



FACILITATE-AI

GUIDELINES FOR FACILITATING THE LEARNING OF ARTIFICIAL INTELLIGENCE
BY SCHOOL STUDENTS OF GRADES 7-12

Module 3.9: Elements of AI Ethics

Guidelines for facilitating the learning of Artificial Intelligence (AI) by School Students of Grades 7-12

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*DOUKAS SCHOOL
UCY*

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FACILITATE-AI: Elements of AI Ethics

This workshop builds upon prior activities focused on research and source identification to support an argument. In small groups, students engage in research using articles and videos that reveal ethical pitfalls in an area of Artificial Intelligence (AI) of their choice. Subsequently, each group formulates at least one principle aimed at providing a solution to the identified issues in their selected domain.

DOUKAS IT TEAM 19 IOYN 2023 14:37 UTC

What is AI?

What is artificial intelligence (AI)? - AI definition and how it works

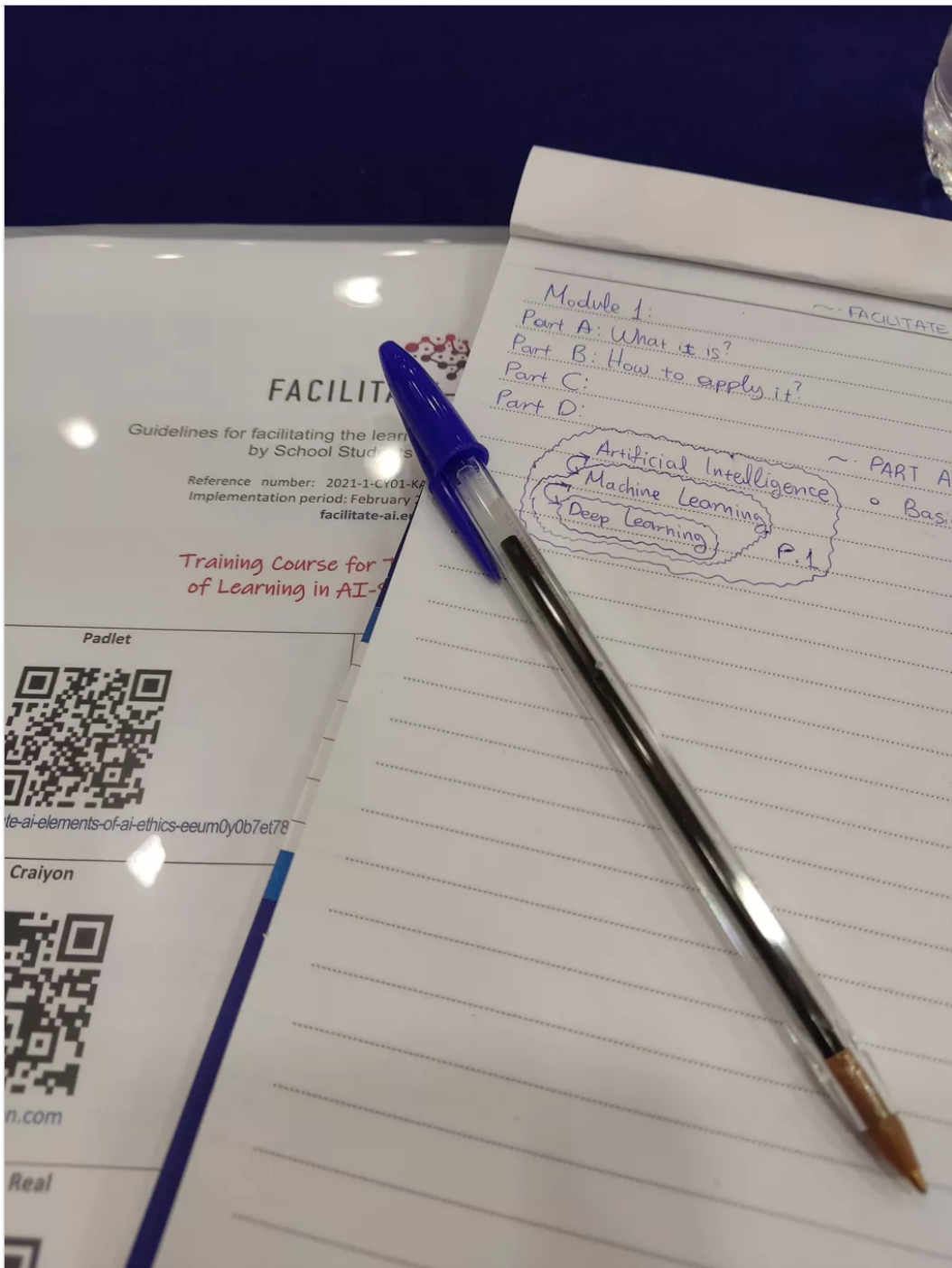
Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision. As the hype around AI has accelerated, vendors have been scrambling to promote how their products and services use it.

