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Facial recognition technology and protection of fundamental rights

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FACIAL RECOGNITION TECHNOLOGY AND PROTECTION OF FUNDAMENTAL RIGHTS

Raphaël Déchaux

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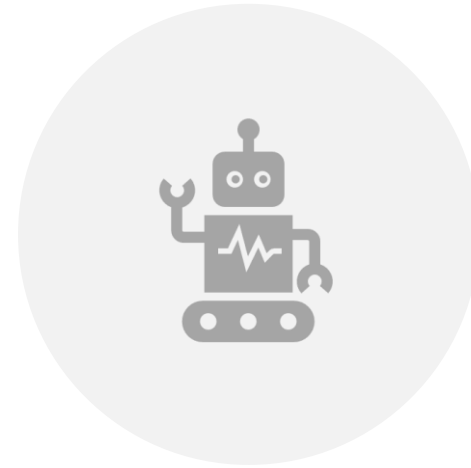


What is *Artificial Intelligence* (AI) ?

What is AI ?



**EXPERT SYSTEMS OR
*SYMBOLIC ALGORITHMS***

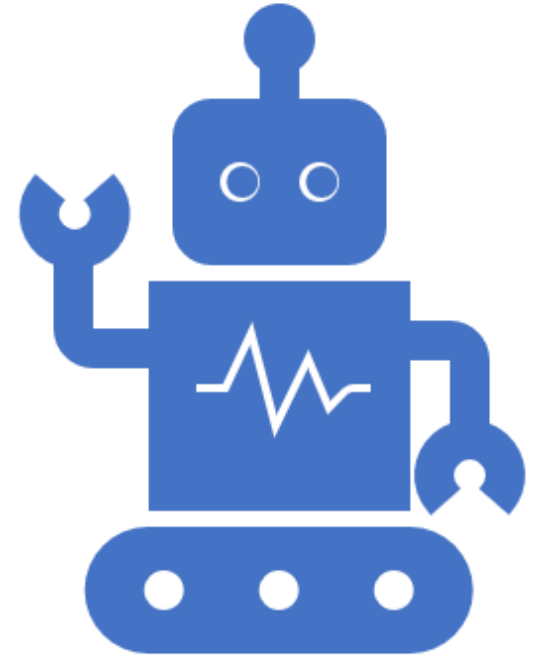


**MACHINE LEARNING OR
CONNECTIONIST ALGORITHMS
*(DEEP LEARNING)***

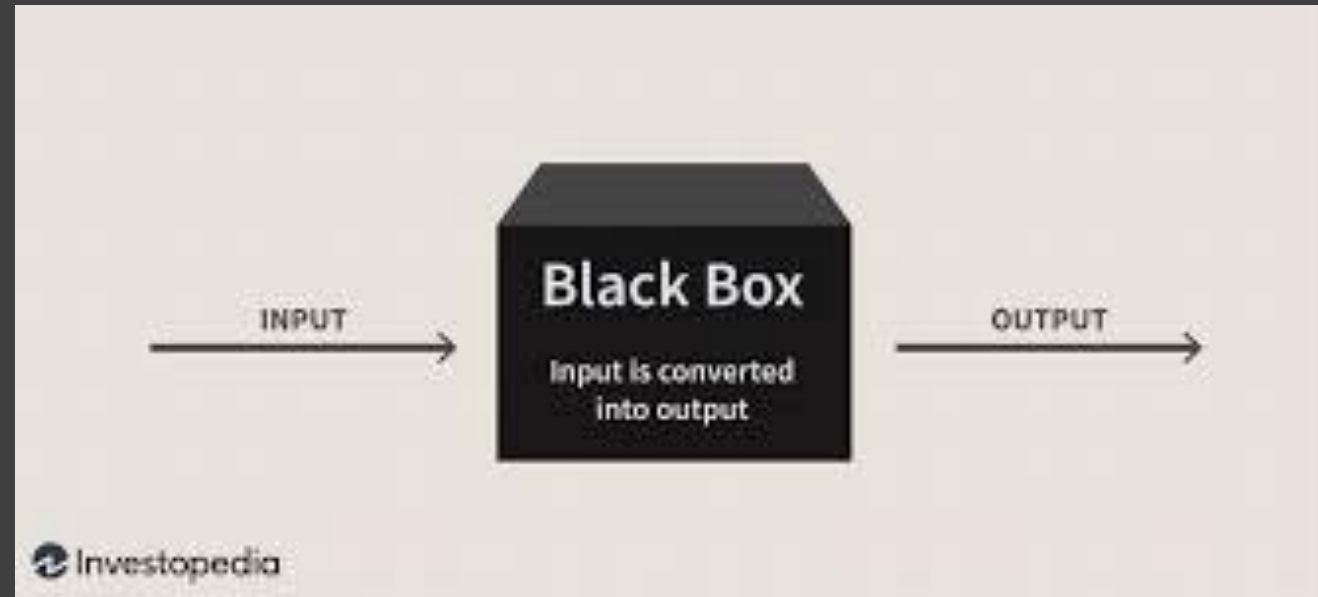
What is AI ?

