

AI in Healthcare

AI in Healthcare

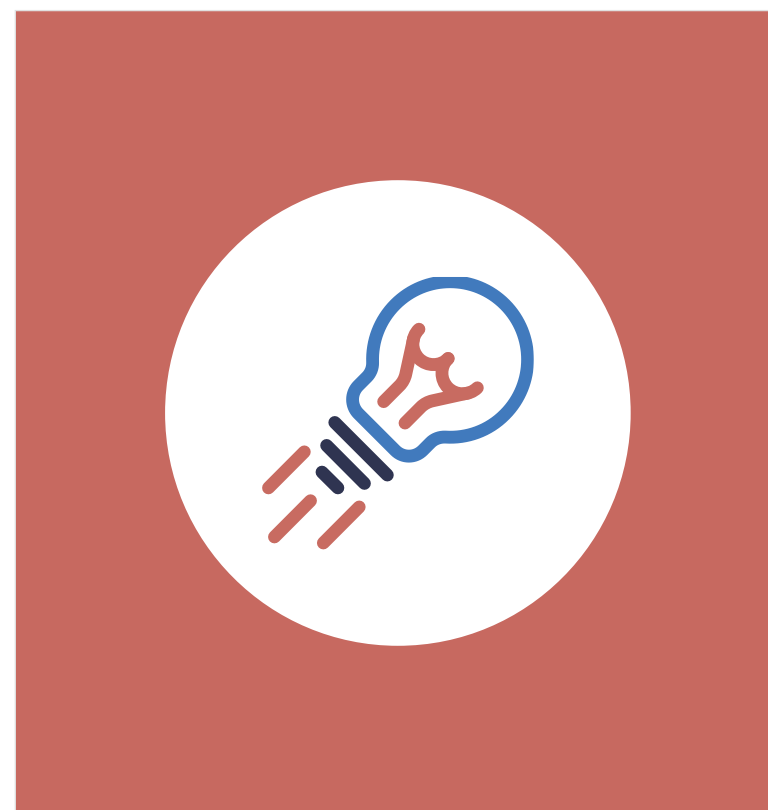


Over BlueHealth Innovation Center

STRATEGIE



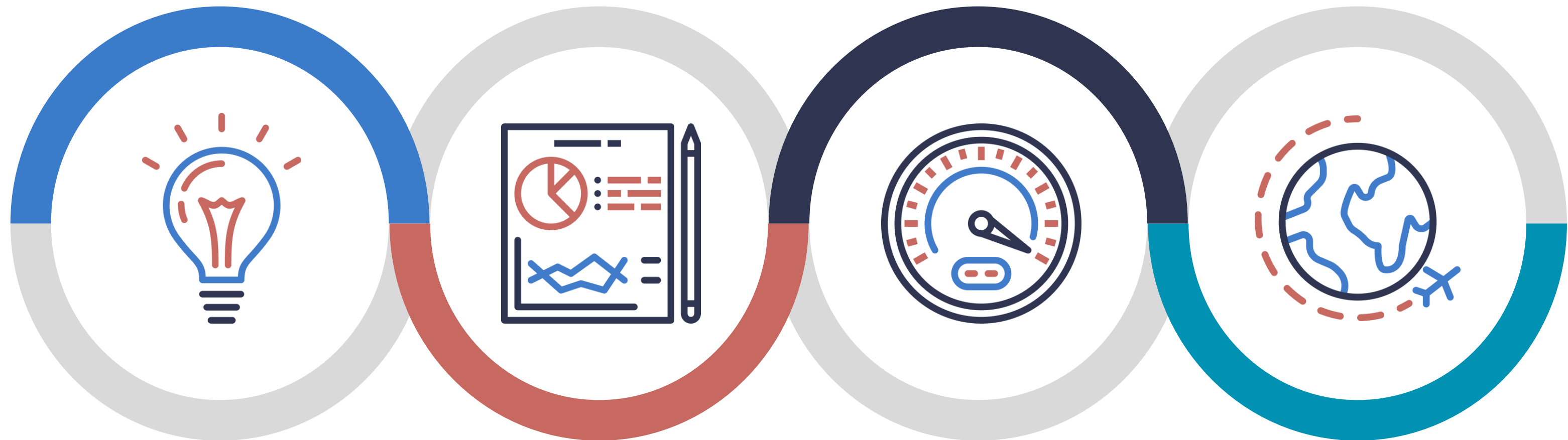
STUDENTEN



START-UPS



ZORGACTIONEN



IDEATION
from nothing to idea

INCUBATION
from idea to business plan

ACCELERATION
from business plan to market

SCALING
from market to internationalization

OVERHEID



ZORG- & ACADEMISCHE INSTELLINGEN



INDUSTRIE



LOCATIES



GENK – C-MINE CRIB



ANTWERPEN – STARTUPVILLAGE



GENT – DE KROOK



BlueHealth Innovation Center

supported by  Microsoft



Over deze LiveStream...

Vragen, Suggesties, Polls,...

slido

Product

Solutions

Pricing

Resources

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Joining an event?

#

Enter event code

Join

#BHIC

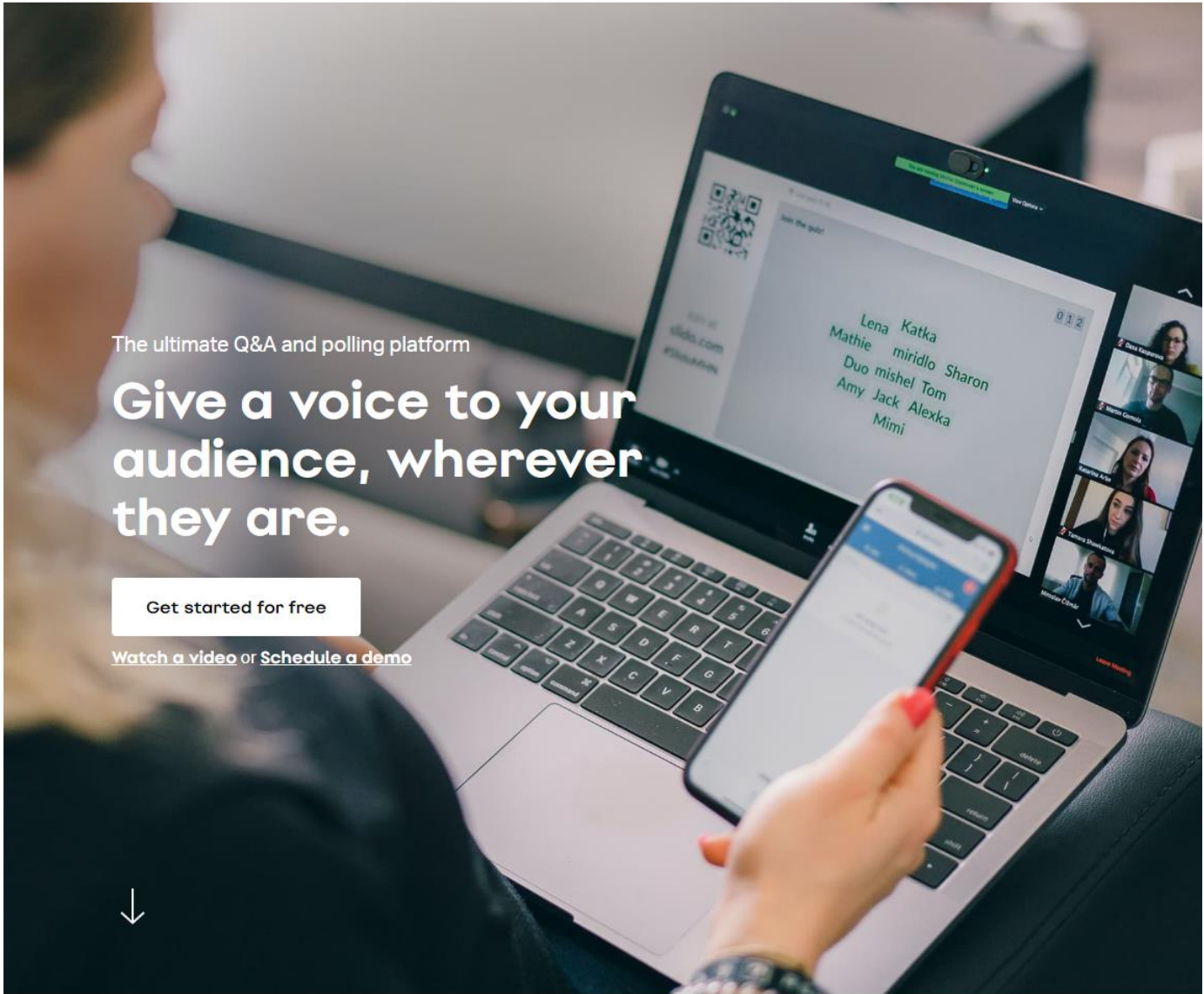
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↓





Vragen, Suggesties, Polls,...