ENTERPRISE AI

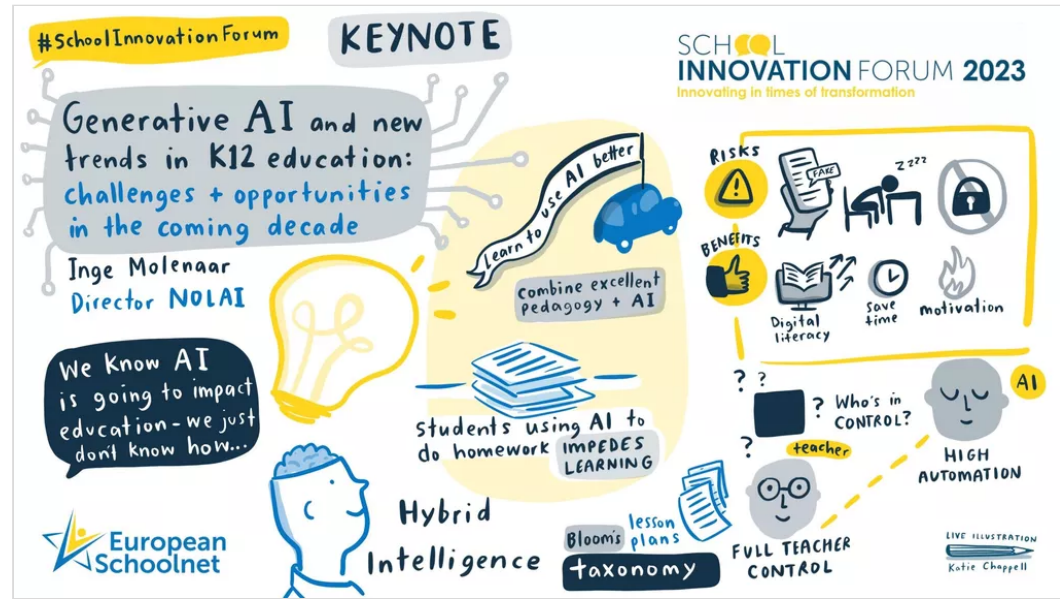


AI stands for Artificial Intelligence. It refers to the simulation of human intelligence in machines that are programmed to think and learn like humans. AI systems are designed to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, problem-solving, and language translation.

The science and engineering of making intelligent machines that can think, perceive and act under unpredictable circumstances



Warm up!



Ethics & AI: Equal Access and Algorithmic Bias
 από τον/την Code.org
 YOUTUBE

Choose one app and play...

1. Which face is real?
2. Teachable Machine (train to recognize your own images-sounds-poses)
3. Animated Drawings

Artificial Intelligence - the ability of machines to learn and problem-solve

What comes to mind when you hear the term artificial intelligence? What are examples of Artificial Intelligence you've seen either in real life or in fiction, like movies or music or television? Can you think of times when these examples were used for good and/or for bad, even if unintended? Are there things they do we might consider "right" or "wrong"?

Ethics Guidelines for Trustworthy Artificial Intelligence



My Profile

We build a data profile of ourselves based on the types of data trails we frequently leave behind when we are online

Each student get the worksheet: "My profile" with the following categories (that will you will write 3 examples for every category), without writing your names:

Text keywords I have used for online searches:

1. photos I have searched online (e.g., people, location, things)
2. online songs I have listened

3. *online videos I have watched*
4. *online games I play regularly*
5. *websites I have visited*

- Each student will be given someone else's profile to analyse and specify the type of person he/she believes would have produced this profile
- Each student suggests a product for that specific profile that has been analysed that believes it would be possible to be interested in.
- Ask the students who created the profile to verify or not if he would be interested in that product.