Automated decision-making > human decision-making

- Big Data
- No emotion bias



Deep- Learning AI



black box effect



Facial recognition technology (FRT)

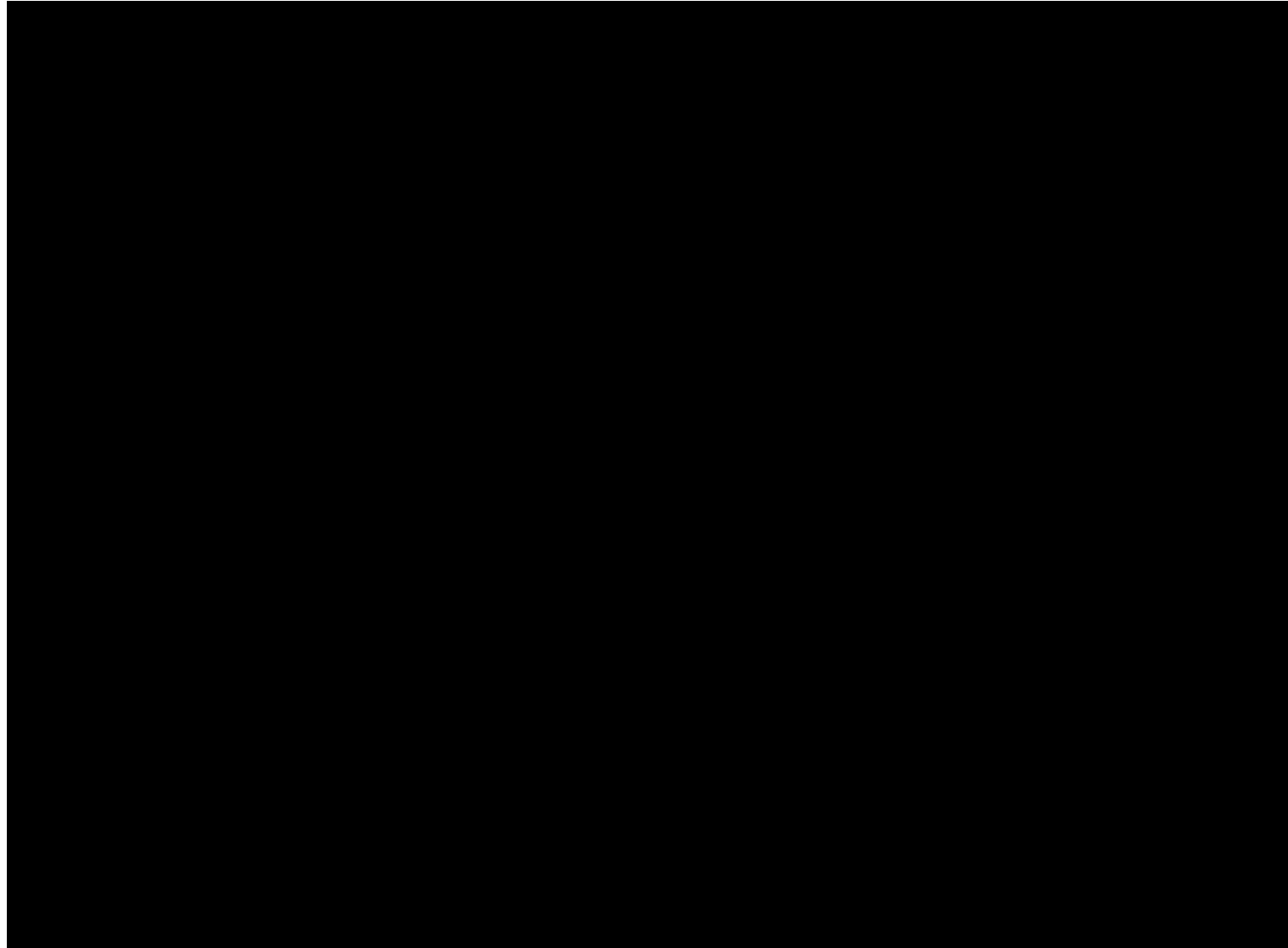
Increased
computing power
(Deep-Learning)
Increased *data*
access (pictures)

