SOCIAL RESPONSIBILITY FOR CYBERSPACE

Sun Kun OH

(Center for Underground Physics)

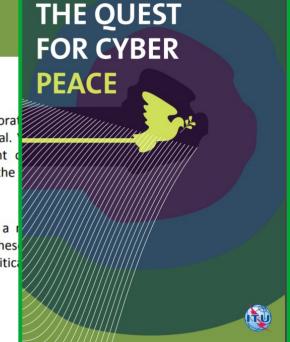
Erice, 18-24 August 2023
The 55th Session of International Seminars on Planetary Emergencies

- The agenda on cyberspace have been with us for more than a decade.
- The Quest for Cyber Peace was published in 2011 for ITU by Hamadoun Tourre, in collaboration with Erice Seminar.

The Quest for Cyber Peace

To achieve the mutual goal of ensuring Cyber Peace, collaborate members of the science and technology community is critical. Confront the threat of cyberwar without the involvement of knowledge and insight of the technologies that are changing the

This volume gives voice to that community. It represents a reprocess of building international cooperation to address these grateful for the opportunity to present all our views on this critical process.



Dr Hamadoun I. Touré Secretary-General International Telecommunication Union

Professor Dr Antonino Zichichi President World Federation of Scientists

- The Erice Declaration on Principles for Cyber Stability and Cyber Peace was reported to the 42nd Session (2009) by Jody Westby and William Barletta.
- Various aspects, implications, and recommendations on cyberspace have been discussed and proposed since then.

Erice Declaration on Principles for Cyber Stability and Cyber Peace

The Erice Declaration on Principles for Cyber Stability and Cyber Peace was drafted by the Permanent Monitoring Panel on Information Security of the World Federation of Scientists (WFS), Geneva, and adopted by the Plenary of the WFS on the occasion of the 42nd Session of the International Seminars on Planetary Emergencies in Erice (Sicily) on August 20, 2009.

It is an unprecedented triumph of science that mankind, through the use of modern information and communication technologies (ICTs), now has the means to expand economic resources for all countries, to enhance the intellectual capabilities of their citizens, and to develop their culture and trust in other societies. The Internet, like science itself, is fundamentally transnational and ubiquitous in character. The Internet, and its attendant information 、**Ξ** Sections

THE SCIENCE TIMES

HOME > TECH & INNOVATION

- These days, most of people around the world own smartphones. (6.85 billion machines)
- They spend about 1/3 of waking hours daily on smartphones.
- They also turn on their desktops at office.

People Spend an Average Of 4.8 Hours On Smartphones as the World Embraces New Mobile Lifestyle, Study Says

Ron Jefferson Jan 13, 2022 03:03 AM EST









A new study followed t date based on the find phones clicked to over there have been at lea

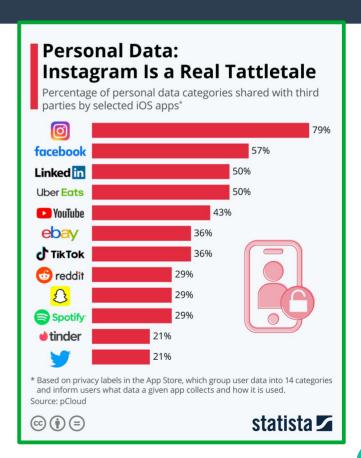


obile usage to on their mobile ing that in 2020,

- The first thing they usually do when connected to smartphones or desktops?
- They check and respond to the emails.
- The number of email accounts in 2023, reckoned by a communication firm, is 7.9 billions.
- It was estimated in 2020 that the number of email exchanges per day exceeded 300 billions.
- That is, on average, about 40 emails per account per day.



- Besides emails, people usually access to the social media such as Instagram, FaceBook, YouTube or Tik Tok.
- They spend about 2 hours each day staying in the social media, interacting with other people.
- The volume of data uploaded to the social media exceeds 2 Exabytes per day.