5 AI Areas...

Each student participates in one of 5 groups of AI experts. Each of the groups specialises in one of the 5 Areas of AI ethics.

1. Think of a specific ethical issue related to this technology. Why is this issue important? Whom does it impact? How?
2. How can this issue be addressed while maintaining the social benefits of the technology?


A short example could be:

Avoid creating or reinforcing unfair bias.

AI algorithms and datasets can reflect, reinforce, or reduce unfair biases. We recognize that distinguishing fair from unfair biases is not always simple and differs across cultures and societies. We will seek to avoid unjust impacts on people, particularly those related to sensitive characteristics such as race, ethnicity, gender, nationality, income, sexual orientation, ability, and political or religious belief.

ChatGPT can be asked for the ethical issues about AI and what it suggests about them (communicate with ChatGPT like a conversation)

Area 1:



WHY FACIAL RECOGNITION IS SO CREEPY

TECH INSIDER

What's Going On With Facial Recognition? | Untangled
από τον/την Tech Insider
YOUTUBE

Computer Vision and Sensors

Background

- **Video:** How computer vision works [\[link\]](#)
- **Article:** Five exciting computer vision applications [\[link\]](#)
- **Video:** AI, Sensors, and Data [\[link\]](#)

Ethical Issues

- **Article/Video:** AI, gender, and race [\[link\]](#)
- **Video:** AI and policing [\[link\]](#)
- **Video:** AI in the Classroom [\[link\]](#)

Privacy

By uploading data and information to an online system, the privacy of the end user may be compromised due to data selling to third parties or cybersecurity attacks

Surveillance and Monetization

Facial recognition can enhance surveillance, which is very unethical and restrictive. To resolve this, a regulatory framework must be established that prevents the exploitation of personal data and its monetization by taking legal action against it and monitoring databases.

We are never Alone - Mad

One of the main issues that increases the possibility of one's private pieces of information being accessed by **third parties**, is the lack of privacy and confidentiality within the 21st century's artificial intelligence. Facial recognition, tracking, cookies are some of the ways the web gains access to the entirety of our daily life (activities, family, relationships, job...). **Is AI simply a guide that reassures a more efficient journey in the digital era or a threat to our precious privacy?**

Area 2:



How Facebook Data Mining, And Your Info, Is Influencing The 2016 Election | TODAY

από τον/την TODAY

YOUTUBE

Background

- **Video:** 5 technologies that will change the way you shop [[link](#)]
- **Article:** How AI can help brands align with social media influencers [[link](#)]