3 QUESTIONS

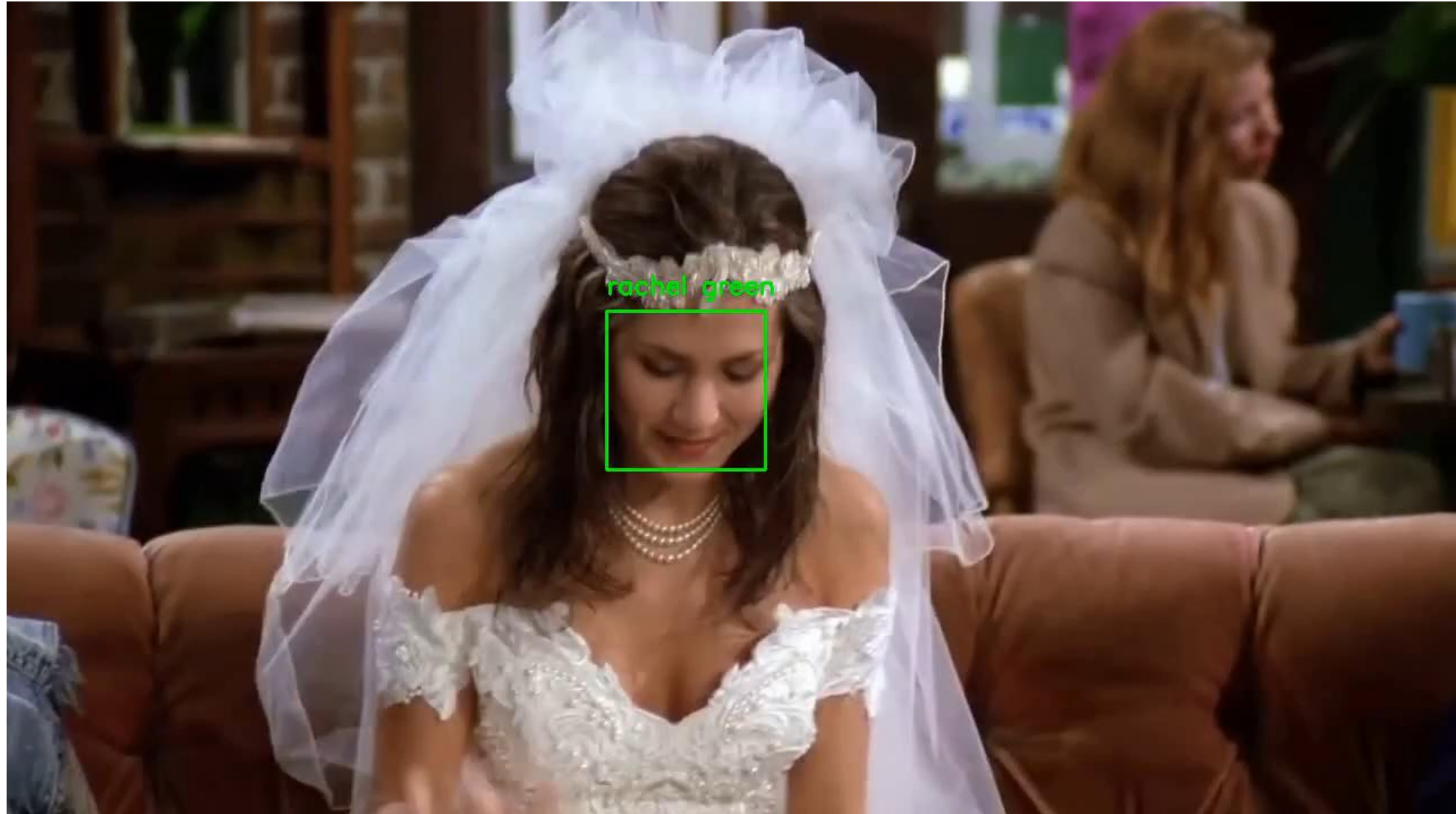
- What is facial recognition?
- What are the potential harms for human rights of facial recognition?
- What is the position of the European regulation on facial recognition?