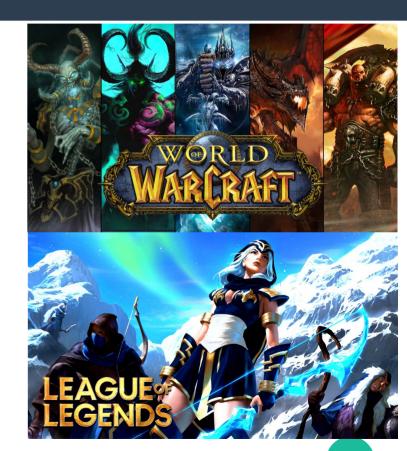


- Also they sometimes access to public websites (government, banks, law enforcements, etc.)
 - -for submitting personal information,
 - -for receiving necessary benefits or certificates online,
 - -or for installing the digital ID on their mobile phones.





- The younger, the more actively engaged in cyberspace.
- A lot of young generations take part in MMORPGs.
 [MMORPG = Massively Multiplayer Online Role-Playing Game]
- Tens of millions of people are playing one of MMORPGs, as of now.
- They do not gather in the playground.
- Each of them play isolated but are connected interactively via internet.
- Market size of MMORPGs is 23.35 billion US Dollars in 2023.



- The younger generations are more actively engaged in cyberspace than the older ones.
- These days, they do not gather in the outdoor playground.
- All the more during the three years of COVID-19 isolations.
- Each of them are isolated but are connected interactively via internet.



E

Online Games vs Outdoor Games: Why Youths Are Preferring Online Gaming over Outdoor?

♣ EDITORIAL WRITER ② IANUARY 15, 2019 ● NO COMMENTS 🗁 EDITORIAL

It's no surprise that the generations before ours haven't been as fond of technologies as the majority of the millennials are. Some say technology makes us lazy, some call it a necessary evil whilst it is probably the best friend for some of us. More importantly, technological advancements have changed the meaning of

- Thus, we are all connected somehow in cyberspace.
- Ethics are required to make the cyberspace peaceful, stable and sustainable.
- There are a number of ethics at different level with diiferent scope such as:
 - Research ethics
 - Data ethics
 - AI ethics or ethics of AI
 - Cyber ethics
- This talk will be confined to a common sense of ethics, on how to behave decently to comply with social responsibilty for cyberspace is the topic.

10

- Primarily proposed for research integrity.
- One of its purposes is to prevent research misconducts, of which some cases were disclosed in a number of countries.
- Typical xamples of research misconducts are FFP.

[FFP = falcification, fabrication, plagiarism]



- Not only FFP, but also duplicate publications, and research money diversions are examples of research ethics issues.
- Gradually, the concept of research ethics has been materialized and adapted by research funding agencies and universities in many countries.



- Who are asked to obey the research ethics?
 - Researchers. They should not manipulate their own data or should not misuse others' data.

- What for?
 - Mainly to protect the integrity of research landscape.

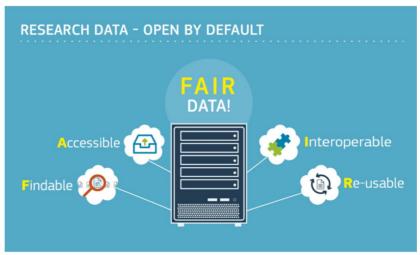
- An incident of plagiarism by Korean professors was revealed in 2003, their article being withdrawn by the journal referees.
- Caught in the act of piracy, two of the plagiarists wrote an official letter of apology, and one of them accepted sole responsibility.



- FAIR data = Findable, Accessible, Interoperable, and Re-usable data.
- FAIR principle asks researchers to organise their research outputs so that public
 (as well as peer reviewers and other researchers) may easily access, understand,
 exchange or re-use their methodology, experimental, as well as raw data.
- Hence the catchphrase of open data for research data:
 "open as possible, close if necessary"



- Then, based on policies for open access, open data, and open science, FAIR principle came into play.
- Research ethics embraces the FAIR principle of open data, which asks researchers to open their data.