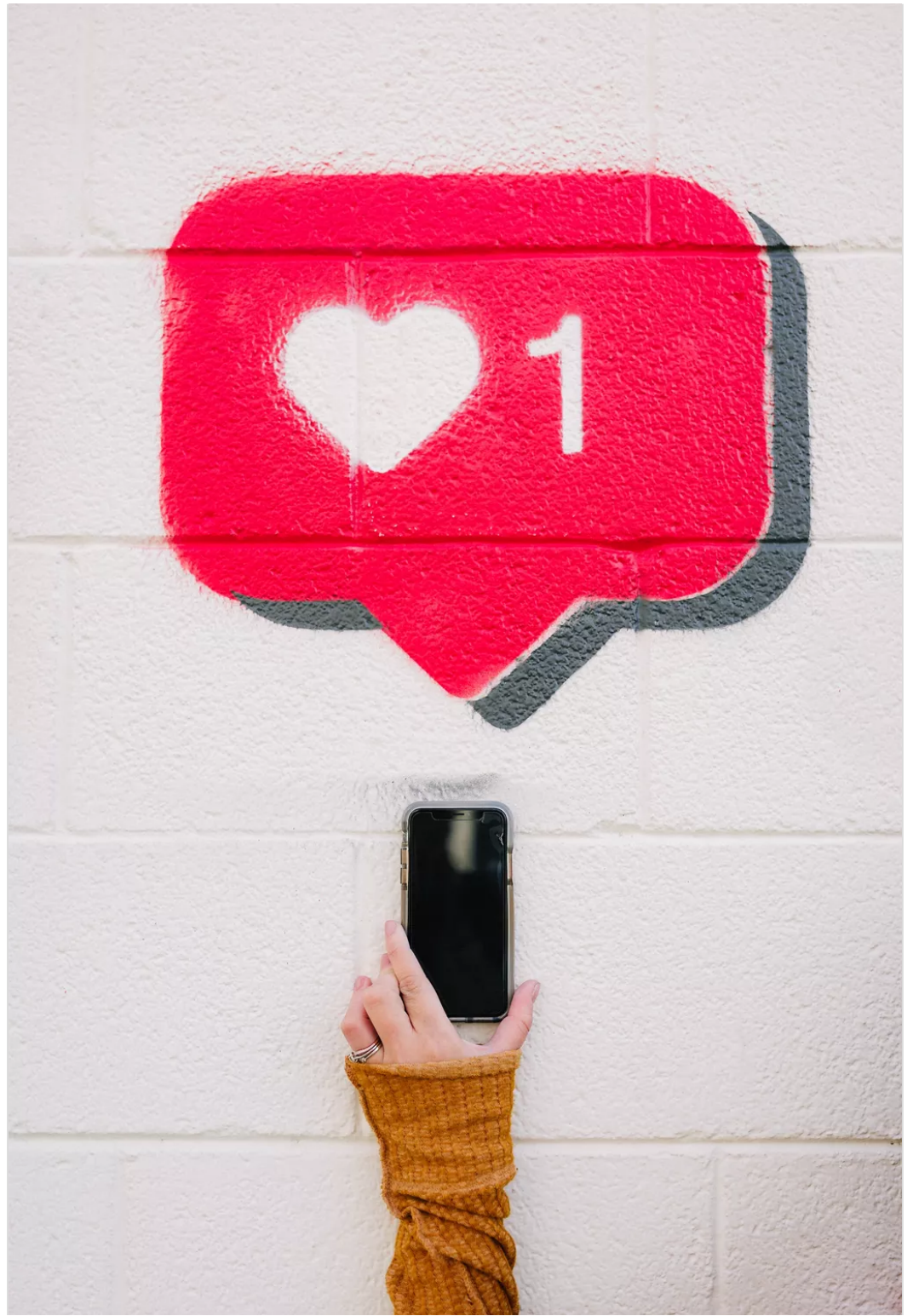
Ethical Issues

- **Article/Videos:** How AI recommends videos [[link](#)]
- **Article:** Pros and cons of AI in social media [[link](#)]
- **Article:** Social-philosophical impacts of video game AI [[link](#)]