**1ST CHAPTER:
WHAT IS FACIAL RECOGNITION?**

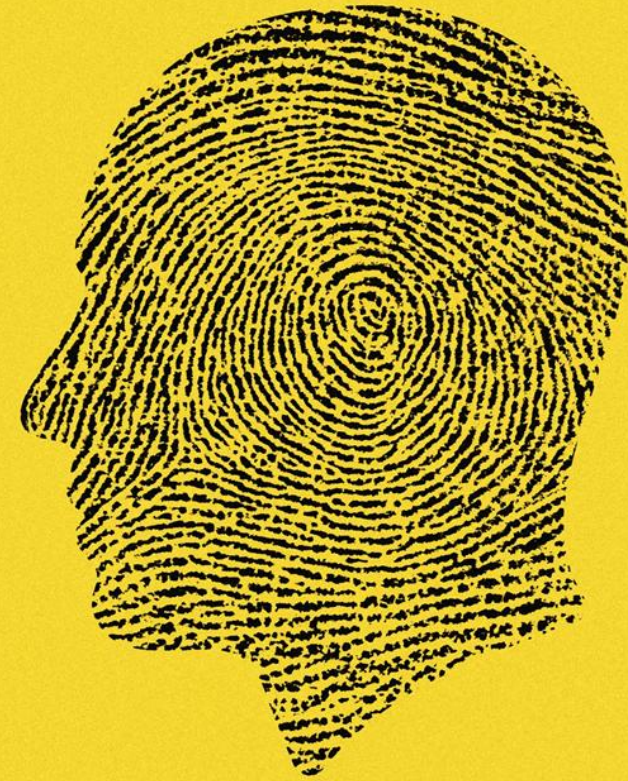
Old (and malfunctioning) FRT



Actual Facial Recognition (in progress)



§1 FACIAL IMAGES AS A
UNIQUE BIOMETRIC
IDENTIFIER



FRT = identification system

The three kinds of FRT

- **Verification** or authentication is often referred to as one-to-one matching.
- **Identification** means that the template of a person's facial image is compared to many other templates stored in a database to find out if his or her image is stored there.
 - Automated Facial Recognition (AFR)
 - Live Facial Recognition Technology (LFRT)
- **Categorisation** deals with deducing whether an individual belongs to a specific group based on his or her biometric characteristics – for example, sex, age, or race.



§2 THE APPLICATIONS OF FRT



In the public sector



In the private sector



Face recognition



To ensure the quality of the premise, according to customer feedback, the function of a comprehensive optimization, more humane upgrade



Multi-language



Verification



3 level user rights



Face recognition

**2D CHAPTER:
WHAT ARE THE POTENTIAL HARMS
FOR HUMAN RIGHTS OF FACIAL
RECOGNITION?**

§1 THE RISKS OF FRT MALFUNCTIONING

AI Issues:

- significant progress in interpreting clinical data.
- capable of considering a complex environment and ranking various values ?