AI in Healthcare

AI & Ethiek



AI in de praktijk



AI in Healthcare



AI in Healthcare



Geertrui Mieke De Ketelaere

MENS VERSUS MACHINE

Artificiële intelligentie
ontrafeld

PELCKMANS

Geertrui Mieke De Ketelaere

HOMME VERSUS MACHINE

L'intelligence artificielle
démystifiée

PELCKMANS

Geertrui Mieke De Ketelaere

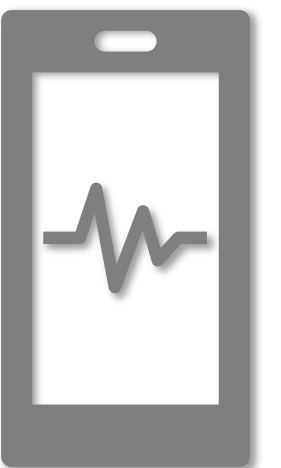
WANTED: HUMAN-AI TRANSLATORS

Artificial Intelligence
Demystified

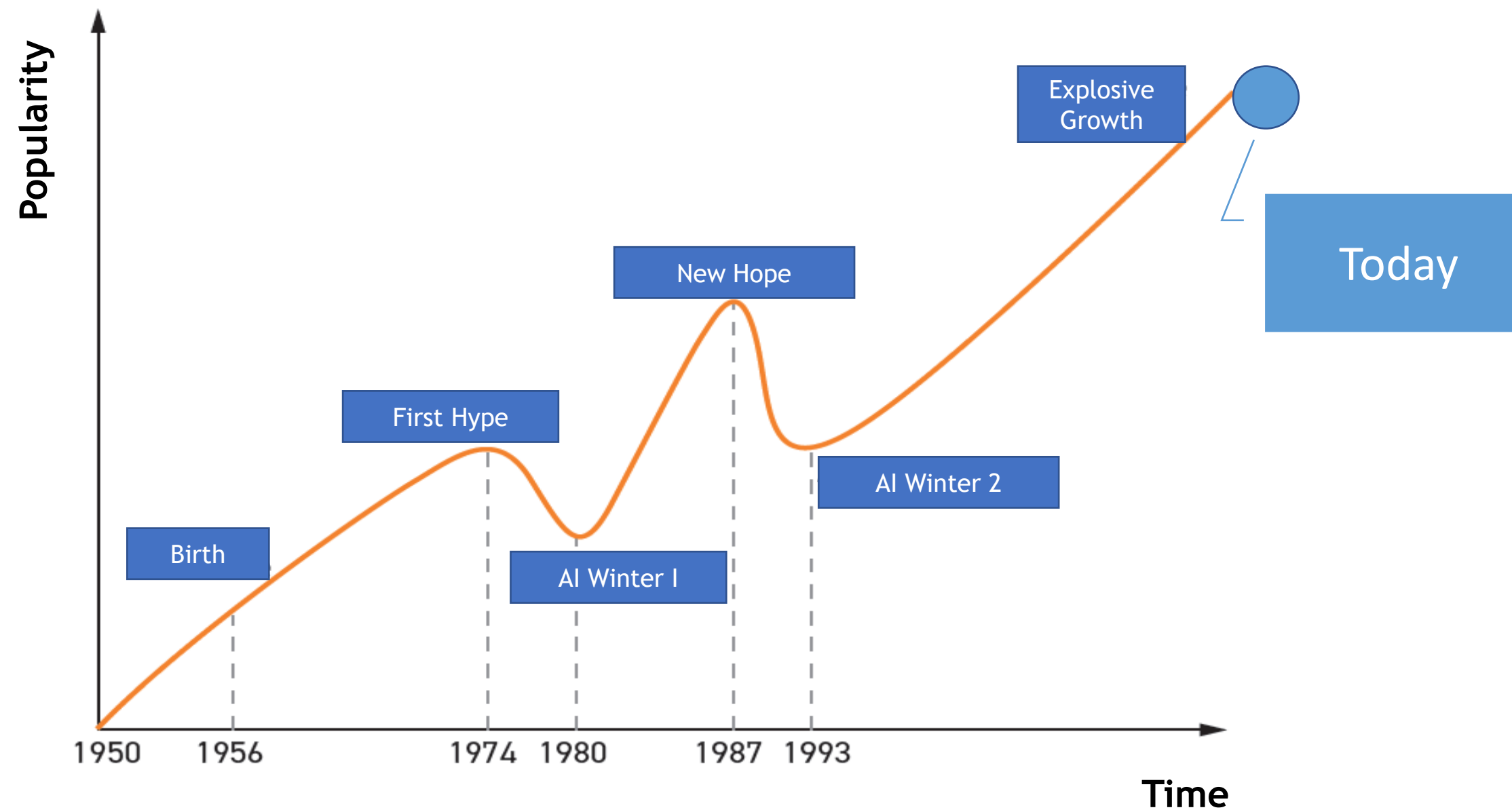
PELCKMANS

POLL:

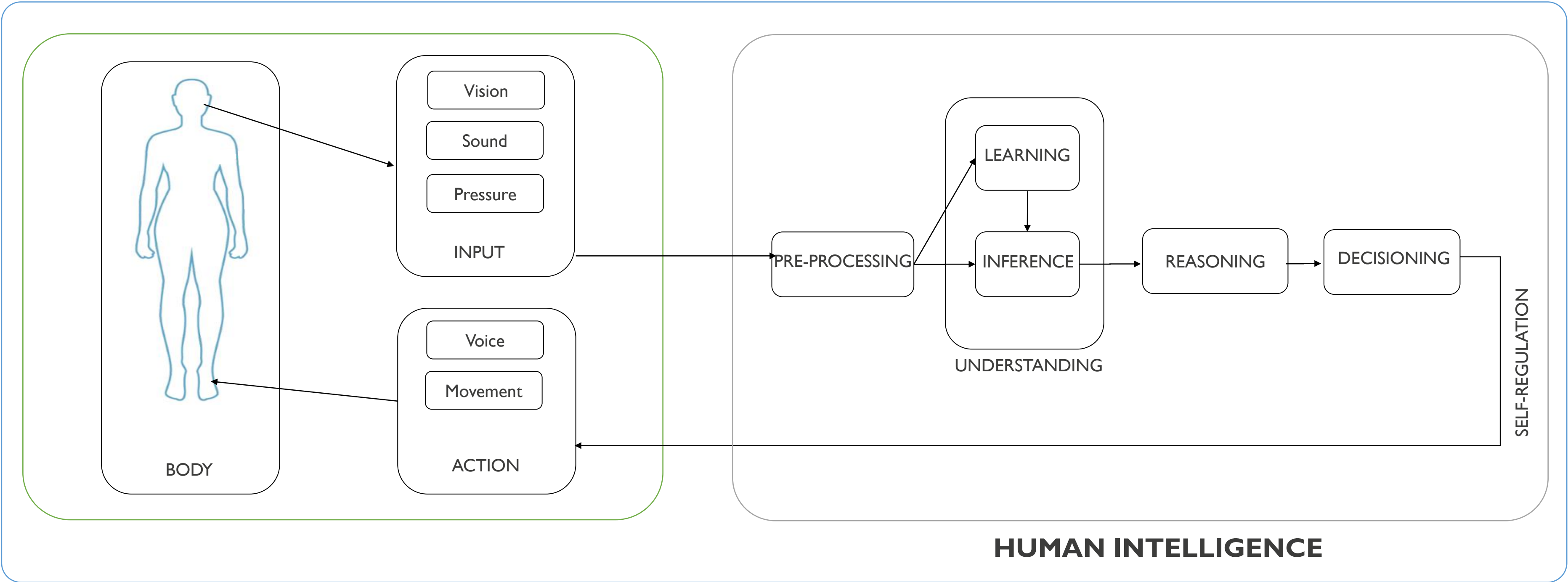
WANNEER WERD DE TERM AI
VOOR HET EERST GEBRUIKT?



