

The Ethical Societal, Political and Cultural Implications of AI

Roberto V. Zicari

Frankfurt Big Data Lab www.bigdata.uni-frankfurt.de

October 18, 2019 Frankfurt Creative AI Conference Germany

© 2019 by Roberto V. Zicari and his colleagues The content of this presentation is open access distributed under the terms and conditions of the Creative Commons

(Attribution-NonCommercial-ShareAlike CC BY-NC-SA) license (<https://creativecommons.org/licenses/by-nc-sa/4.0/>)

AI is Here.

The Ethics of Artificial Intelligence

Who will decide what is the impact of AI on Society?

The Ethics of Artificial Intelligence

- AI is becoming a sophisticated tool in the hands of a variety of stakeholders, including political leaders.
- Some AI applications may raise new **ethical** and **legal** questions, and in general have a significant impact on society (for the good or for the bad or for both).
- **People motivation** plays a key role here.

What Do We Worry About?

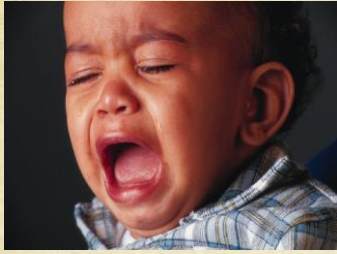
Do we worry about *AI*?

Do we worry about the *People developing AI*?

Do we worry about the *People deciding to use AI*?

Do we worry about the *People using AI* ?

We do *not* worry



Do no harm
Can we explain decisions?

What if the decision made using AI-driven algorithm harmed somebody, and you cannot explain how the decision was made?

- This poses an ethical and societal problem.

Another kind of Harm: AI, Social Media, Big Nudging, Fake news

"Big Nudging"

He who has large amounts of data can manipulate people in subtle ways. But even benevolent decision-makers may do more wrong than right. ()*

(*) Source: Will Democracy Survive Big Data and Artificial Intelligence?. Helbing, D., Frey, B. S., Gigerenzer, G., Hafen, E., Hagner, M., Hofstetter, Y., van den Hoven, J., Zicari, R. V., & Zwitter, A.. (2017). Scientific American (February 25, 2017).

Policy Makers and AI

“*Citizens and businesses* alike need to be able to **trust** the technology they interact with, and have effective safeguards protecting fundamental rights and freedoms.

In order to increase **transparency** and **minimise the risk of bias**, AI systems should be developed and deployed in a manner that allows humans to **understand** the basis of their actions.

Explainable AI is an essential factor in the process of strengthening people’s trust in such systems.” (*)

- **Roberto Viola** Director General of DG CONNECT (Directorate General of Communication Networks, Content and Technology) at the **European Commission**.

The Ethics of Artificial Intelligence

- With AI the important question is how to avoid that it goes out of control, and how to understand how decisions are made and what are the consequences for society at large.

Mindful Use of AI

We are all responsible.

*The individual and collective
conscience is the existential place
where the most significant things
happen.*

AI and (Digital) Ecosystems

- The Rise of (Digital) Ecosystems paving the way to disruption. (*)
- Different Countries, Different Approaches and Values. (China, the United States, Russia, Europe, rest of the world)

China has 2 completed ecosystems
(Tencent, Aliba) +Baidu, Huawei

Russia is almost there.

Source: Digital Hospitality, Metro AG-personal communication.

AI, Ethics and Democracy

*Democracy has substantial
ethical content.*

-Charner Perry (*)

(*) Source Ethics and Democracy, Charner Perry, *Ethics* Vol. 83, No2, (Jan. 1973), pp-87-107, The University of Chicago Press

AI made in China

How societies approach AI and the values it wants to build into the new technology?

In China, questions about ethics unlike in most democracies, are not framed around the individual but instead the collective ()*

(*) China's Techno-Utilitarian Experiments with Artificial Intelligence, Dev Lewis, Digital Asia Hub, 2019

Formulating universal AI principles?