Origins of Deep-Learning

Yann le Cunn
The data solution



Illustration of
“black box effect”
issues:
anthropomorphism



Predicted: wolf
True: wolf



Predicted: husky
True: husky



Predicted: wolf
True: wolf



↙ Predicted: wolf
True: husky



Predicted: husky
True: husky



Predicted: wolf
True: wolf

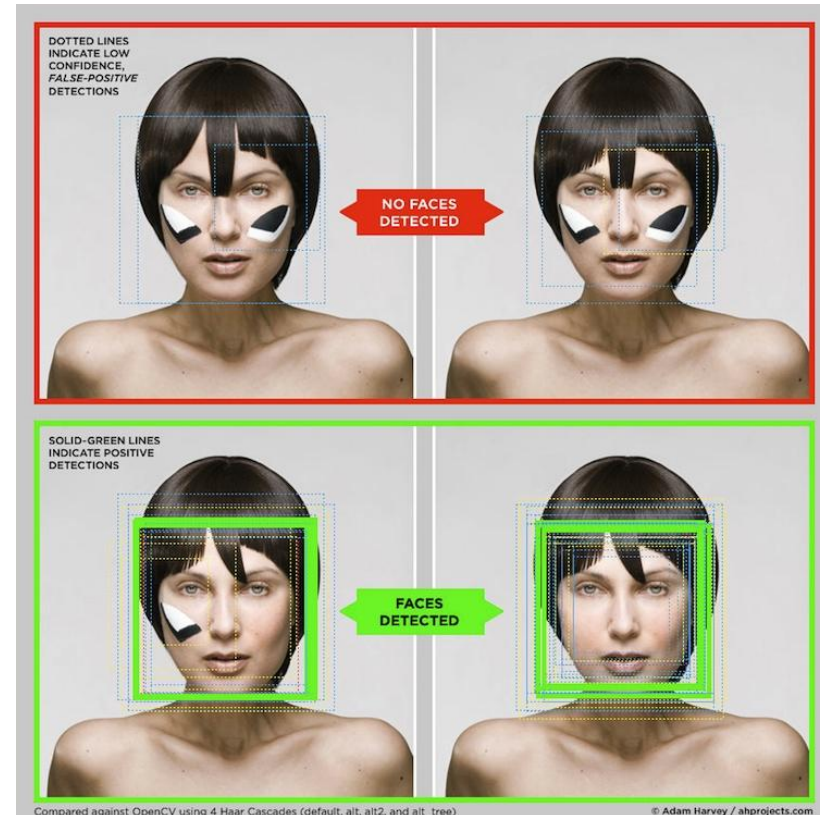
False facial recognition

Human emotions recognition : quackery

- “false positive” : situation where an image is falsely matched to another image on the watchlist
- “False negatives” : situation where the images deemed not to be matches, but in fact are matches

The two faces do NOT match	True Negative	False Positive
The two faces really DO match	False Negative	True Positive
	Algorithm says NOT a match	Algorithm says match

A question of quality of facial images ?