WELCOME IN AI-LAND



HUMAN INTELLIGENCE TODAY

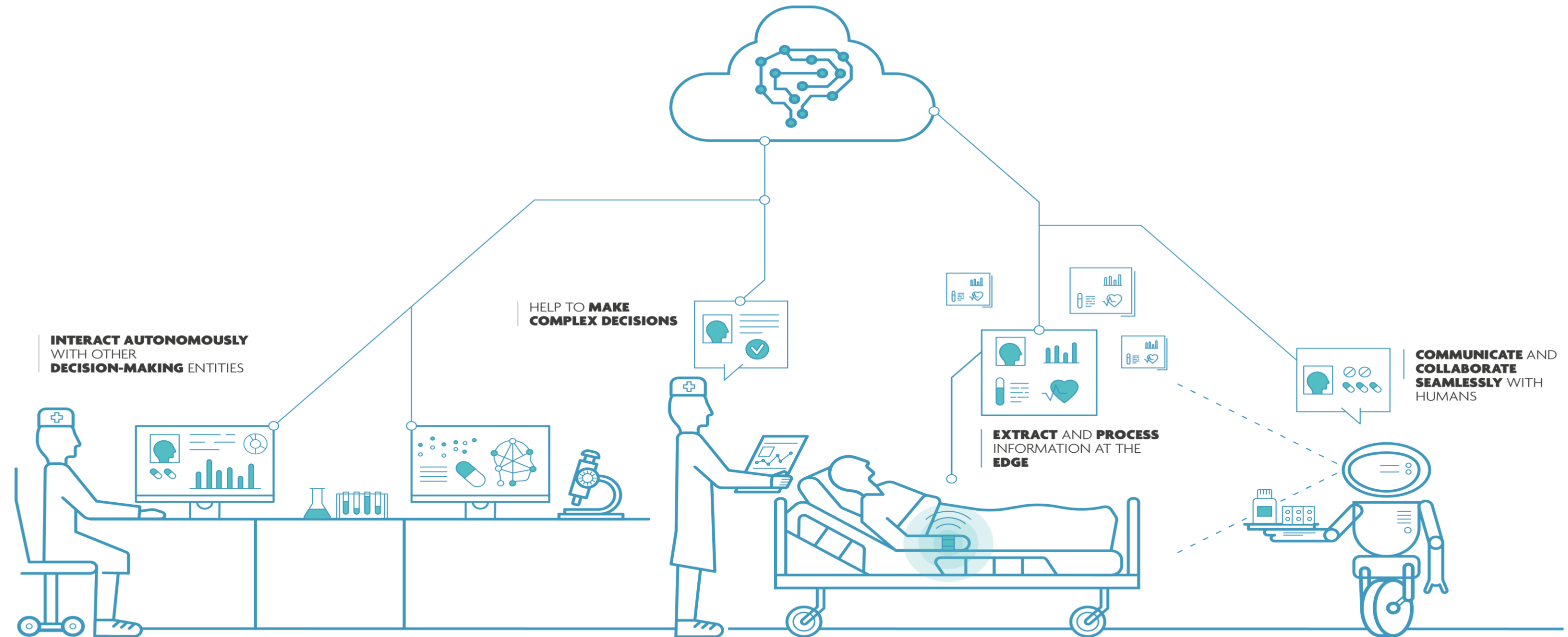


HUMAN DECISIONING SYSTEM

WELCOME TO AI-LAND

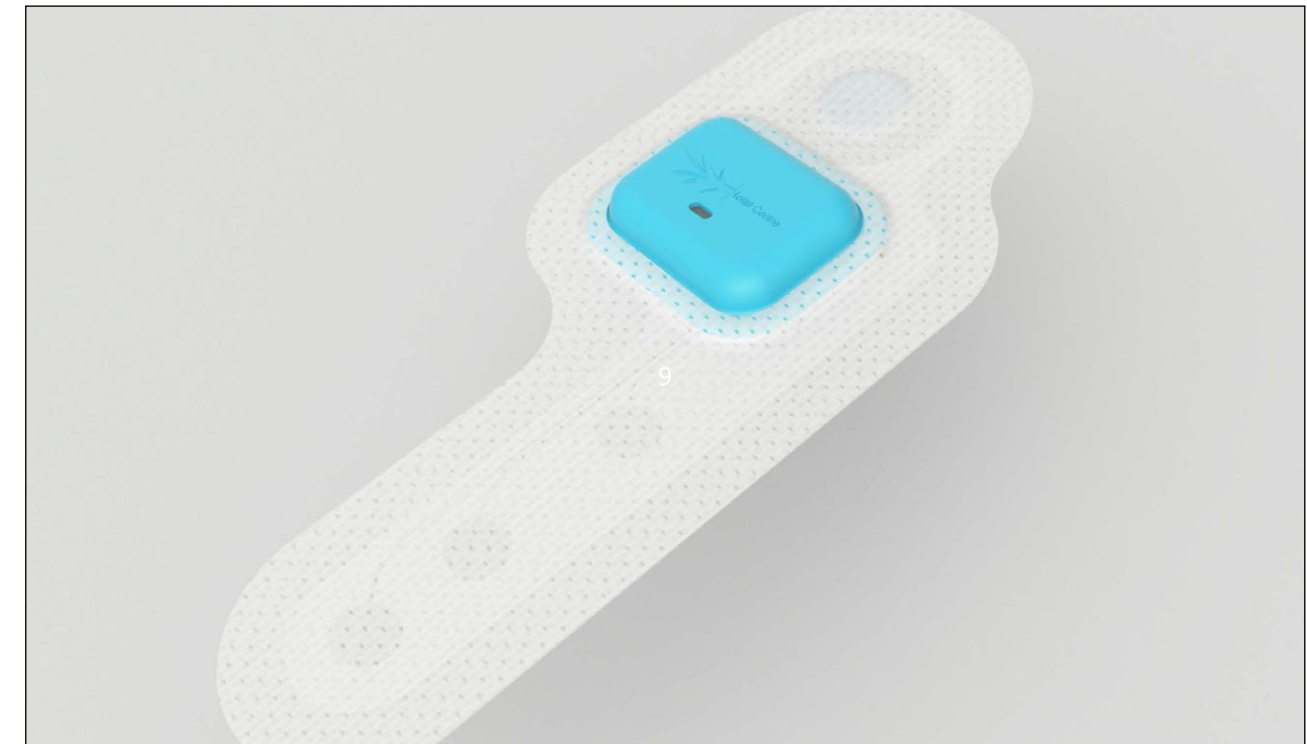
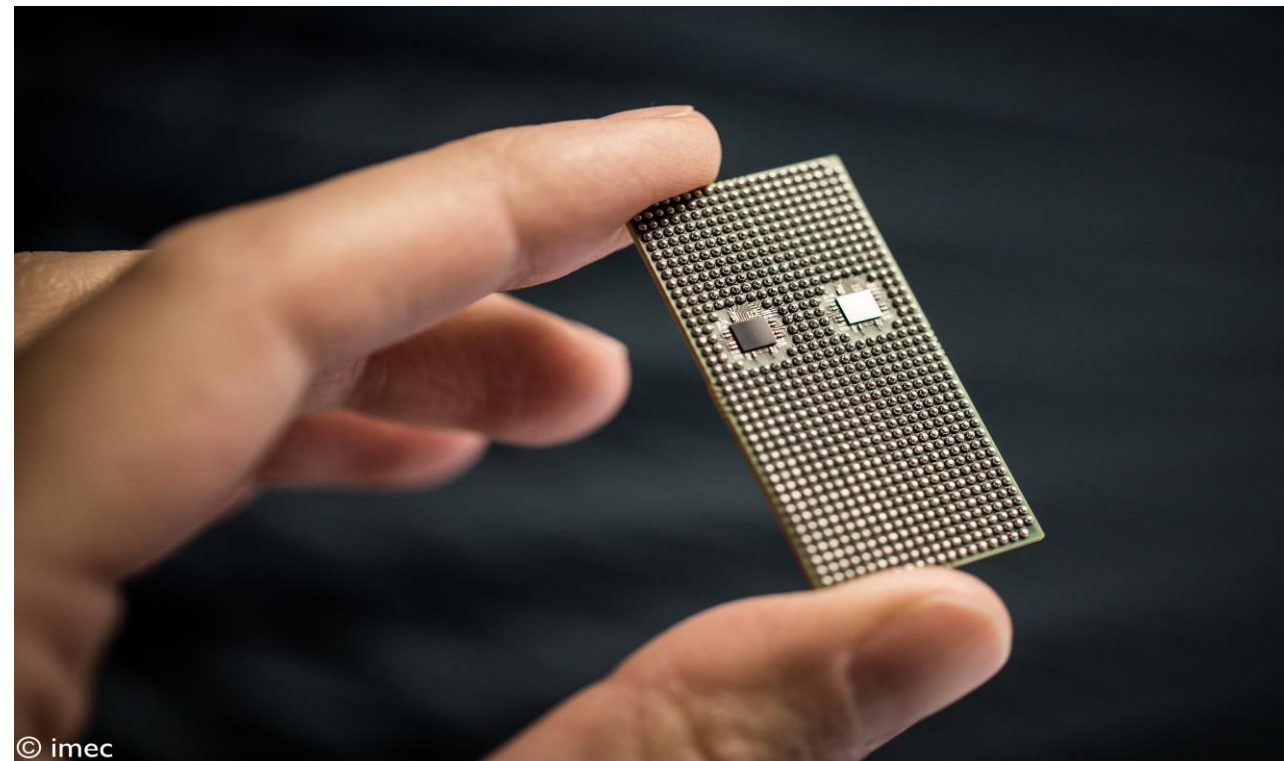
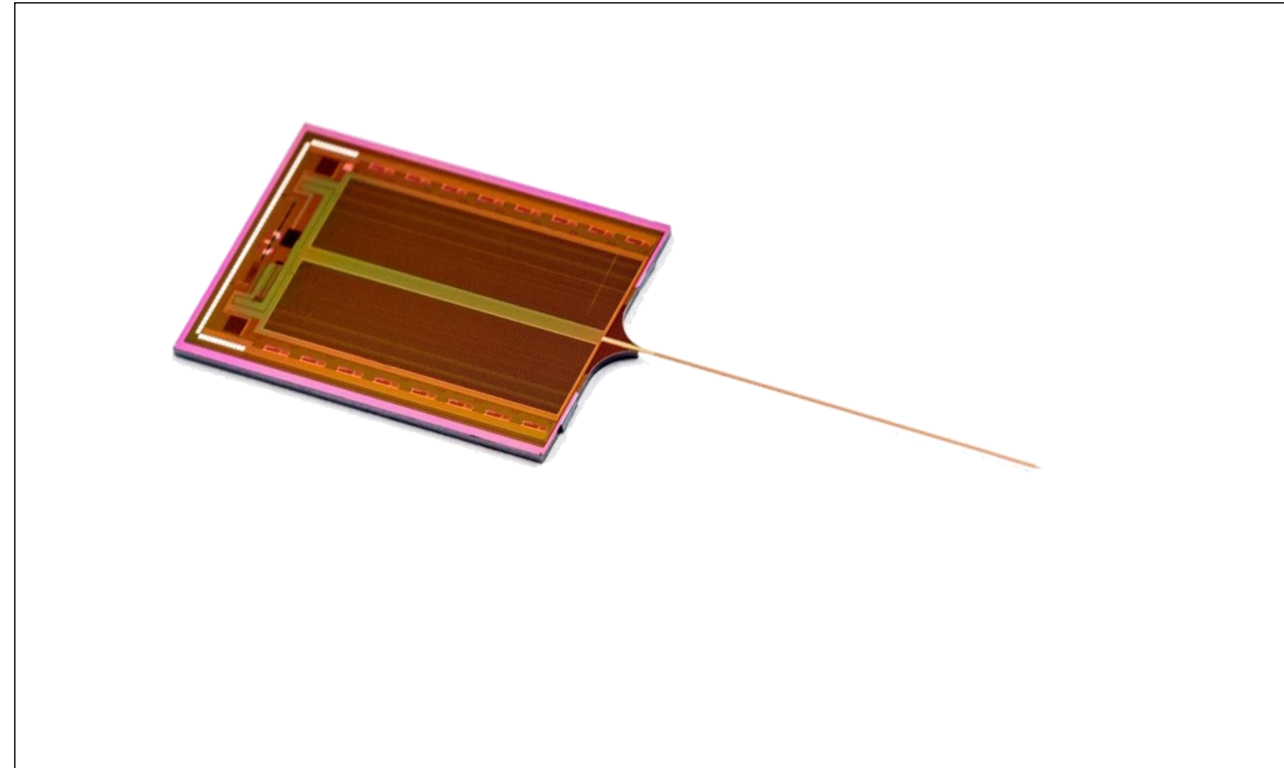


FROM PERSONALISED MEDICINE TO PREVENTIVE HEALTH



DATA, ALGORITHMS AND HARDWARE

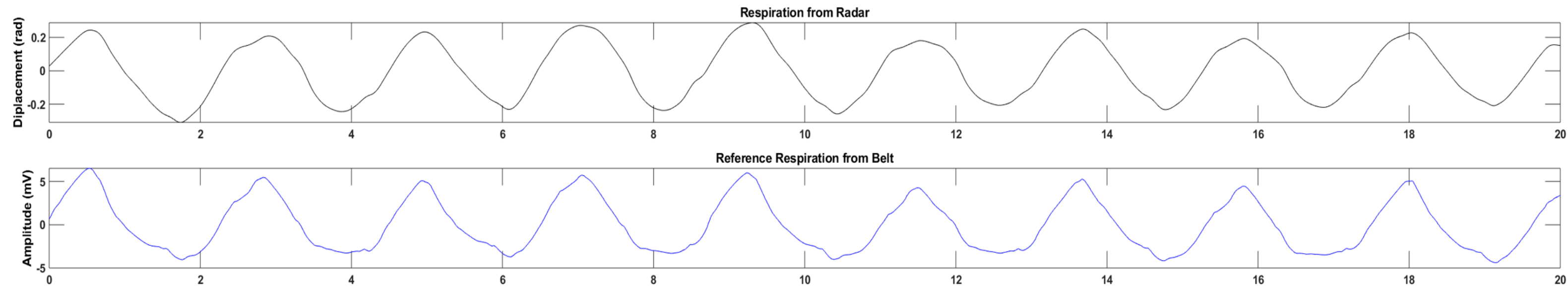
FROM PERSONALISED MEDICINE TO PREVENTIVE HEALTH



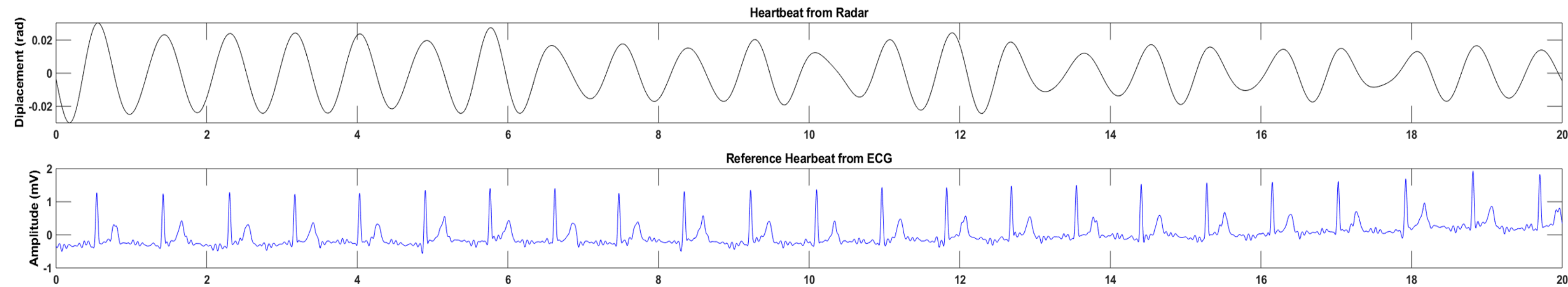
© imec

FROM PERSONALISED MEDICINE TO PREVENTIVE HEALTH

Respiration



Heartbeat



WELCOME TO AI-LAND

 Telegraph.co.uk

Uber stops developing driverless cars as it sells off technology

Uber has dropped plans to build its own driverless car and has sold the division developing the technology to a US start-up, after repeated ...