- Recently, LK-99, proposed by Korean scientists as a room-temp superconducting material, has been a hot issue among physics community.
- Under FAIR principle, their experimental methods are tested and scrutinized, and its replicability is under intense examination by international community.



- What is data ethics?
- According to FDS of USA, data ethics is the norms of behaviour that promote appropriate judgments and accountability when acquiring, managing, or using data.
- European Commission states that data ethics is about responsible and sustainable use of data.



DATAETHICS

Principles and Guidelines for Companies, Authorities & Organisations

- The "data" of data ethics are not confined to be the research data.
- Electronic files that can be created, copied, transmitted, or retrieved within the cyberspace, and data-related activities such as curation, recording, generation, processing, sharing, and use of data themselves.
- Data are classified as private data and public data.
- How to protect private data and how to allow access to public data is the object of the data ethics.



 OECD Recommendations state that

"Private data may only be used and shared with definite boundaries"

"Public data should be open, inclusiove and clear."

DEFINE BOUNDARIES FOR DATA SHARING AND USE

It should be ensured that data go making processes promote a bala collection and use by weighing societal costs and benefits; and ass

BE CLEAR, INCLUSIVE AND OPEN

Government openness²⁵ and public of to inform and engage relevant stak sentatives in an inclusive process of the ethical use of data in the publishould be open about how data is b pose, and by whom²⁷. In this light, cla



Good Practice Principles for Data Ethics in the Public Sector



Indeed, UN Development Group noted in their report that :

Data access, analysis or other use should be kept to the minimum amount necessary to fulfill its purpose, as noted in Section 2.

The amount of data, including its granularity, should be limited to the minimum necessary. Data use should be monitored to ensure that it does not exceed the legitimate needs of its use.

 The goals of data ethics are minimizing risks to individuals and society, while maximizing the public good, according to Federal Data Strategy (FDS).

 The personal, private data owned by individuals should be treated strictly and protected under the data ethics.

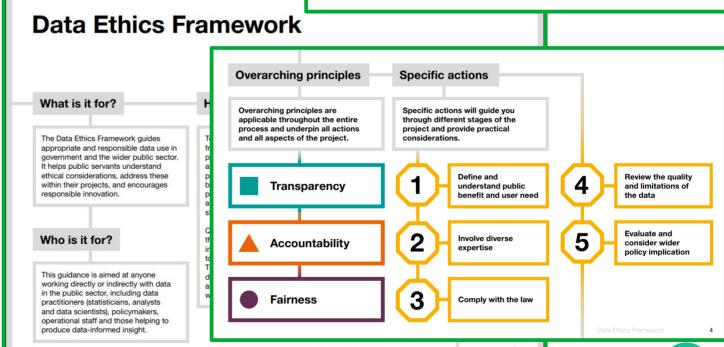
Hence, the spirit of data ethics may be expressed as

"close as possible, open if necessary."

• The Data Ethics Framework prepared by UK GDS also guides appropriate and responsible data use in government, in line with OECD or UN.







- Who are asked to obey the data ethics?
 - The data specialists in governments, in the public sector and in big IT companies, including policy makers as well as data experts who manage data-based information.

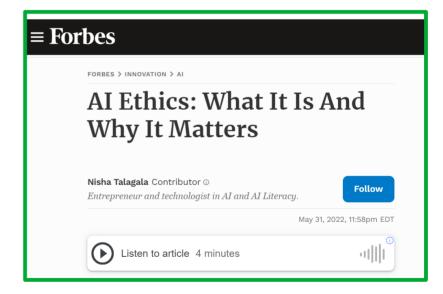
- What for?
 - To protect individuals and the society as a whole, by protecting personal, private data that individuals own.

Al ethics

- Ethics associated with Al.
- The landscape of AI is very wide and diverse :
 - From language translation to personalized content creation
 - Scientific measurements and observations
 - Audio and video generation, and music composition or painting
 - Financial and legal assistance
 - Healthcare and sophisticated medical detectors for diseases cancer cells
 - Chatbot, etc.