§2 THE RISKS OF
VIOLATION OF
FUNDAMENTAL RIGHTS

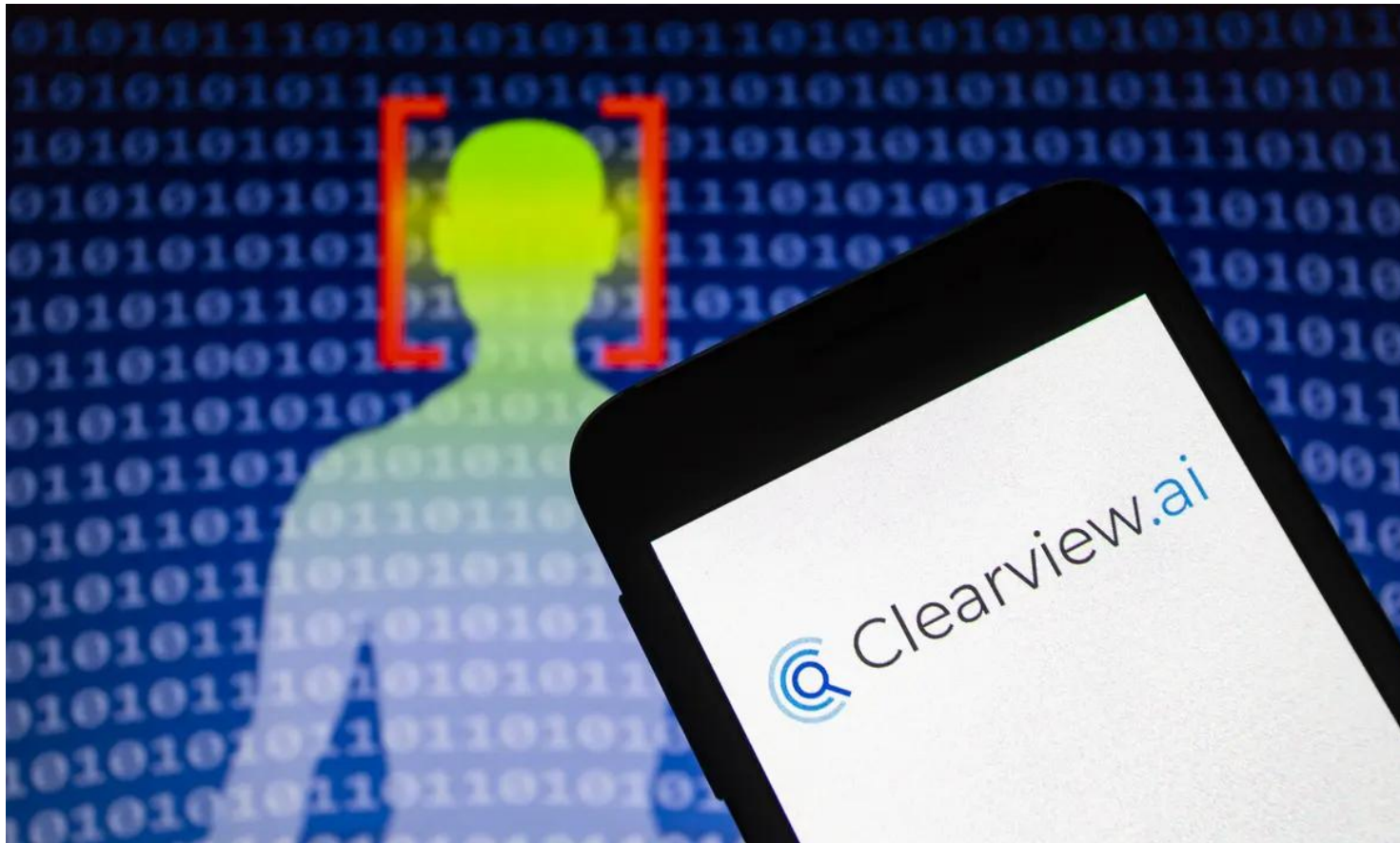
Discrimination issue

August 2018 Accuracy on Facial Analysis Pilot Parliaments Benchmark



Amazon Rekognition Performance on Gender Classification





 Clearview.ai

**€20 Million
GDPR Fine**



**ClearviewAI has 10
BILLION images of
our faces**



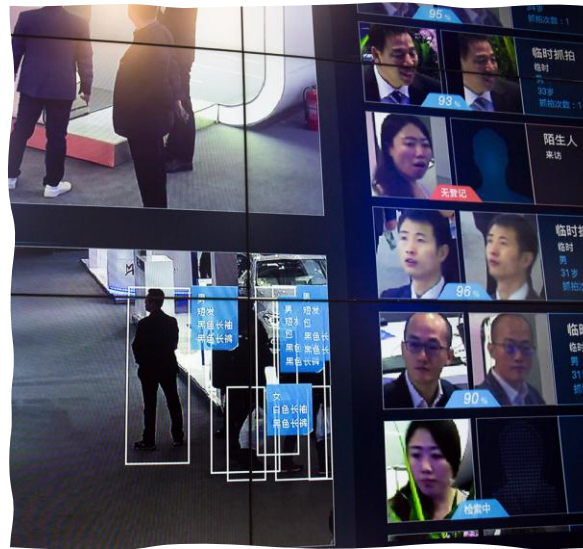
Here's what they are doing and
how we are fighting it



Clearview AI scandal

Privacy issues

- ECHR *Olsson v. Sweden*. Is FRT part of a pressing social need ?
- CJUE *Tele2*: generalized storage and administrative access to connection data of all users of telecommunications services did not comply with Articles 7 and 8 of the CFREU (generalized surveillance of citizens)
- case-by-case perspective:
 - the list of offenses justifying the use of technology
 - restricting the use of these devices in time and space
 - duration of retention and access to data.



Other fundamental principles

- *Proportionality*
 - restricted to prevention or resolution of the most serious crimes.
- *Transparent and clear provision of information*
- *Freedom of expression and freedom of assembly and of association*
 - Interdiction to use facial recognition for political reasons



**3TH CHAPTER:
WHAT IS THE POSITION OF THE
EUROPEAN REGULATION ON FACIAL
RECOGNITION?**



The need for european legal regulation

No domestic regulation :
Italian memorandum (31
December 2021).

Why should international
regulation be "better" or
"more effective" than
national regulation?

- globalization of the digital economy
- context of international competition



§1 The Council of Europe's approach



Convention 108 on data protection

The Council of Europe approach

- Right to transparency (art. 8)
- Right not to be subject to a unilateral decision (art. 9,1a).
- Right to obtain knowledge of the reasoning (art. 9,1c).

Guidelines on facial recognition



Consultative Committee of
the Convention for the protection of
individuals with regard to automatic
processing of personal data

Convention 108

Treaty on Artificial Intelligence

2nd plenary meeting

21-23 September 2022

**Council of Europe's Committee
on Artificial Intelligence**

CAI

CAHAI
Ad hoc
Committee
on Artificial
Intelligence



§2 The EU's approach

EU soft law

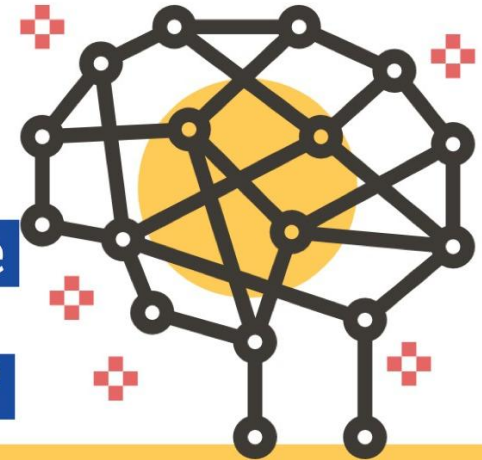
European Parliament's resolution
on *artificial intelligence in criminal law*
(October 2021)

European Data Protection Board,
opinion (June 2021)

European Union Agency for
Fundamental Rights



How do
we ensure
Artificial
Intelligence
respects
your rights?