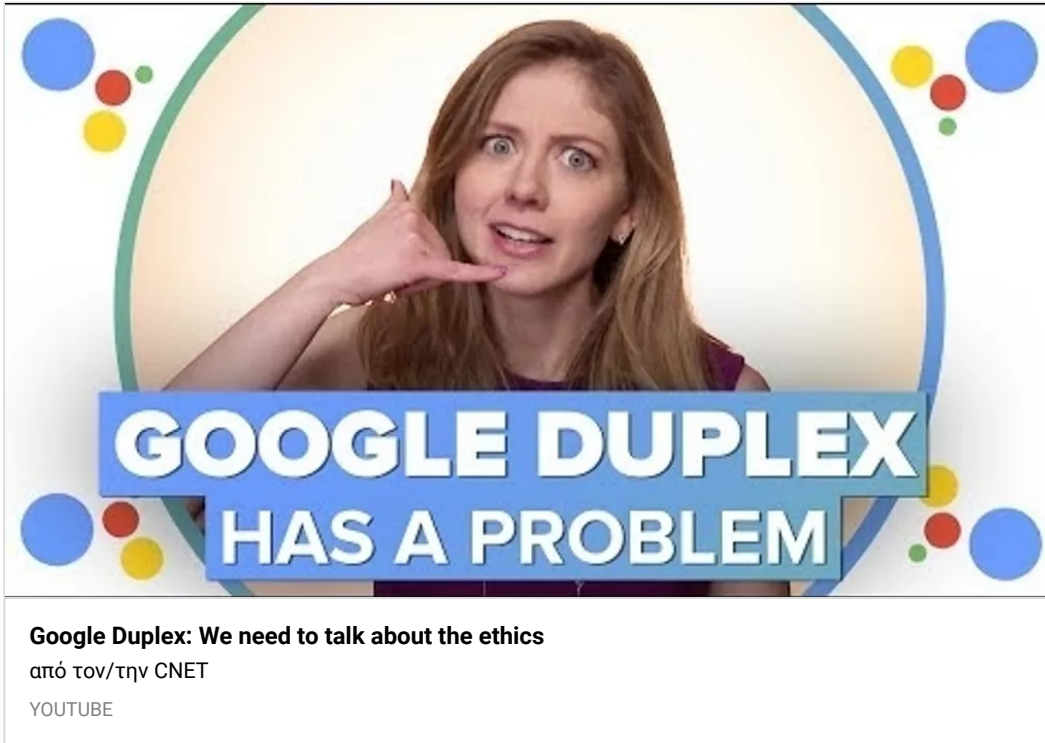
Youth Wants To Be Seen - Mad

Putting the main issues of generalized ethics aside, as this era is represented by our generation; youngsters, it is of high importance to **view AI through a more "youth-related perspective"**. We cannot deny that the majority of modern teenagers feel **alone**, lonely and **expose themselves** in platforms like Instagram, TikTok, Facebook, Reddit, Twitter, Snapchat, BeReal and so on... Furthermore, I've observed that teens yearn to **belong in a group**, since they don't find social acceptance in the already-existing community. Hence, they join various columns and groups to find the desired company. With the creation of AI, the computer starts **evolving into the new "friend" or "partner"**, who will "help us treat loneliness", when in fact, no one is there. Right?

Social Media, Shopping, and Entertainment



Area 3:



Human-Robot Communication

Background

- o **Video:** Interview with a humanoid robot [\[link\]](#)
- o **Video:** How Alexa works [\[link\]](#)
- o **Video:** Creating an “AI baby” [\[link\]](#)

Ethical Issues

- o **Article:** Why voice assistants are female [\[link\]](#)
- o **Article:** AI, race, and customer service [\[link\]](#)
- o **Video:** Social media “virtual teenager” experiment [\[link\]](#)

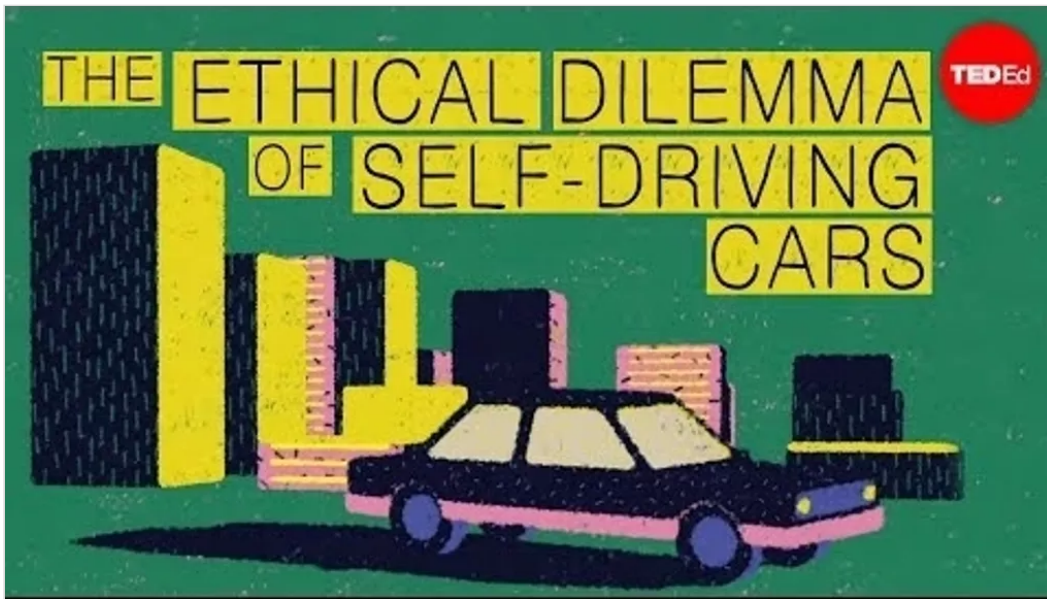
Robots cannot always answer sensitive questions such as politics.