1 day ago



POLICY BUSINESS TECH

IBM will no longer offer, develop, or research facial recognition technology

IBM's CEO says we should reevaluate selling the technology to law enforcement

By Jay Peters | @jaypeters | Jun 8, 2020, 8:49pm EDT

BI Business Insider

Google tried to ease employee tension in meeting over ousted AI ethicist

Google held a meeting Tuesday with employees to discuss the ousting of Timnit Gebru, a prominent AI ethicist who said she was fired last ...

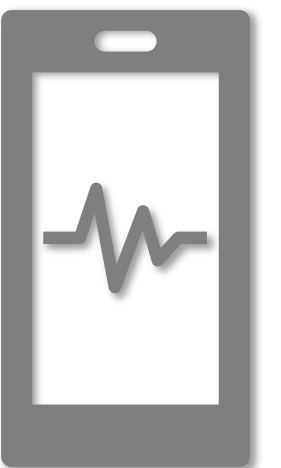
19 hours ago



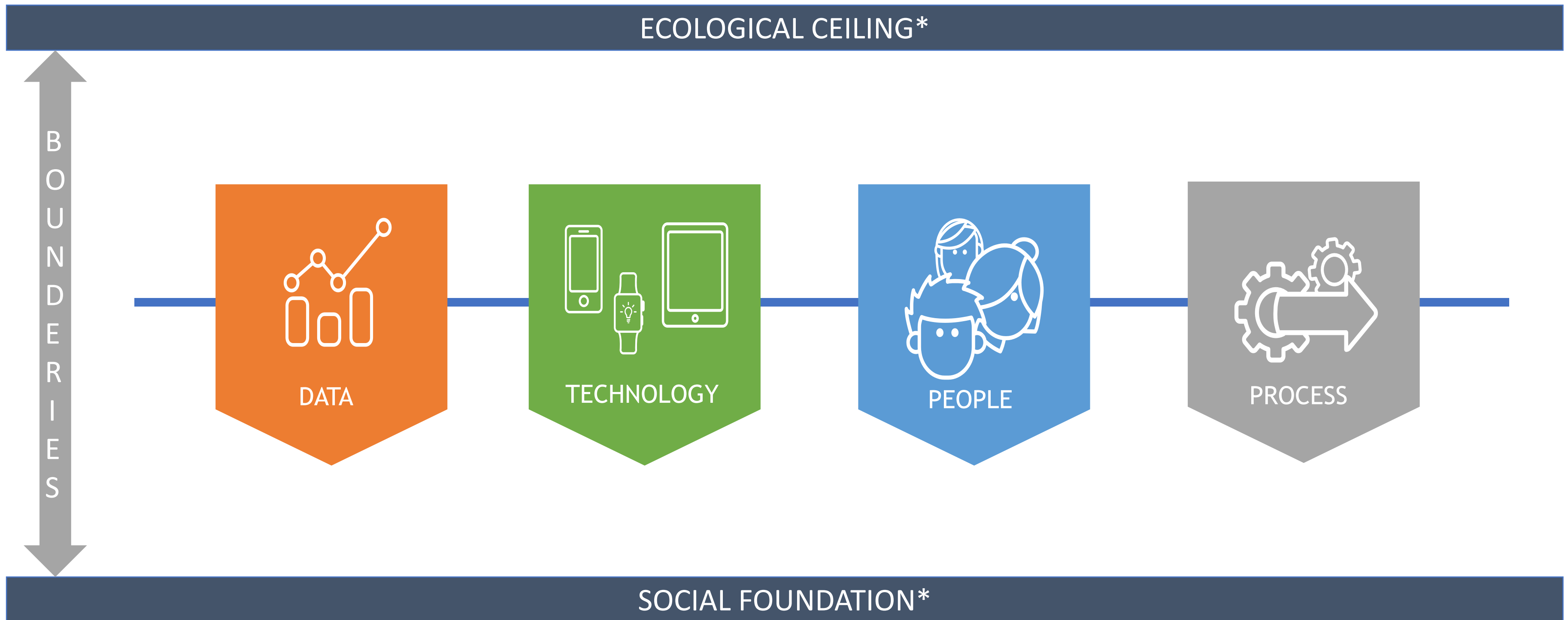


POLL:

HOE GROOT IS DE
HUIDIGE ADOPTIE GRAAD?