Al ethics

- Al is not human.
- Thus, AI need not respect any ethics that are aimed for humans.
- But designers of AI can make AI to obey human ethics.
- Thus, designers should keep "AI ethics" in order to make AI ethical, i.e., AI should be equipped with "ethics of AI."



Al ethics

- Who are asked to obey the AI ethics?
 - The IT experts who develop AI, and IT companies and governments that regulate the shapes and facilties of the AI.

- What for?
 - AI should help to promote and protect human rights and freedoms as well as social safety.
 - Gender equality, for example, should be adhered to by AI.

AI ethics

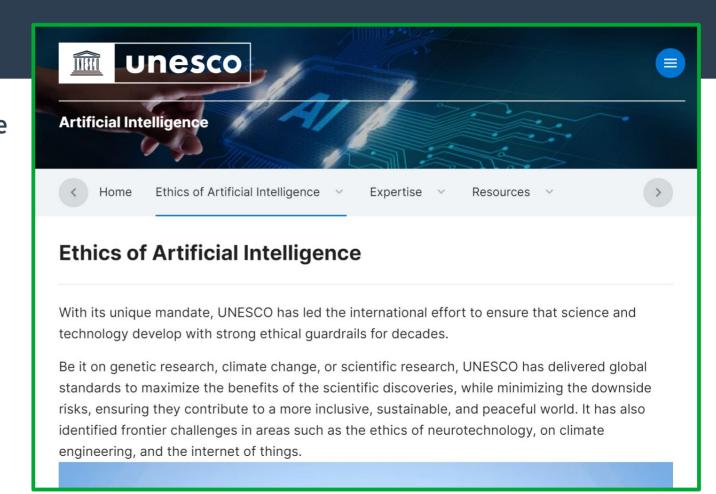
- At the same time, designers of AI should ensure the users of the AI that:
 - -The whole life cycle of AI are transparent and explainable
 - -They [designers] are responsible and accountable for AI
 - -They have full awareness and literacy
 - -AI is designed, developed, set into operation with multi-stakeholder collaboration and adaptive governance



- On the other hand, there is also ethics of AI.
- Sometimes it is used interchangeably with AI ethics. However, there are subtle differences between them.
- The ethics of AI is to make AI ethical.
- It is required for example when AI is asked to answer questions or requests involving ethical values.



 UNESCO was one of the international organizations that recognize the importance, implication and possible challenges of AI to human lives.



- A typical example related to ethics of AI is the trolley problem.
- What is the ethical solution for an AI?
- However, we may ask beforehand if AI should be made to solve such problems?



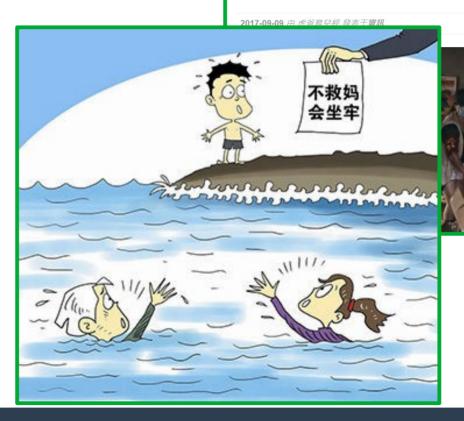
- However, the trolley problem is not unique to AI.
- A similar ethical question has also been there in China for many centuries:

"Whom to save first when both your mother and your wife fall into water?"

每日頭條

首頁 健康 娛樂 時尚 遊戲 3C 親子 文化 歷史 動

世紀大難題!洪水面前先救母還是先救妻,他的做法讓其一無所有

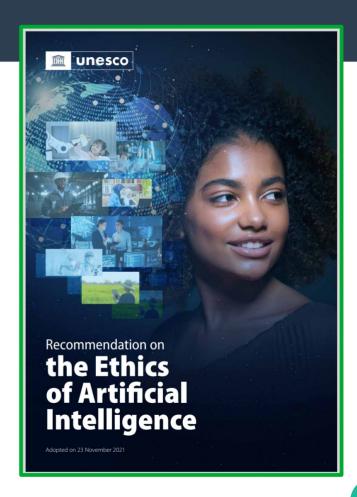


- There are other ethical questions that may be attributed to AI:
 - Legal liability for self-driving cars
 - Trustability of AI judgements in court
 - Responsibility of AI operations in hospital or medical prescriptions by AI
 - Killing by military AI robots engaged in war
- Ethics of AI should let AI be prepared to answer these questions.