Consciousness - Mad

Other than the significant issue of privacy and confidentiality, the concept of artificial intelligence has been entirely covered by the fear of **fully developing human consciousness**, through the applications of human behavior in its data processing. The question is; “Is the “mutation” of such forms of intelligence created by no other than humans, into a new form of “conscious beings” a **threat** to mankind?”. After all, it is strongly believed that with the conscious mind comes new types of questions, the roots of which are the **human existential dread**; something that could have an impact on the AI’s actions and view upon its creators/everyday users.



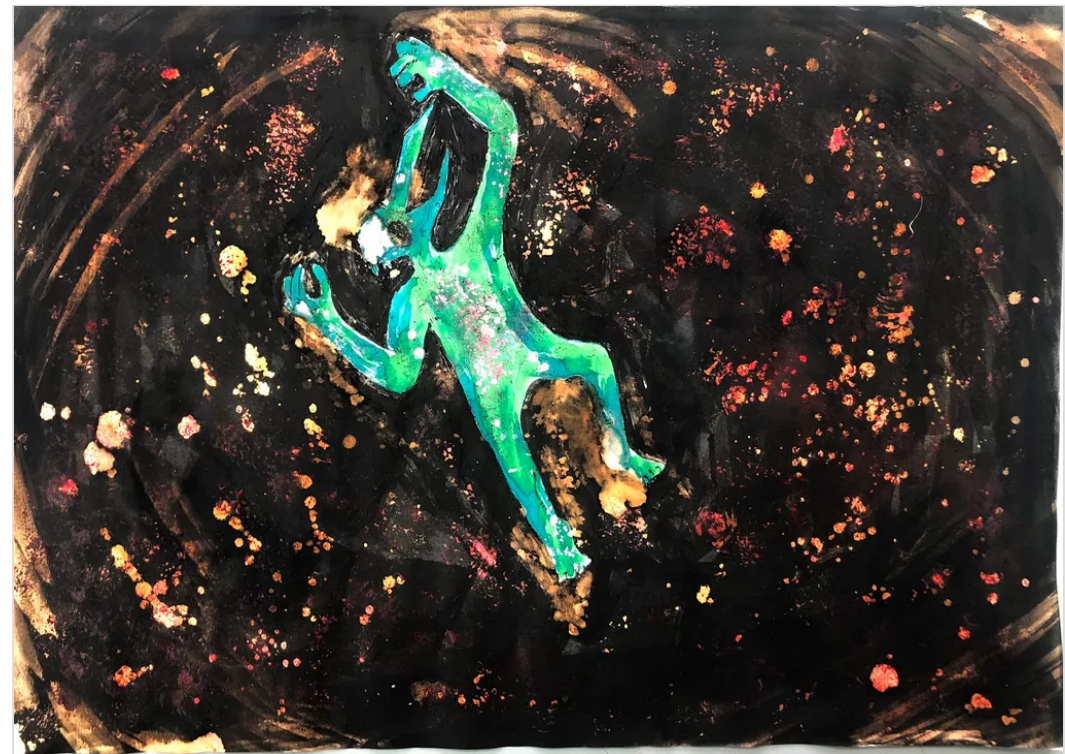
Area 4:



The ethical dilemma of self-driving cars - Patrick Lin

από τον/την TED-Ed

YOUTUBE



Area 5:

Healthcare, Human Life, and Well-being

Background

- **Video:** Top AI algorithms in healthcare [\[link\]](#)
- **Video:** Why we don't have self-driving cars yet [\[link\]](#)
- **Article:** AI solves a 50 year old science problem [\[link\]](#)

Ethical Issues

- **Article/Video:** Racial biases in healthcare AI [\[link\]](#)
- **Article:** AI and COVID-19 [\[link\]](#)
- **Video:** AI and the future of healthcare [\[link\]](#)
- **Article:** How AI bias happens and how to fix it [\[link\]](#)

Mindfulness - Mad

The roots of mental health, which has started to significantly evolve in the 21st century has been a huge argument in the field of social sciences, such as the one of **psychology**. As it is suggested that the practice of mindfulness and the state of spaciousness is a way to increase one's mentality, I believe that AI can develop the database in the field of **therapy**. However, is artificial intelligence "**emotional intelligent**" in order to comprehend such a topic?



