from the data.

- C1. For inclusive development and innovation
- C2. For improved governance and citizen engagement
- C3. For equitable outcomes

Responsibility.

Those working with Indigenous data have a responsibility to share how those data are used to support Indigenous Peoples' self determination and collective benefit.

- R1. For positive relationships
- R2. For expanding capability and capacity
- R3. For Indigenous languages and worldviews

Authority to Control.

Indigenous Peoples' rights and interests in Indigenous data must be recognized and their authority to control such data respected.

- A1. Recognizing rights and interests
- A2. Data for governance
- A3. Governance of data

Ethics.

Indigenous Peoples' rights and wellbeing should be the primary concern at all stages of the data life cycle and across the data ecosystem.

- E1. For minimizing harm and maximizing benefit
- E2. For justice
- E3. For future use

<https://www.gida-global.org/care>



The
Ethical
Data
Initiative

The TRUST Principles - An RDA Community Effort

An RDA community effort has led to the development and publication, in Nature Research's Scientific Data, of the article, "The TRUST Principles for digital repositories". These principles offer guidance for maintaining the trustworthiness of digital repositories, especially those responsible for the stewardship of research data.



<https://www.rd-alliance.org/trust-principles-rda-community-effort>



The
Ethical
Data
Initiative



The TRUST Principles

Principle	Guidance for Repositories
Transparency	To be transparent about specific repository services and data holdings that are verifiable by publicly accessible evidence.
Responsibility	To be responsible for ensuring the authenticity and integrity of data holdings and for the reliability and persistence of its service.
User Focus	To ensure that the data management norms and expectations of target user communities are met.
Sustainability	To sustain services and preserve data holdings for the long-term.
Technology	To provide infrastructure and capabilities to support secure, persistent, and reliable services.

Source: Lin et al., 2020. *The TRUST Principles for Digital Repositories*. *Scientific Data*
<https://doi.org/10.1038/s41597-020-0486-7>

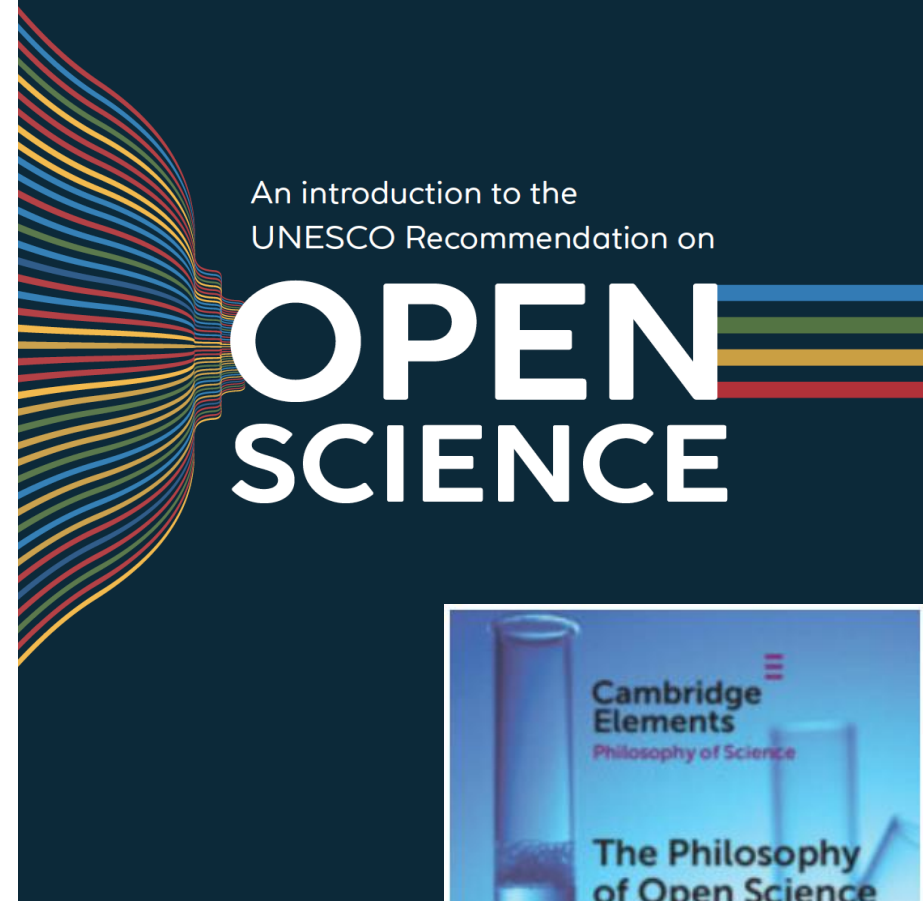
<https://www.rd-alliance.org/trust-principles-rda-community-effort>

Open Science

Open science is a set of principles and practices that aim to make scientific research from all fields accessible to everyone for the benefits of scientists and society as a whole. For example, scientists and engineers can use open licenses to share their publications, data, software and hardware more widely—not only with each other but also with the rest of society.