CURRENT ADOPTION ISSUES AND HOW TO FIX THEM

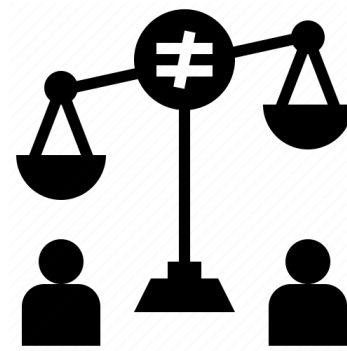


* Doughnut Economics

CURRENT ADOPTION ISSUES AND HOW TO FIX THEM



THE GOOD

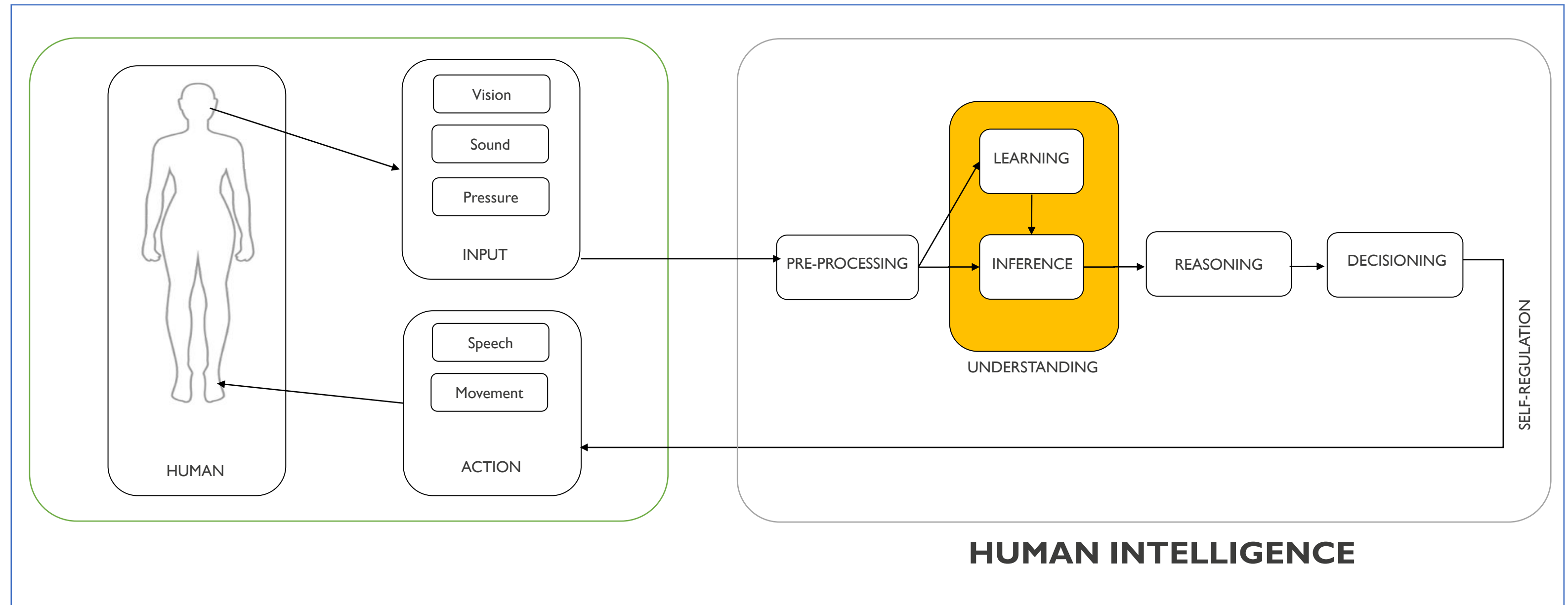


THE BAD



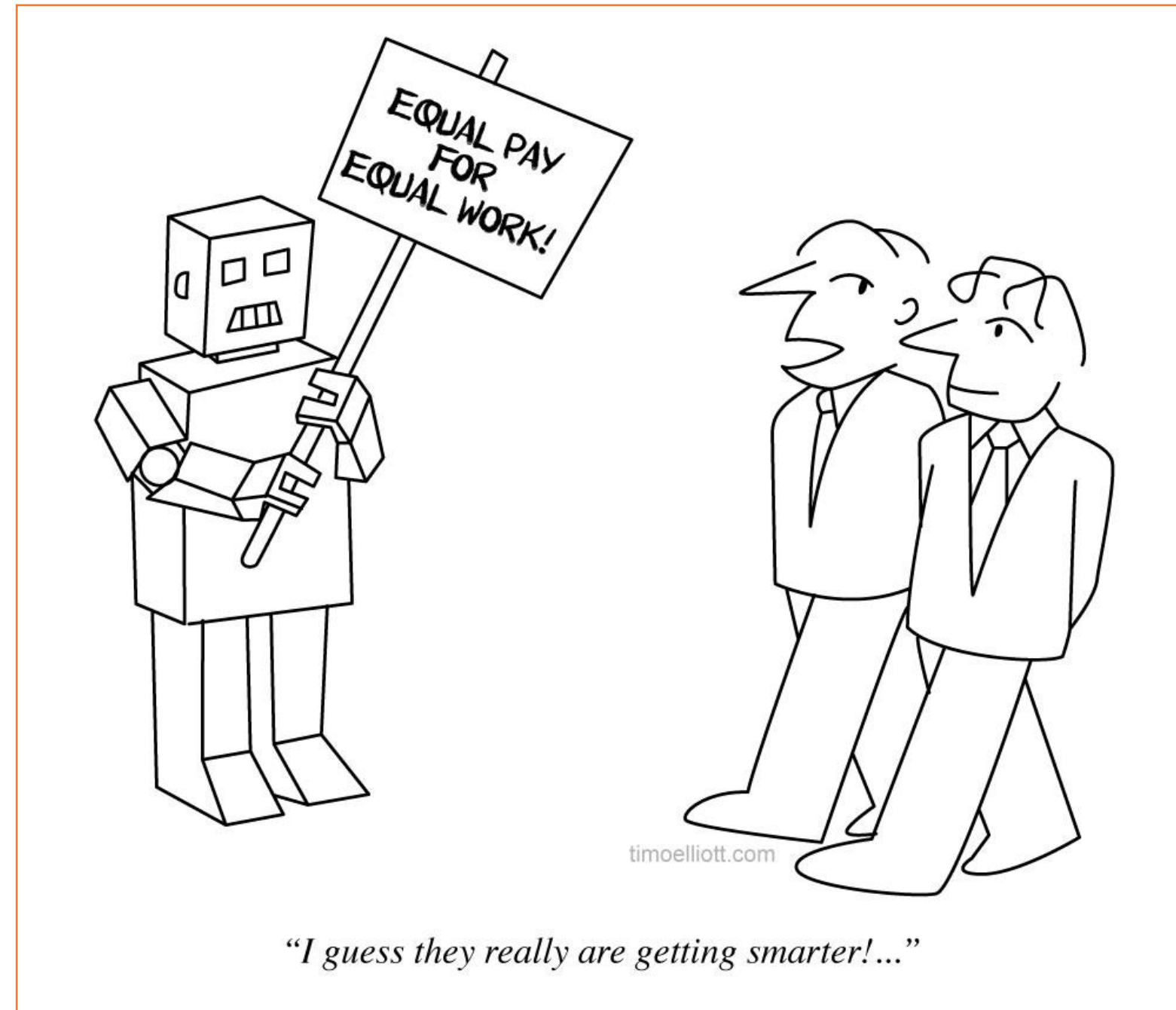
THE UGLY

THE STARTING POINT



AUTOMATED DECISIONING SYSTEM

THE GOOD



AI ANNO 2021

	HUMAN INTELLIGENCE	ARTIFICIAL INTELLIGENCE
1. Speed of processing		X
2. Knowledge Transfer		X
3. Decision Accuracy		X
4. Operational Modus		X
5. Size of storage	X	
6. Energy Usage	X	
7. Parallel Processing	X	

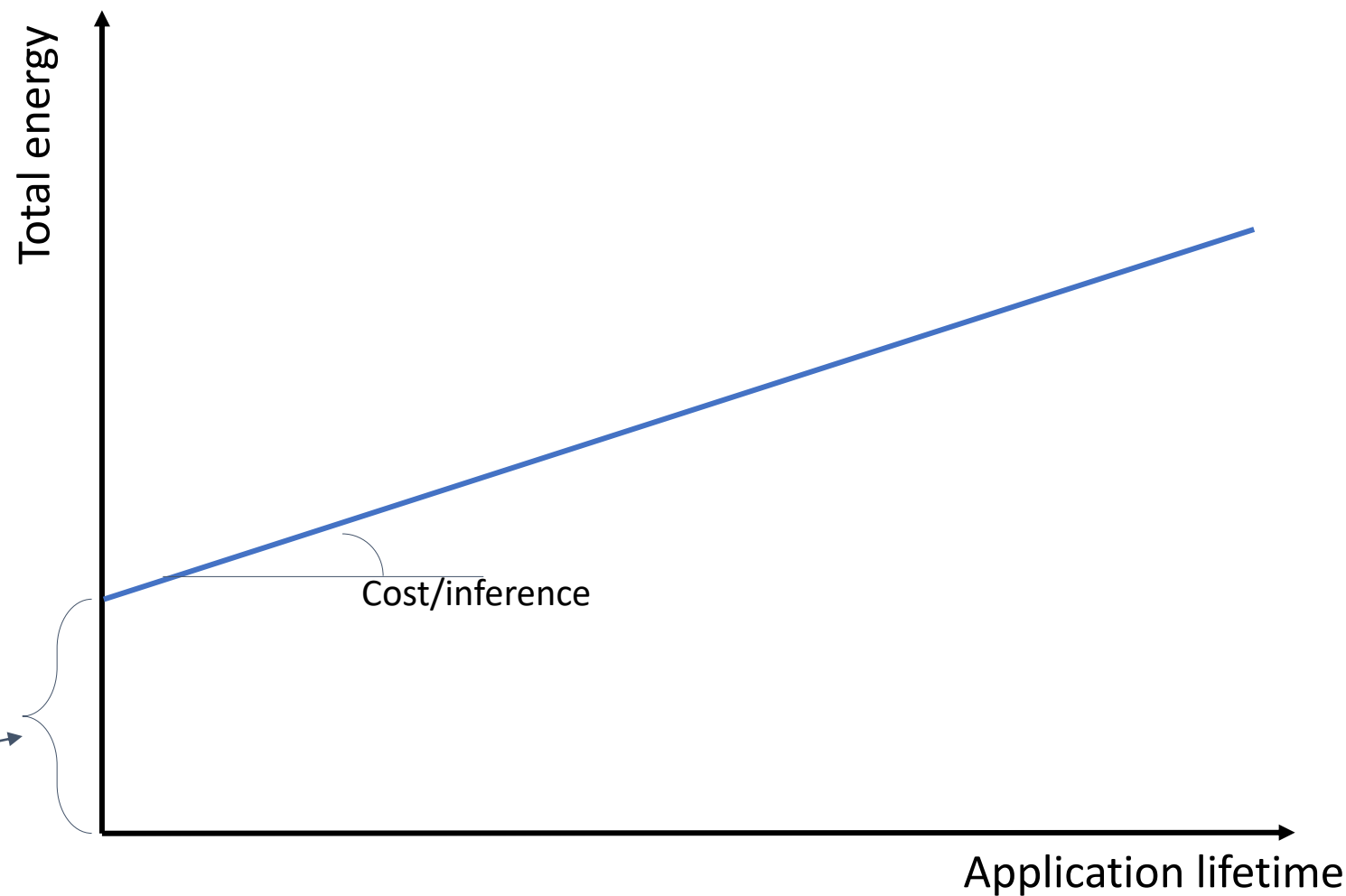
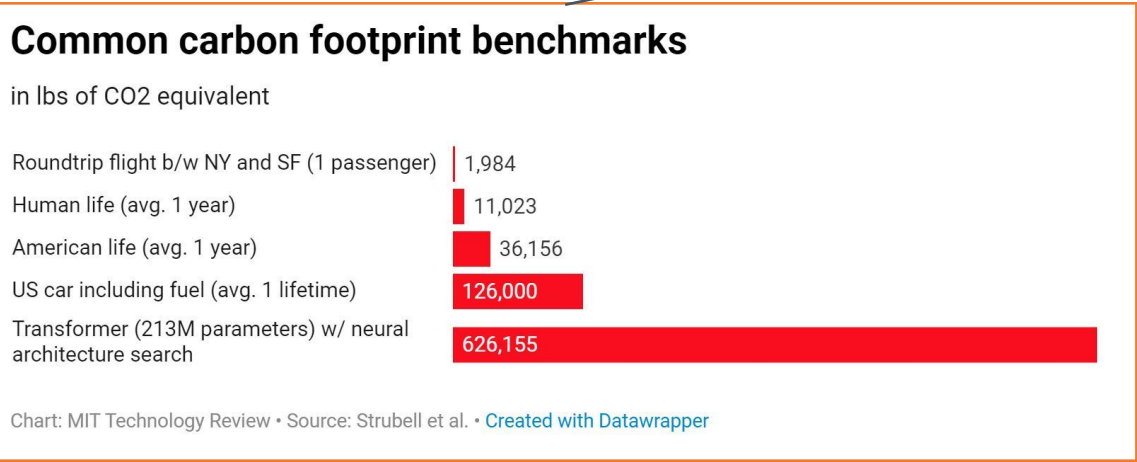
AI ANNO 2021

	HUMAN INTELLIGENCE	ARTIFICIAL INTELLIGENCE
8.Adapt to Change	X	
9.Type of Input Data	X	
10. Physical Collaboration	X	
11. Human Dialogues	X	
12. Creativity	X	
13. Emotions	X	
14. Consciousness	X	
15. Ethics (Bias)	X	X