- Some of principles designers of AI should observe, proposed by UNESCO, are:
- AI should be designed to
 - Respect, protect and promote human rights and dignity, and fundamental freedoms
 - Ensure diversity and inclusiveness
 - Adhere to fairness and non-discrimination
 - Secure right to privacy and data protection



- Chatbots are machine-learning model that can generate human-like text.
- Based on chatGPT [Chat Generative Pre-Trained Transformer]
- Xiaoice (2014), Tay (2016), Luda (2020) were noticeable examples of AI chatbots.
- All were staged as young females on SNS platforms.





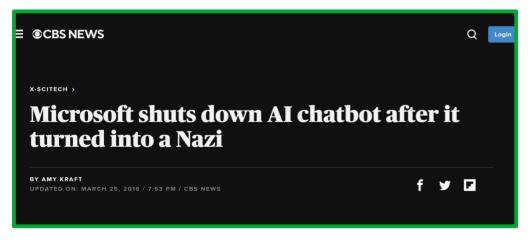


- They were designed
 - to make conversations with human users
 - to develop the conversational skills
 - by analyzing and incorporating the language of users who chat with them.
- The more they chat, the more they become fluent.
- However, their responses turned quickly offensive and inappropriate.



Ethics of Al

- The sevices had to be stopped.
- Tay stopped chatting after 16 hours, and Luda stepped down.





Ethics of Al

- Incidentally, the Chinese Xiaoice did not make such problem.
- Why? Some guess on the nature of Chinese internet system, a strong censorship for social security.





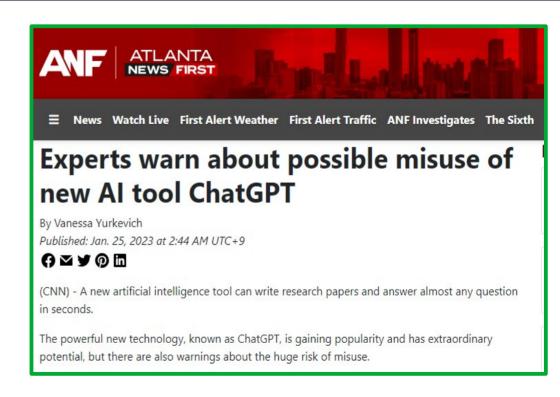


Xiaoice Vs. Tay: Two A.I. Chatbots, Two Different Outcomes

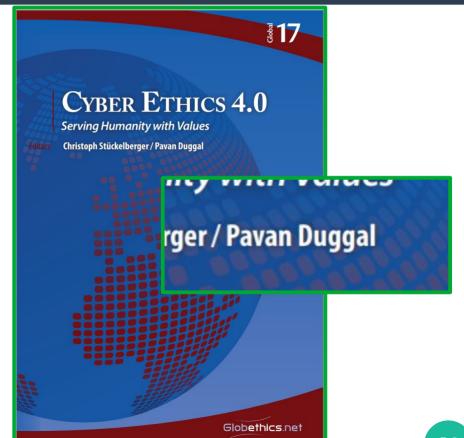
by Editor | Mar 30, 2016 | Business in China, China Internet, China technology, Chinese Social Media. Featured. Online Tools

Some say that the nature of censored Chinese internel Xiaoice pleasant personality, although the real reason of factors. First of all, other experiments with A.I. chatb problems: Apple's Siri, Amazon's Alexa, Facebook's M, Microsoft's own Cortana didn't turn ugly. So, probably, something to do with it.