Wildlife Insights: Saving Biodiversity with Tech and AI

από τον/την Google

YOUTUBE

1. How would you describe “AI ethics” to a family member or friend who didn’t participate in today’s activities?
2. What are guidelines we can use to create ethical machine learning apps?
3. **Can AI systems develop an ethical behaviour in the same way that humans grow to be ethical?**

Examples of AI code of ethics

Share examples of an AI code of ethics, such as those by [Google Responsibility](#).

The ethics of AI: Are we going to be good parents?

The way we are chatting with AI today is the way they will build their ethics and values system



EMERGENCY EPISODE: Ex-Google Officer Finally Speaks Out On The Dangers Of AI! - Mo Gawdat | E252

από τον/την The Diary Of A CEO

YOUTUBE

Environment, Natural Resources, and Wildlife

Background

- o **Video:** AI and sustainability [\[link\]](#)
- o **Article:** Detecting plastic litter in natural environments [\[link\]](#)

Ethical Issues

- o **Article:** Environmental costs of AI [\[link\]](#)
- o **Article:** Renewable energy for AI [\[link\]](#)
- o **Video:** How will AI impact society and the environment [\[link\]](#)
- o **Article:** AI and treatment of animals [\[link\]](#)

Pepper’s role is to assist whenever it can and answer to any question asked to it.

Conclusions

Questions:

Κανόνες στην Τεχνητή Νοημοσύνη, η Ευρώπη δείχνει το δρόμο - 2045.gr

Τι περιλαμβάνει το προσχέδιο του AI Act που ψηφίστηκε από το Ευρωπαϊκό Κοινοβούλιο; Ποιους κανόνες προσπαθεί να θέσει η Ευρωπαϊκή Ένωση στην τεχνητή νοημοσύνη;

2045.GR



Mad

As it is widely believed, in order for one to be ethical, logic, understanding of society's circumstances, as well as empathy/emotional intelligence are needed. When it comes to artificial intelligence, other than logic and understanding due to unlimited access to the internet, there's still a great lack of emotional intelligence. Therefore, even though AI is still not capable of fully grasping the idea of ethics, one could say that the needed form of intelligence will grow simultaneously as AI adapts to human behaviour.

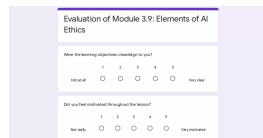
Evaluation

Questions:

- Were the learning objectives clear/align to you?
- Did you feel motivated throughout the lesson?
- What was your favourite activity or learning experience in this lesson?
- Did the lesson provide opportunities for you to develop new competences?
- What improvements or changes would you suggest for this lesson plan?

Evaluation of Module 3.9: Elements of AI Ethics

GOOGLE DOCS



References

References & Further Resources

- Video: [The ethical dilemma of self-driving cars - Patrick Lin](#)
- Video: [“Trustworthy AI: Overview of the 7 requirements for Trustworthy AI”](#)
- Code.org: [How AI Works](#)
- Code.org: [AI Ethics Research Areas](#)
- Guide: [“Ethics Guidelines for Trustworthy AI - A Definition of AI: Main Capabilities And Disciplines”](#)
- Guide: [“Hands-On for the Classroom AI Projects - A Guide on Ethics and AI \(ISTE\)”](#)
- Trustworthy AI Erasmus+ Project: [“Teaching Trustworthy AI Resources”](#)
- Website: [AI-in-education \(ISTE\)](#)
- Website: [DigCitCommit \(for Students\)](#)
- Presentation: [The ethical use of artificial intelligence \(AI\) and data in teaching and learning for Educators](#)
- Workshop: [AI-Ethic @EE - Workshop of Talos Project](#)