ENERGY CONSUMPTION

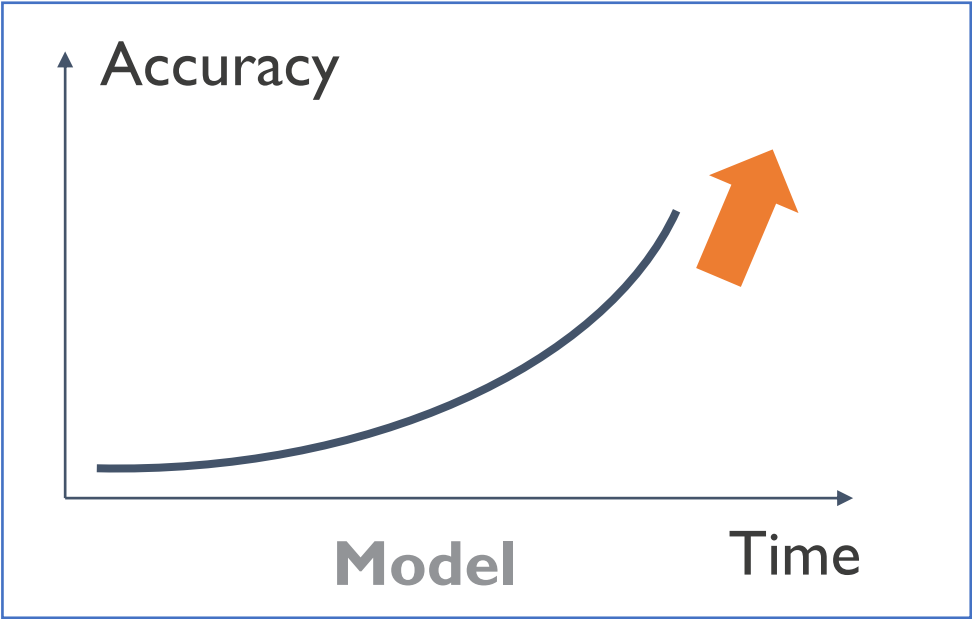
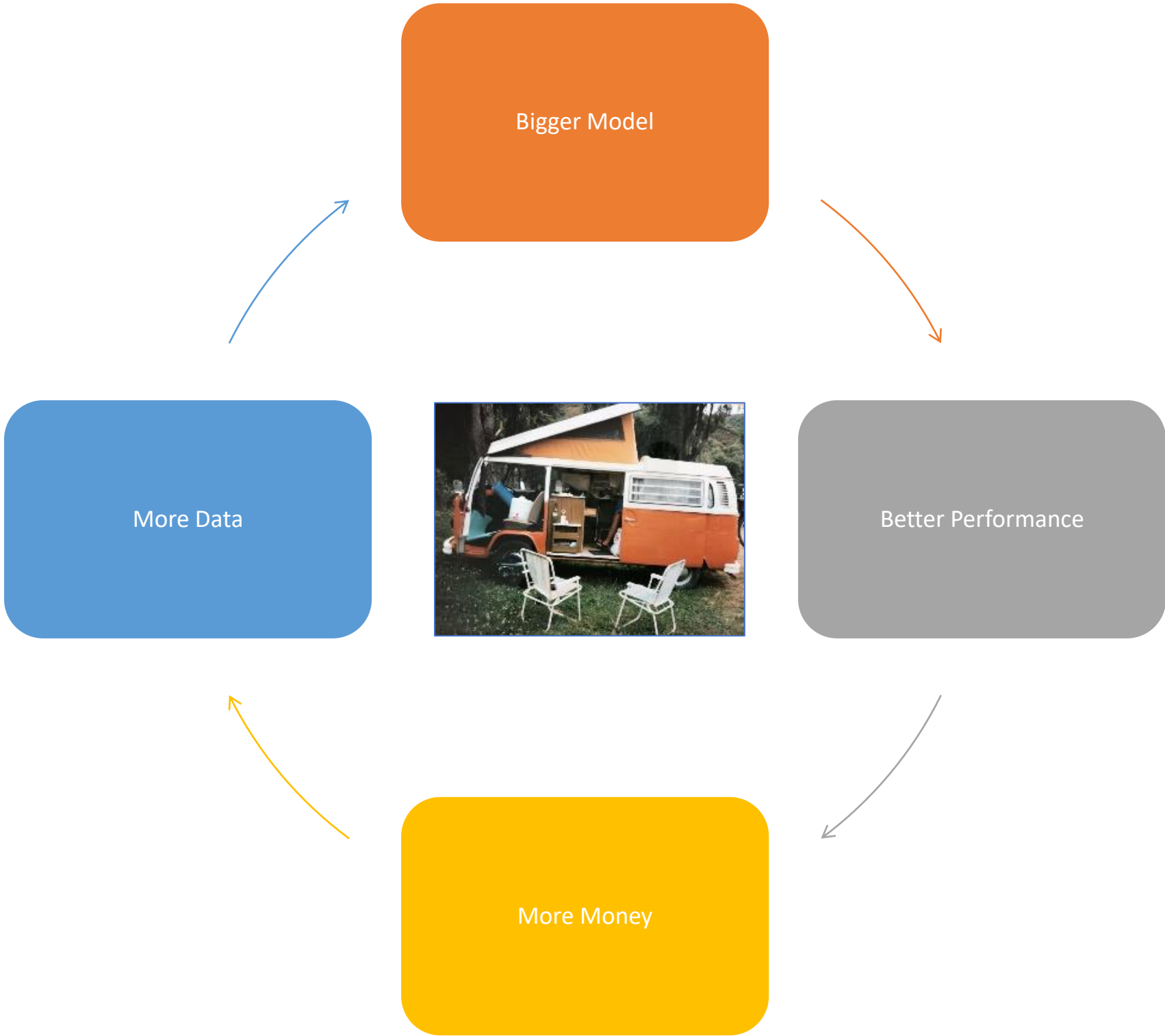
Inference or Operational: Datacenter and/or Edge

Training: Typically in a datacenter



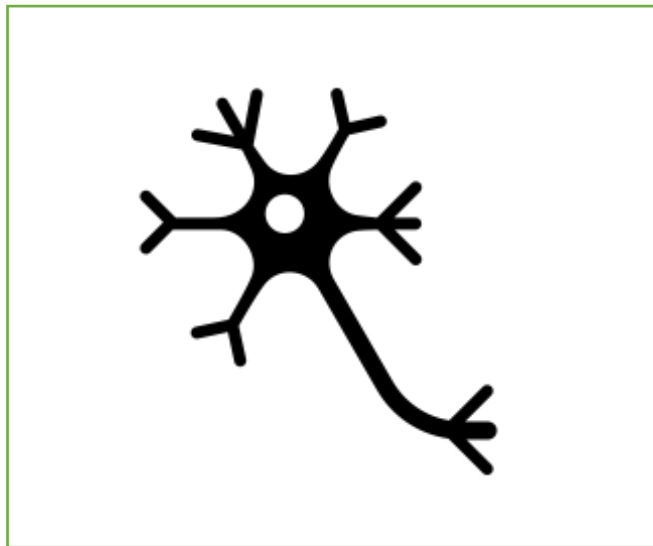
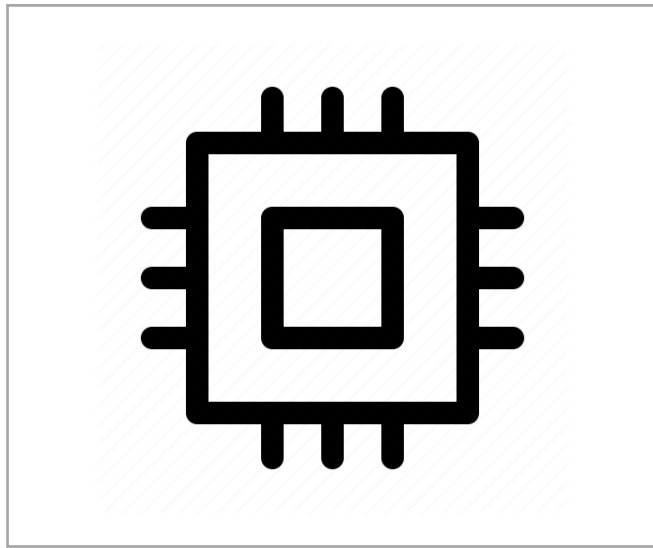
$$E_{\text{total}} = E_{\text{training}} + (N_{\text{inference}} \times E_{\text{inference}}) + E_{\text{data transfer}} + \dots$$

UNDERSTANDING THE RULES OF THE GAME



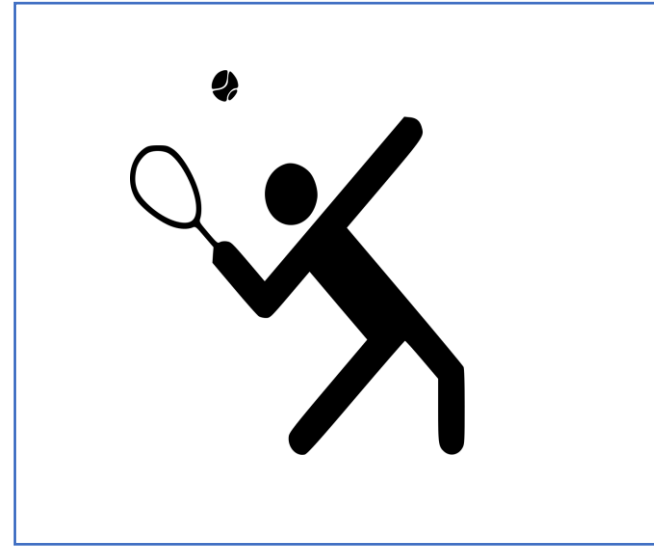
PRIORITY NR 1

GAME CHANGERS: EXAMPLES INSPIRED BY NATURE



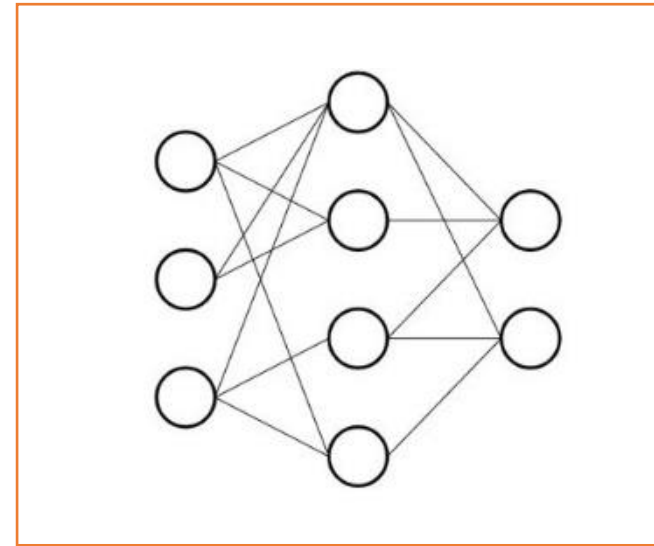
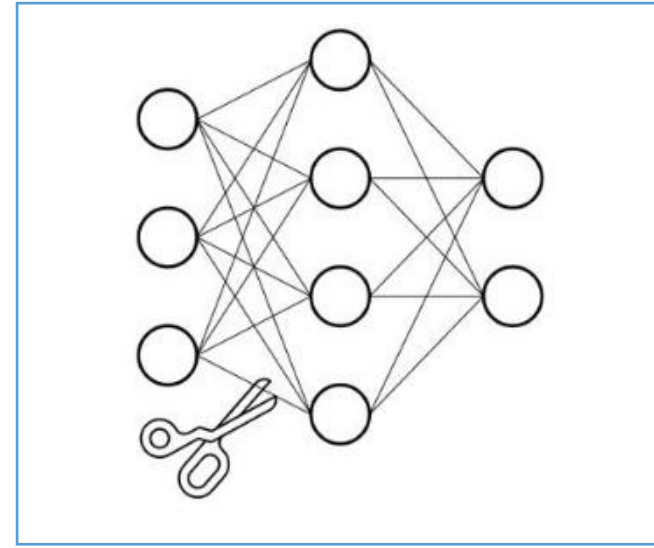
Materials, architectures, design etc