JOIN THE DEBATE 14.12.2020





2) The AI Act

**ARTIFICIAL INTELLIGENCE
ACT**

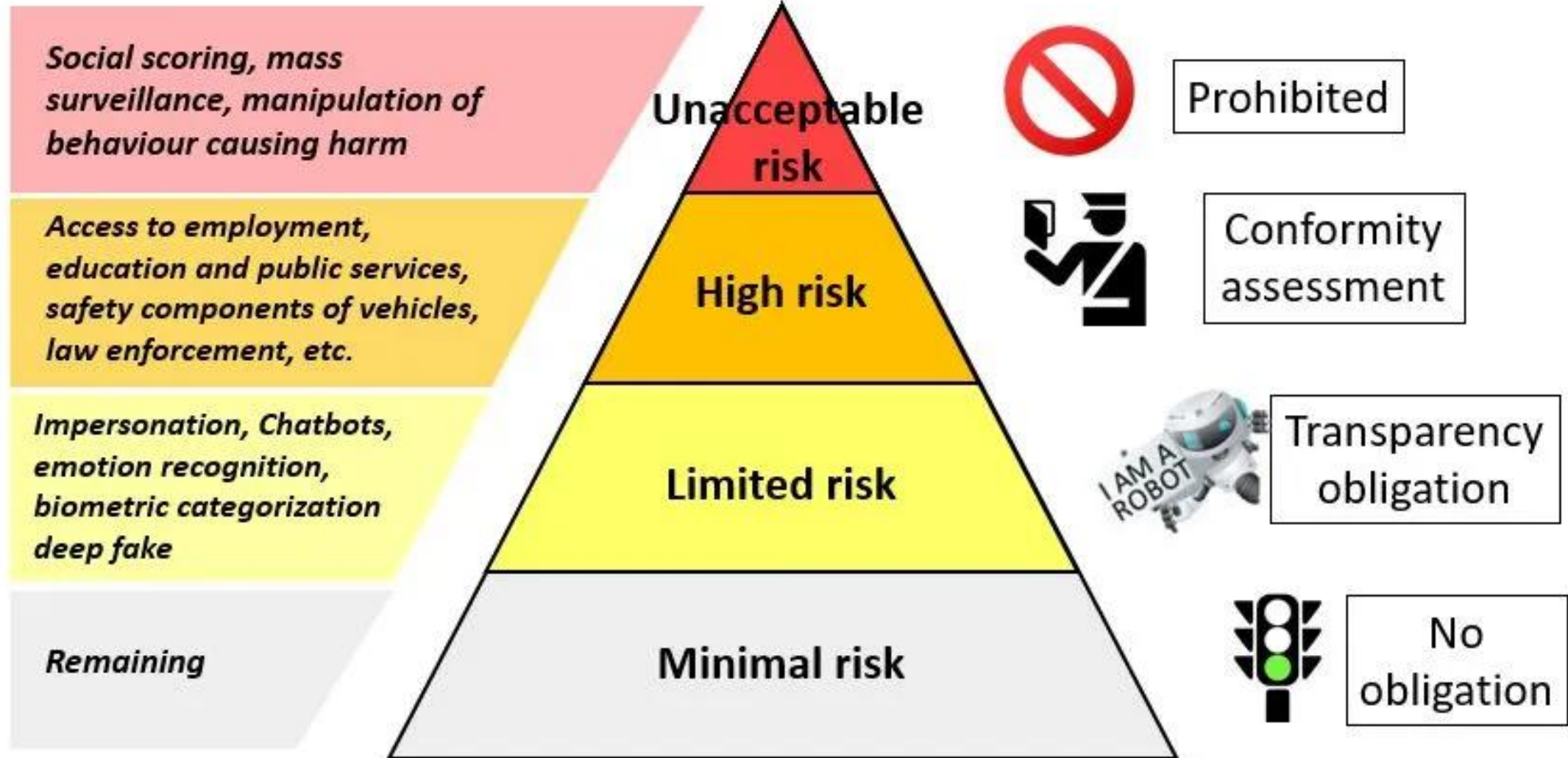
2) The AI Act

Key dates

- June 14, 2018 : Independent High-Level Expert Group on Artificial Intelligence
- February 19, 2020 : White paper
- October 2, 2020 : Decision of the European Council
- April 21, 2021 : IA Act draft
- Janvier 25, 2022 : start of discussions in the EP.