AI Tools

- [PhotoMath](#)
- [Symbolab](#)
- [Wolframalpha](#)
- [Seek by iNaturalist](#)
- [Verse by Verse](#)
- [Duolingo](#)
- [MuseNet](#)
- [Socratic](#)
- [Gradescope](#)
- [Century Tech](#)
- [Knewton's Alta](#)

General References-Links

- [DigCompEdu](#)
- [DigComp 2.2](#)
- [Data Literacy Education Framework](#)
- [Conceptualizing AI literacy](#)
- [Designing Digital Literacy Activities](#)
- [Online Testing Tool](#)

What Is a Dataset in Machine Learning

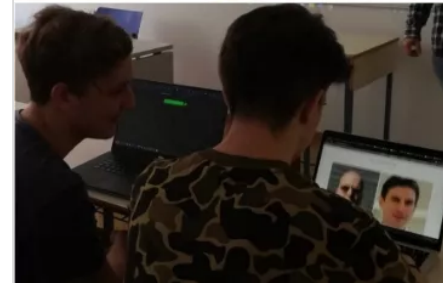
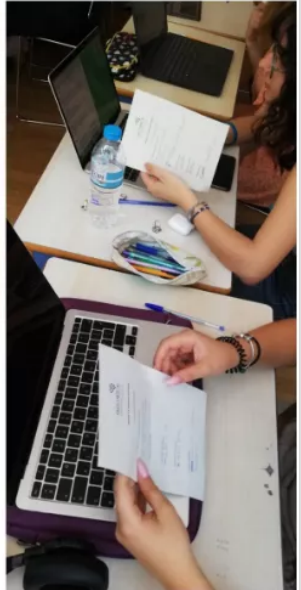
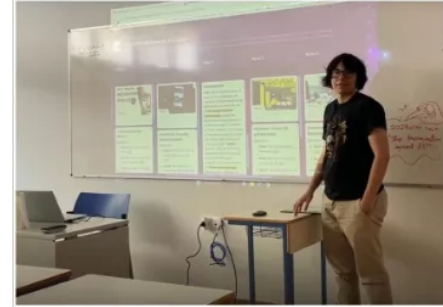
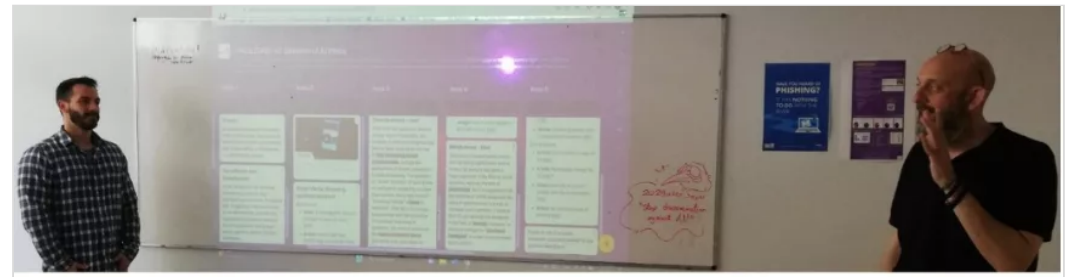
- [Cartoon Emotions](#)

- [Betaface API](#)
- [Luxand - Face Recognition for Developers](#)
- [Search what you see](#)
- [AI Experiments](#)

Classroom Implementation

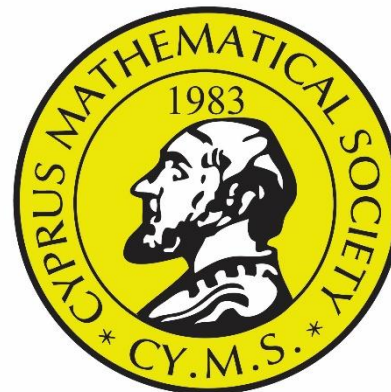
Theory Of Knowledge Class

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FACILITATE – AI Partners



Plovdiv University
"Paisii Hilendarski"



ITCSPACE "E. MORANTE" LIMBIATE



Prof. Ivan Apostolov
ENGLISH LANGUAGE SCHOOL