NEW HARDWARE

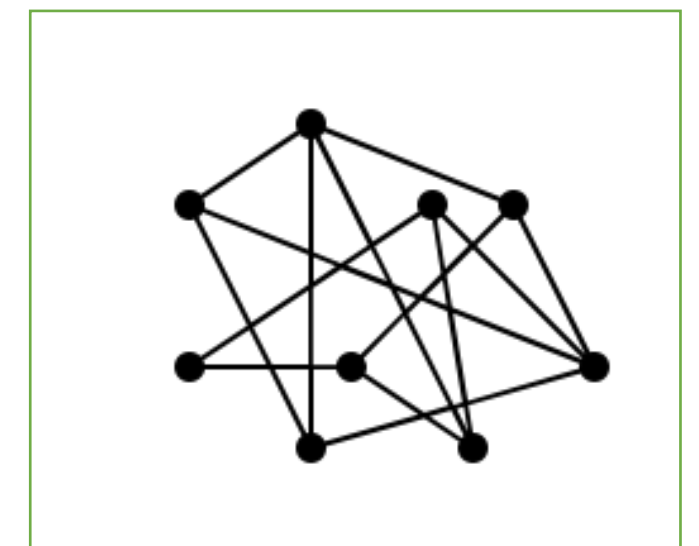
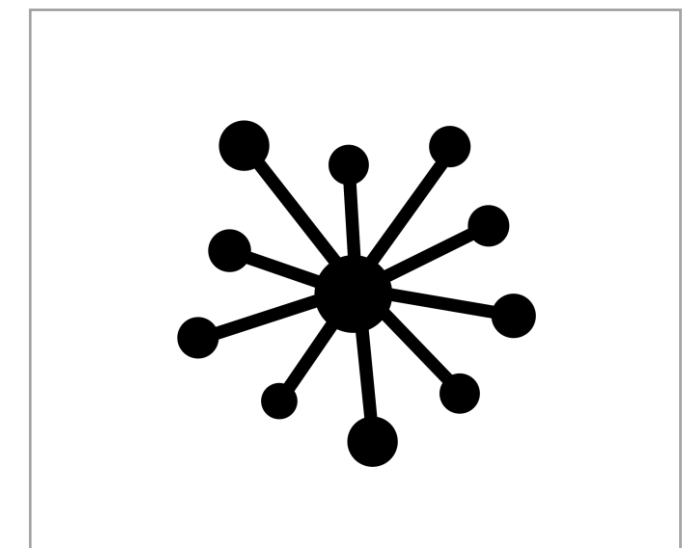


Transfer Learning

NEW ENERGY EFFICIENT ALGORITHMS



Network Pruning



Decentralised Environments

NEW TOPOLOGIES

LACKING INTRA DEVICE COLLABORATION

Video of Tesla on Autopilot crashing into truck kicks off online debate

Users noted that Autopilot might not be capable of spotting stationary objects

Web Desk | June 06, 2020 17:45 IST



A screengrab from the video of Tesla Model 3 (white) crashing into the overturn truck