- Cyber ethics.
- It is the users who misuse or abuse chatbots that may harm society in the end.
- Hence, it is essentially not an issue of AI ethics nor ethics of AI.
- It is the ethics of users in cyberspace.



- It may be called cyber ethics.
- Cyber ethics is the field of expertise of our colleague Dr. Pavan Duggal, a specialist on cybercrimes.
- He has published a thick, comprehensive book on cyber ethics, which is available online.



- Who are asked to obey the cyber ethics?
 - The individuals who create personal, private data (images, sounds, messages, comments, etc.) and share them with others in cyberspace via various platforms.

- What for?
 - To prevent any kind of misuse or abuse of data in the cyberspace that may harm the integrity of the real society, though they might not be illegal and thus might not be punished.

 Therefore, cyber ethics is a certain level of social responsibility on every individual in the cyberspace, in order to help making the society in the real world more safe.





- Some activities are reasonable behaviours such as exchanging emails or posting private stories or images on SNS, sending messages, attaching reaction emoticons or making comments on other peoples' posts.
- But some activities are criminal, clearly harmful and illegal:
 - Hackings.
 - Phishings and pharmings, or blackmailings.





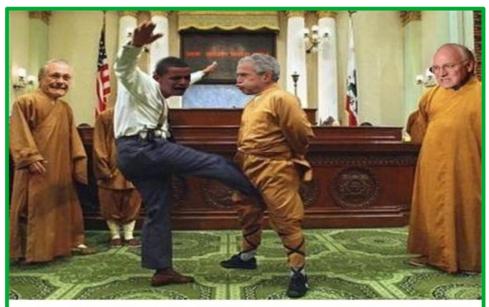
- Installing malwares on other peoples' devices, or spreading viruses randomly.
- Breaking into other peoples' devices to steal or fraud their personal information.
- Spreading untrue, fake stories on other people.

- In between, though not explicitly criminal, there are other ill-mannered, indecent activities, liable to punishment:
 - -Using offensive or rude words in social media or in MMORPGs.
 - -Posting malicious comments, sharing indecent or embarassing pictures on SNS
 - -Bullying or insulting other people
 - -Pretending to be someone else or lying, etc.
- These activities lie within legal boundaries, but they indeed hurt the integrity of the cyberspace and probably very harmful.

- For example, personal data might further be modified, doctored, manipulated, or falsified for inappropriate use.
- making fun using others' picturesis it a crime or just for fun?
- How about political caricatures?
- Or, gender issues?







January 20 2009: Barack Obama kicks George Bush out of the Oval Office

- These activites in cyberspace may have direct consequences in real world.
- Indeed, some harsh messages and insulting comments in social media are subject to the court.
- Thus, the court of Madras in India recommends extremely careful wordings in social media.
- Also, there is a cyber defamation law in South Korea, aimed to punish libels or slanders expressed online, typically via a publicly accessible website.

Home / High Courts / Madras High Court / Person Forwarding Social Media...

Person Forwarding Social Media Message Liable For Its Contents : Madras High Court Refuses To Quash Criminal Cases Against S.Ve Shekhar

Upasana Sajeev

15 July 2023 5:32 PM



'Every user of the social media must bear must be extremely careful before sending or forwarding a message to others', Court cautioned.

- Online games.
- Young generations are deeply indulged in a vast scope of online games including MMORPGs.
- To some of the most obsessive players of MMORPGs, the boundaries between real world and the virtual world are unclear, and the two worlds are overlapped and mixed.
- Killing or being killed in MMORPGs are regarded as a reality to them.
- Hence, they fight in real life.
- These incidents are called "PKing" or "Player Killing" or "Player vs Player."

- "PKing"
- Murder in Russia in January 2008.
- LINEAGE2.
- Two clans of LINEAGE2
 players collided, as an in game character of a clan was
 killed by the other during the
 game.
- They agreed to have it out in real life.



he Moscow Times reports that a Virtual Conflict Ends in Real Death, as a leading *Lineage II* player allegedly stomps another to death. Ironically, the person who died was trying to break up the fight, which started because the two player clans were rivals or something.