Open science is about making sure not only that scientific knowledge is accessible but also that the production of that knowledge itself is inclusive, equitable and sustainable. By promoting science that is more accessible, inclusive and transparent, open science furthers the right of everyone to share in scientific advancement and its benefits as stated in Article 27.1 of the Universal Declaration of Human Rights.

<https://www.unesco.org/en/open-science>



CODATA Data Ethics draft policy briefs (Nov 2023)

The policy briefs are looking at four aspects of data ethics relevant to the UNESCO Recommendation on Open Science.

The topics are

- Data Ethics and Scientific Integrity
 - Personal Data and Privacy
 - Data Ethics and Indigenous Data
 - Data Ethics and Structural Inequities
- Four draft policy briefs are available for download at <https://bit.ly/WG-Data-Ethics-DRAFT-Policy-Briefs>



The
Ethical
Data
Initiative





POLICY BRIEF: Data Ethics and Research integrity

Data Ethics Working Group, CODATA

Summary and recommendations

UNESCO Recommendation on Open Science emphasizes creating the scientific data and knowledge openly available, accessible, and reusable for everyone, thereby helping to ensure the well-established values and norms of the academic community and expand their scope. The UNESCO Recommendation stresses that Open Science and research integrity are inseparable. Research integrity and data ethics are deeply intertwined along the full cycle of research and they are highly dependent on the perspective of multiple stakeholders. Therefore, in the context of data ethics, collaborative efforts to support research integrity need to be further strengthened in areas such as transparency, reusability, and overall quality and impact of research in terms of research data collection, management, interpretation, and dissemination.

Recommendations

1. **Establish policies and practical guidelines** to advance global norms on data ethics
2. **Foster data sovereignty** of researchers by creating support structures
3. **Strengthen the role of research methods** as a key part of data ethics
4. **Develop training and educational resources** on data ethics



POLICY BRIEF: Privacy

CODATA Data Ethics Working Group

Summary

- Privacy is a fundamental human right, and a requirement for individual and community wellbeing.
- However, privacy is also theoretically and practically contested and paradoxical.
- A critical understanding of privacy emphasises the importance of power and harm, and how this might differentially and contextually impact individuals and communities.
- Technological advance brings new categories of data, such as genomes, with which privacy rules need to be re-conceptualised and updated.
- For open science to maintain its values of quality and integrity, and collective benefit, we need to update how we conceptualise privacy, especially in the face of rapid and disruptive technological advancement.

Recommendations

- That open science explicitly adopt a more critical understanding of privacy that recognises underlying dynamics of harm and power that impact individuals and communities



POLICY BRIEF: Ethics and Indigenous Data Governance

Data Ethics Working Group, CODATA

Summary and recommendations

For equitable and ethical engagement on indigenous data governance, the following standards must be considered:

- Nothing About us Without us
- Recognize Indigenous Knowledge in its Own Right
- Practice Good Indigenous Data Governance
- Communicate with Intent to Promote Diversity , Equity and Inclusion
- Exercise Accountability and Build Trust
- Build meaningful partnerships with Indigenous Communities
- Recognise and Respect Ownership and Permissions for Information and Data Sharing
- Practice Equitable funding, Representation, and Knowledge generation
- Recognise that Indigenous Information is not “a one-way street”. Participatory Indigenous Data Governance Processes are more beneficial to Indigenous Communities
- Support of the visibility of data-related problems of indigenous and other minority populations.



Policy Brief: Data ethics and structural inequities in science

CODATA data ethics working group

Summary and recommendations

The gap that we identify in *The UNESCO Recommendation on Open Science* is in acknowledging the systematic structural conditions creating inequitable participation in science, and the impact that this has on how a push towards open science might play out in practice.

Science as a global system is riven by inequities. This has five interconnected dimensions:

1. Identity-based inequities shaping participation in science at an individual level
2. International inequities in the strength, visibility and recognition of research systems
3. Inequities in the research infrastructure and access to funding
4. Inequitable access to an increasingly commercialised publishing system
5. Data colonialism

These issues are well known, for example many points about international patterns in inequity are reiterated in previous policy statements, including the recent Africa Charter for Transformative Research Collaborations.

Summary

There is an urgent need to build capacity for Data Ethics in universities, research institutes and industry.

It is important that data ethics become an integral part of the education curriculum in research-performing institutions.



The
Ethical
Data
Initiative





Putting values
at the heart of data

<https://ethicaldatainitiative.org>