“ Given different cultural traditions, philosophers could spend many lifetimes debating a set of universal AI principles”

-- John Thornhill. (*)

(*) *Formulating AI values is hard when human fail to agree*, John Thornhill, Financial Times, July 22, 2019

Ecosystem Building with Chinese Characteristics

- *Facial recognition makes up 35% of all AI applications in China.* e.g. SenseTime (商汤科技), Megvii Face++, Yitu (*)
- New Xiongan District (Hebei province) with Baidu, plans to build a road system designed for *autonomous vehicles*.
- *Smart Cities: Alibaba Cloud's ET City Brain-* (tested in Hangzhou and Suzhou) (**)

Chinese technology firm ZTE opened its first European cybersecurity lab in Rome on Tuesday, which would allow *source code review* on its products from Italy.

Huawei, also a Chinese company, has similar offices in Europe that allow *source code reviews* on its products.(***)

(*) China's Techno-Utilitarian Experiments with Artificial Intelligence, Dev Lewis, Digital Asia Hub ,2019

(**) <https://www.alibabacloud.com/et/city>

(***) <http://www.chinadaily.com.cn/a/201905/22/WS5ce52e6aa3104842260bd2fb.html>

AI made in China

Spotlight on China: Is this what the Future of Society looks like?

How would behavioural and social control impact our lives?

The concept of a Citizen Score, which is now being implemented in China, gives an idea ().*

(***) Source: Will Democracy Survive Big Data and Artificial Intelligence?. Helbing, D., Frey, B. S., Gigerenzer, G., Hafen, E., Hagner, M., Hofstetter, Y., van den Hoven, J., Zicari, R. V., & Zwitter, A.. (2017). Scientific American (February 25, 2017).

Ecosystem Building with USA

Characteristics

The tech giants, such as Amazon, Apple, Facebook, Google, developed their own Ecosystems in the context of USA economy:

- Free market economy
- Government imposes regulations to protect the good of all.
- Profit
- Ethics
- Society

(de)-Value AI

Ethical issues arising from Machines that make art.

- Will they replace artists? Is it ethical?

(de)-Value AI

- Machines that produce an output. Is the output art? Who defines if the output is art and what is the value associated to it?

(de)-Value AI

- Machines that produces an output that we call art. Is this a kind of automatic “*cut and paste*”? Is this art?

(de)-Value AI

- One can argue that people (and therefore artists) are also kind of “black-box” and that we are all connected. Meaning a product of art is always the result of past work. Will this change our mindset if art is produced by machines?

(de)-Value AI

- Machines that makes art: Will this create a new kind of job opportunity?

(de)-Value AI

- How is AI trained to produce art?
- What are the motives for the AI designers to train AI: reproduce a piece of art? Create a new one? Confuse? Experiment? Produce value? Make money? Become famous? No motivation...?

(de)-Value AI

- For giving a “value” to art created by AI, do we need to know more about how the AI has been designed/trained, or do we simply look at the output?

(de)-Value AI

- How do you handle copyright of art made by AI?

(de)-Value AI

- Art made by AI can be physical and/or digital.
- One can imagine art produced on demand by specialized AI. Is this still art?

Towards a process to assess Ethical AI



Photo RVZ

Why doing an AI Ethical Inspection?

There are several reasons to do an AI Ethical Inspection:

Minimize Risks associated with AI

Help establishing “TRUST” in AI

Improve the AI

Foster ethical values and ethical actions (stimulate new kinds of innovation)

Help contribute to closing the gap between “*principles*” (the “what” of AI ethics) and “*practices*” (the “how”).

Z-inspection

A process to assess Ethical AI



Photo: RVZ

Z-Inspection: *Areas of investigations*

We use *Conceptual clusters* of:

- Bias/ *Fairness*/ discrimination
- Transparencies/ *Explainability*/ intelligibility/interpretability
- Privacy/ responsibility/ *Accountability*
- Safety
- Human-AI
- Other (for example chosen from this list):
 - uphold human rights and values;
 - promote collaboration;
 - acknowledge legal and policy implications;
 - avoid concentrations of power,
 - contemplate implications for employment.

Approaching Ethical Boundaries

“But if we just let machines learn ethics by observing and emulating us, they will learn to do lots of unethical things.

So maybe AI will force us to confront what we really mean by ethics before we can decide how we want AIs to be ethical.” ()*

-Pedro Domingos (Professor at University of Washington)

(*) Source: On Artificial Intelligence, Machine Learning, and Deep Learning. Interview with Pedro Domingos, ODBMS Industry Watch, June 18, 2018