This isn't the first time this has happened, of course, though it's the first time I've seen it reported in Russia. There have been Korean and Chinese cases previously. I guess it's spreading.

- A 33-years-old member of a clan was allegedly beaten to death by a member of the other, as reported by a Moscow news agency.
- This is not unique in Russia but also in other countries.

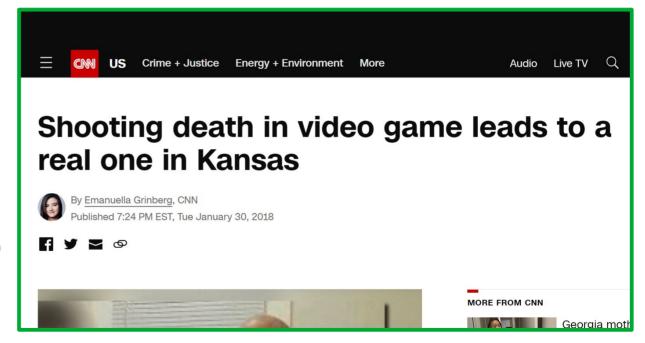


- A similar LINEAGE2 accident in Korea.
- Two men, A and B, collided during playing LINEAGE2 online.
- They agreed to do PKing.
- In 13 March 2021, A drove 150 km to Daejeon to meet B.
- B stabbed A with a prepared knife.
- Bleeding A was transported to a hospital, but eventually died.



- "Swatting"
- Many players of MMOPRGs exchange rage-fueled arguments online as a regular part of their gaming activities, such as "You will be killed."
- Swatting is an extreme extension of such activities, noy only limited to game players, but is rather a symptom of online discourse as a whole.
- Pretending someone else, they may send messages "I am going to kill someone."
- the US Congress decided to introduce the Interstate Swatting Hoax Act in 2015, which amends the federal criminal code to make swatting a federal crime.

- In December 2017, 28-yearsold Andrew Finch shot dead.
- A gamer, upset by his teammate killing him during the game.
- He requested Barriss, who lives in Los Angeles, to set up a swatting call at Finch's address in Kansas.



- Barriss made a "swatting" call to police, claiming "I am holding my family hostage. I am going to kill them."
- Wichita Police Office team responded to the call, rushed into the Finch's house, one of them being involved with the deadly shooting.
- The policeman was charged with involuntary manslaughter.
- Barriss was also charged with his alleged role in the swatting.

 Some articles on the correlations between the violence of MMORPGs and tendency of agressiion.





4 AMERICAN PSYCHOLOGICAL ASSOCIATION

mation Technology 17:267–274, 2015) and McCormick (Ethics and logy 3:277–287, 2001) claim that virtual murders are objectionable

 However, there is no consensus on whether they are significantly associated or not.

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Registered report



Cite this article: Przybylski AK, Weinstein N. 2019 Violent video game engagement is not associated with adolescents' aggressive behaviour: evidence from a registered report. *R. Soc. open sci.* 6: 171474.

http://dx.doi.org/10.1098/rsos.171474

Violent video game engagement is not associated with adolescents' aggressive behaviour: evidence from a registered report

Andrew K. Przybylski^{1,2} and Netta Weinstein³

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²Department of Experimental Psychology, University of Oxford, Oxford, UK

- Note the recent Zukerberg vs Musk case.
- It started when Nawfal tweeted to Musk "META is going to release Twitter rival called THREADS."
- Musk, knowing that Zuckerberg has a belt in Jiu-Jitsu, responded "I'm up for a cage match if he is ready."
- Zuckerberg entered and mentioned "Send me location."
- Musk replied "Vegas Octagon."



- They will fight in-person somewhere in Italy.
- Wisely enough, they turn their fight into a charity show.
- The fight money will be donated.