EU Artificial Intelligence Act: Risk levels



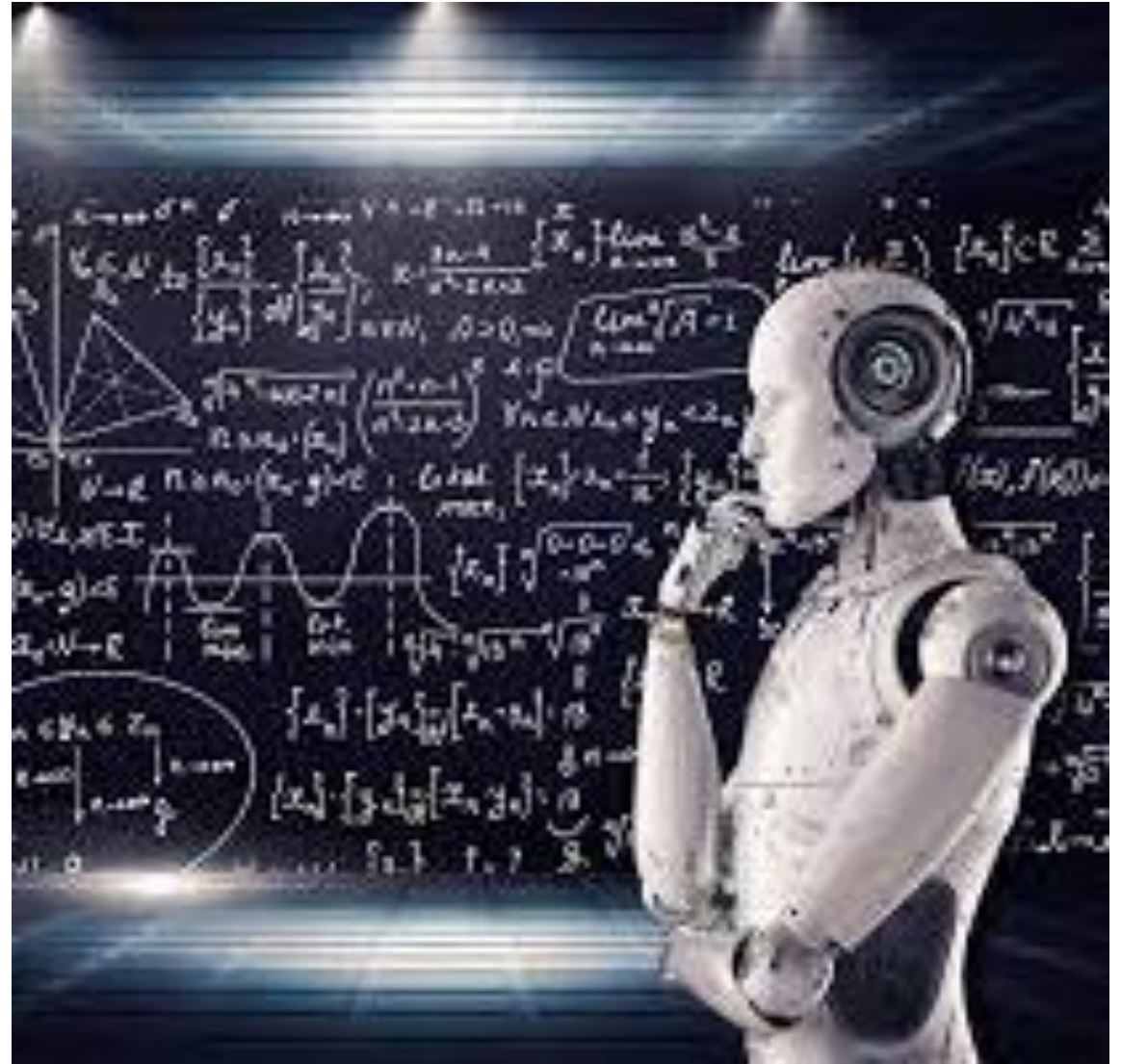


Needs for a CE label



The RFT in the AI Act

- it authorizes real-time facial identification for the prosecution of *thirty-two* criminal offenses (Framework Decision 2002/584 JHA)
- require a previous authorization by "a judicial authority or an independent administrative authority" of the member state (with exceptions)
- distinction between "real-time" biometric surveillance and "ex-post" biometric surveillance
- Sandbox possibility





Thank you for your attention...