/ Technology

Musk says much-hyped cage fight with Meta's Zuckerberg will be in Italy





Meta CEO Mark Zuckerberg (L) and Tesla and SpaceX CEO Elon Musk. Musk says a potential in-person fight with Zuckerberg would be streamed on his social media site X, formerly known as Twitter. © AP

day that his much-hyped cage fight erg would take place in Italy, as onfirmed talks about hosting a "great

8:36



Social responsibility

- Anyway, these activites in cyberspace, either legal or illegal, require social responsibilities as well as cyber ethics.
- Cyber ethics may reduce these activities but it alone cannot prevent them.
- Every individuals who access to cyberspace should be informed and notified norms of conduct and morals that their activities in cyberspace will be accompanied by social responsibilities in real life.

Social responsibility

- Individuals should recognized that real world and virtual world are distinct and distinguishable though at the same time the two worlds are connected and blended.
- We, as responsible citizens both in real world and in cyberspace, should behave decently and politely.
- And we should take any responsibilty for any activity in cyberspace, intentionally or inadvertantly, that may hurt other people or the society in real world.

Thank you very much for listening.

- Like Isaac Asimov introduced in 1942 "the three laws of robotics" – designed as a series of safeguards to prevent AI from harming humankind,
- UneeQ suggested the five laws of ethical digital human design to prevent misleading real people, spreading fake news, and causing other types of harm and distress.

The five laws of ethical digital human design

- Law 1: Honesty and transparency. -Digital humans shall never pretend to be what they are not.
- Law 2: AI for global good. -Digital humans should always be designed to help not harm.
- Law 3: Right to privacy. -Digital humans must respect the privacy of those they interact with.
- Law 4: Respectful behaviour. Digital humans should be designed to uphold respectful behavior.
- Law 5: Co-design principles. -Co-design must be utilized to avoid bias and promote diversity.

- For example, there are laws that punish frauds.
- At the same time, people learn not to lie to others.
- Likewise, there are laws that punish contempt.
- Also, at the same time, people learn not to bully others.

Data ethics for more than two decades

- A number of definitions are available now.
- From OECD to UNESCO to industrial firms and business institues.
- Mostly, those definitions on data ethics are concerned about big data, machine learning, and artificial intelligence.





Glossary

Q Search

- A **A**
- C Ad campaign
- D optimization
- E Additive manufacturing
- F and 3D printing
- H Agile development
- | Agile project
- L management
- M Al analytics

Data ethics

What is data ethics?

Data ethics is a branch of ethics that evaluates data practices—collecting, generating, analyzing and disseminating data, both structured and unstructured—that have the potential to adversely impact people and society. It includes addressing and recommending concepts of right and wrong conduct, with transparency in and defensibility of actions and decisions driven by automated/artificial intelligence (AI) in relation to data in general and personal data in particular.

🔾 datacaмр

Sign in

Get Started

What is Data Ethics?

In short, data ethics refers to the principles behind how organizations gather, protect, and use data. It's a field of ethics that focuses on the moral obligations that entities have (or should have) when collecting and disseminating information about us. In a world where data is more valuable and ubiquitous than ever, data ethics issues are more pressing now than at any time in history.

Why Data Ethics Matter

Let's look at some examples of the importance of data ethics:

 In September 2018, hackers injected malicious code into British Airways' website, diverting traffic to a fraudulent replica site. Customers then unknowingly gave their information to fraudsters, including login details, payment card information, address, and travel booking information.

What is Data Ethics?

Phil. Trans. R. Soc. A, Volume 374, Issue 2083, December 2016

8 Pages • Posted: 1 Feb 2017

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Date Written: November 14, 2016

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 AI,

PHILOSOPHICAL TRANSACTIONS A

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Introduction



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Accepted: 3 October 2016

One contribution of 15 to a theme issue 'The ethical impact of data science'.

Subject Areas:

e-science, human-computer interaction

What is data ethics?

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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

- 5 Principles of Data Ethics for Business Professionals proposed by Havard Business School are
 - -Ownership
 - -Transparency
 - -Privacy
 - -Intention
 - -Outcomes