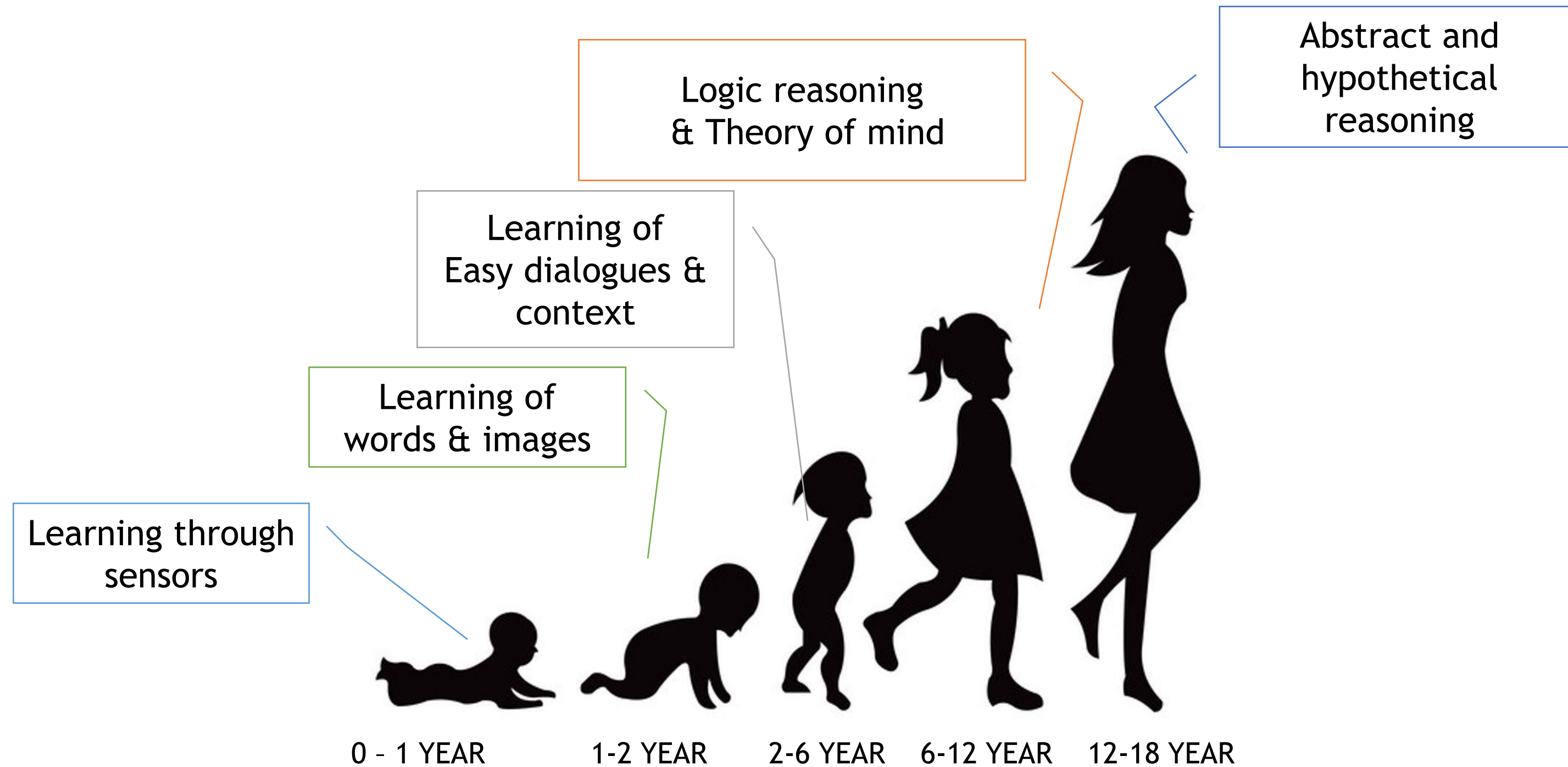
Visible light



Thermal enhanced video



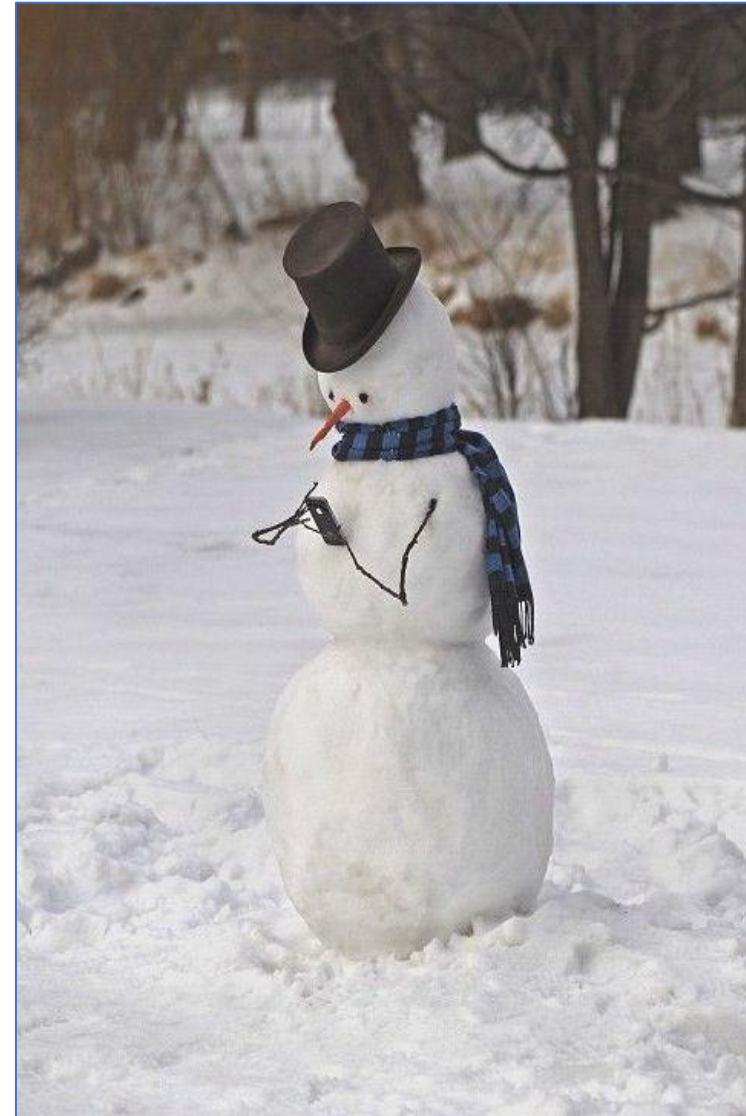
HUMAN INTELLIGENCE



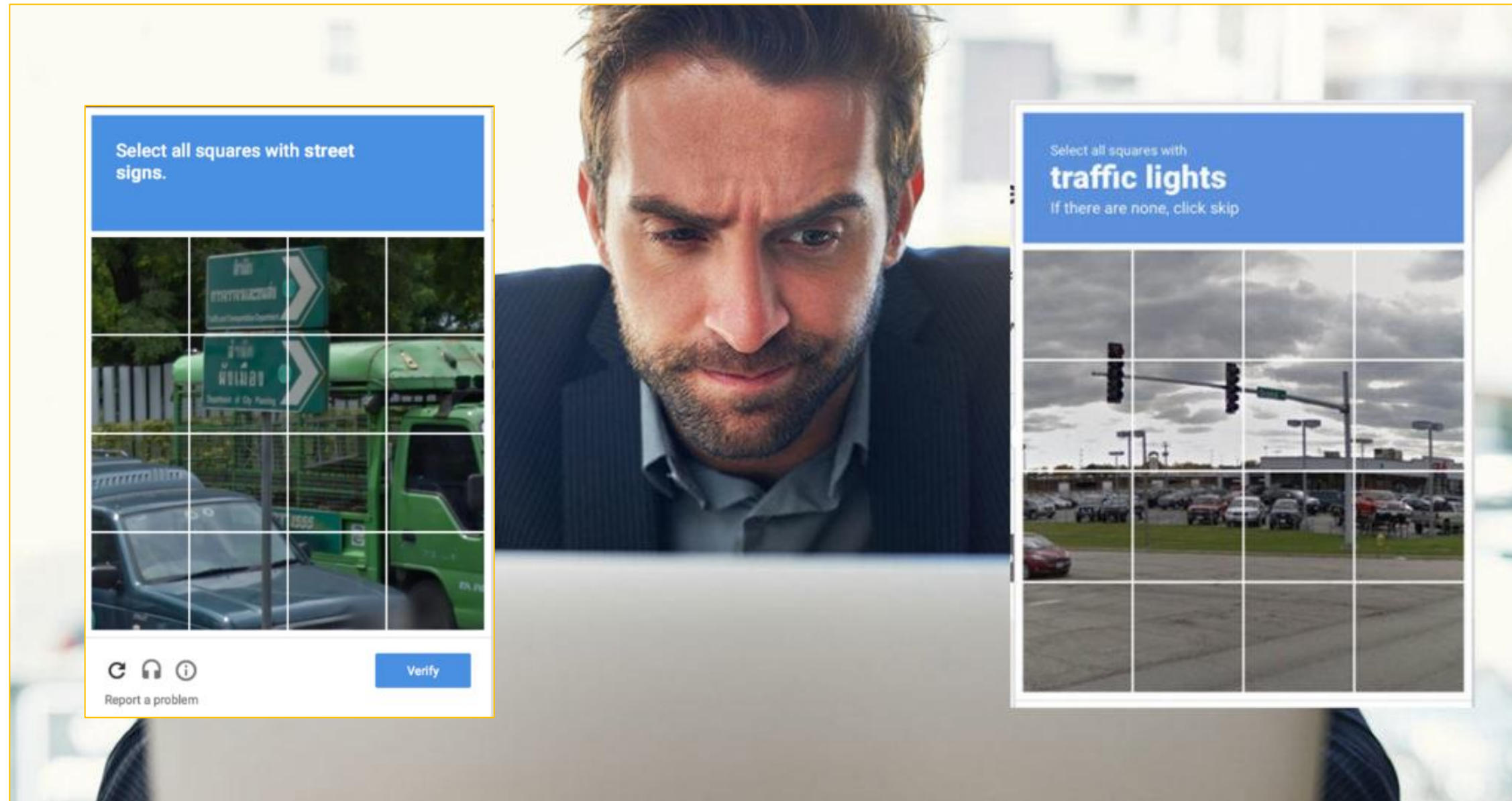
LACKING COMMON SENSE



LACKING CONCEPTS & ABSTRACTION



LACKING CONCEPTS & ABSTRACTION



LACKING INTER DEVICE COLLABORATION



Autonomous car hits autonomous robot in bizarre collision

January 7, 2019 - By [Tracy Cozzens](#)

[0 Comments](#)

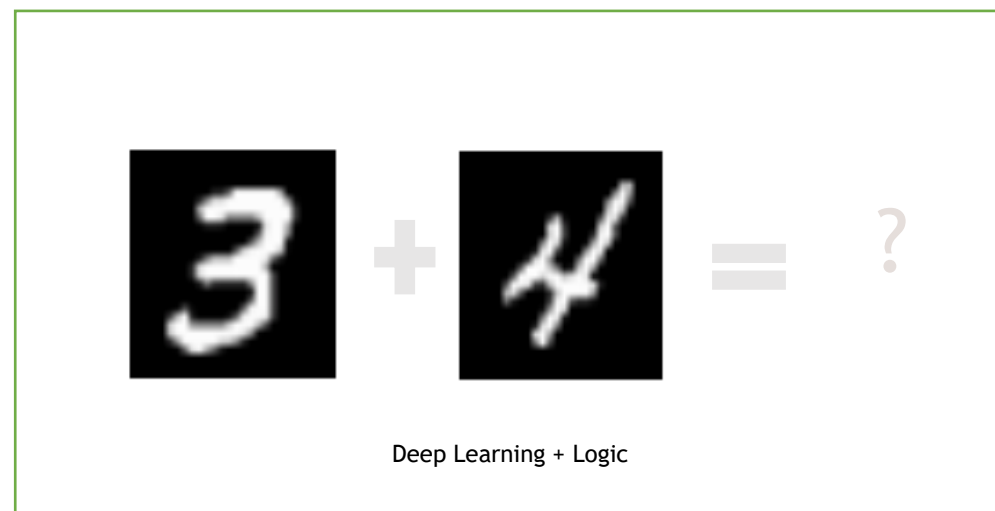
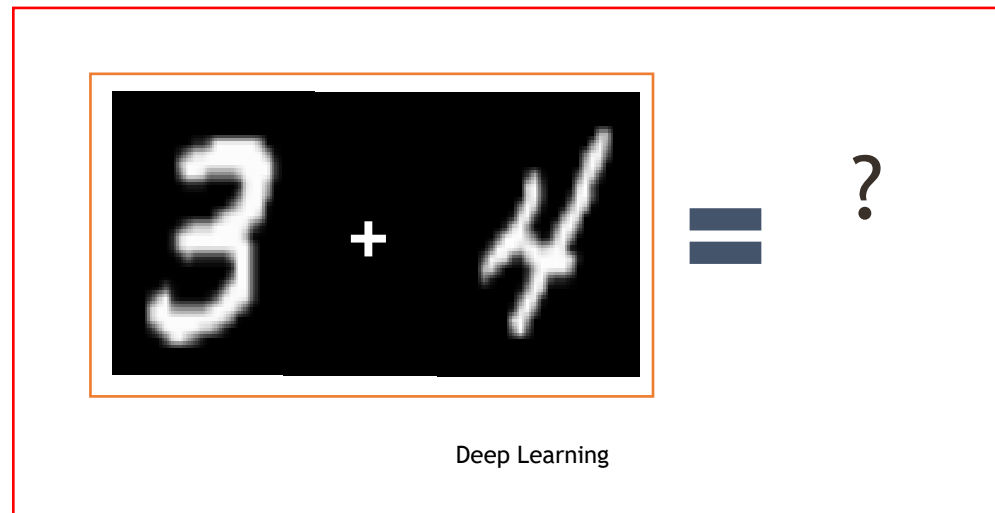
Est. reading time: 1:30 ⌚

In a unique car accident, a self-driving Tesla Model S hit and destroyed an autonomous **Promobot**, the robot model v4, on Jan. 6 in Las Vegas. The incident took place at 3000 Paradise Road, Las Vegas.

At 7 p.m., the Promobot's engineers transported robots to the Vegas's Congress Hall to prepare their booth at the Consumer Electronics Show, being held Jan. 8-11. All the robots were moving in a line. But one of them missed its way and drove to the roadway of the street parking lot.

At that moment, it was hit by a self driving Tesla car.

LACKING LOGIC & REASONING



85% accuracy, 30 000 examples

*T. Demeester, imec, Ugent



Which pictures has most dogs?

LACKING CAUSALITY, FOCUS ON FINDING CORRELATIONS



No evidence of vaccine increasing blood clot risk: AstraZeneca

By Jane Byrne 
15-Mar-2021 - Last updated on 16-Mar-2021 at 20:56 GMT

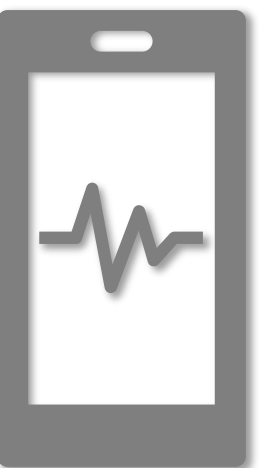


© GettyImages/peterschreiber.media

If AI's So Smart, Why Can't It Grasp Cause and Effect? | WIRED

POLL:

HOEVEEL % VAN DE AI MODELLEN
WAREN VERWARD DOOR COVID?



LIMITED ADAPTATION TO CHANGING CONTEXT

Artificial intelligence / Machine learning

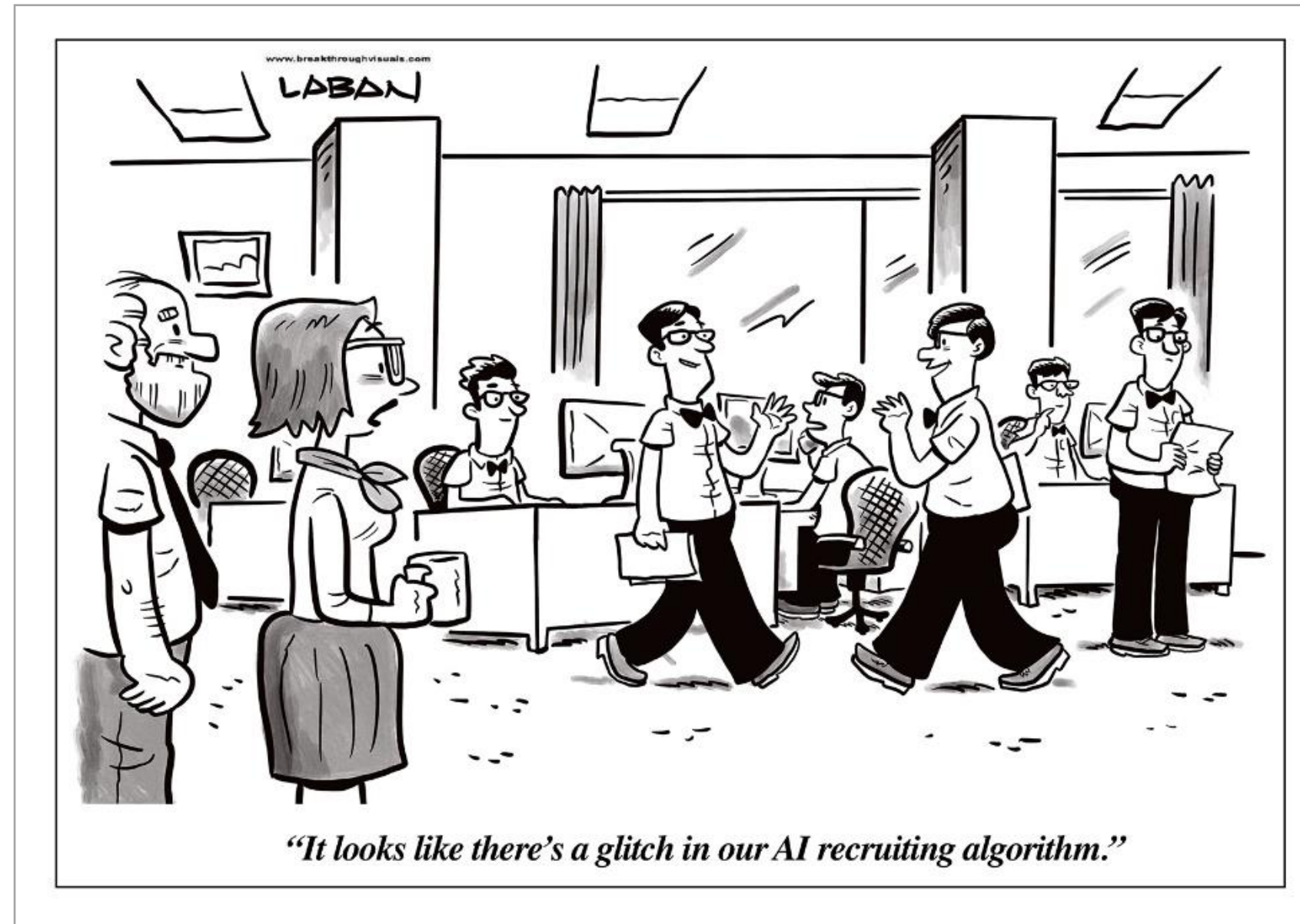
Our weird behavior during the pandemic is messing with AI models

Machine-learning models trained on normal behavior are showing cracks — forcing humans to step in to set them straight.

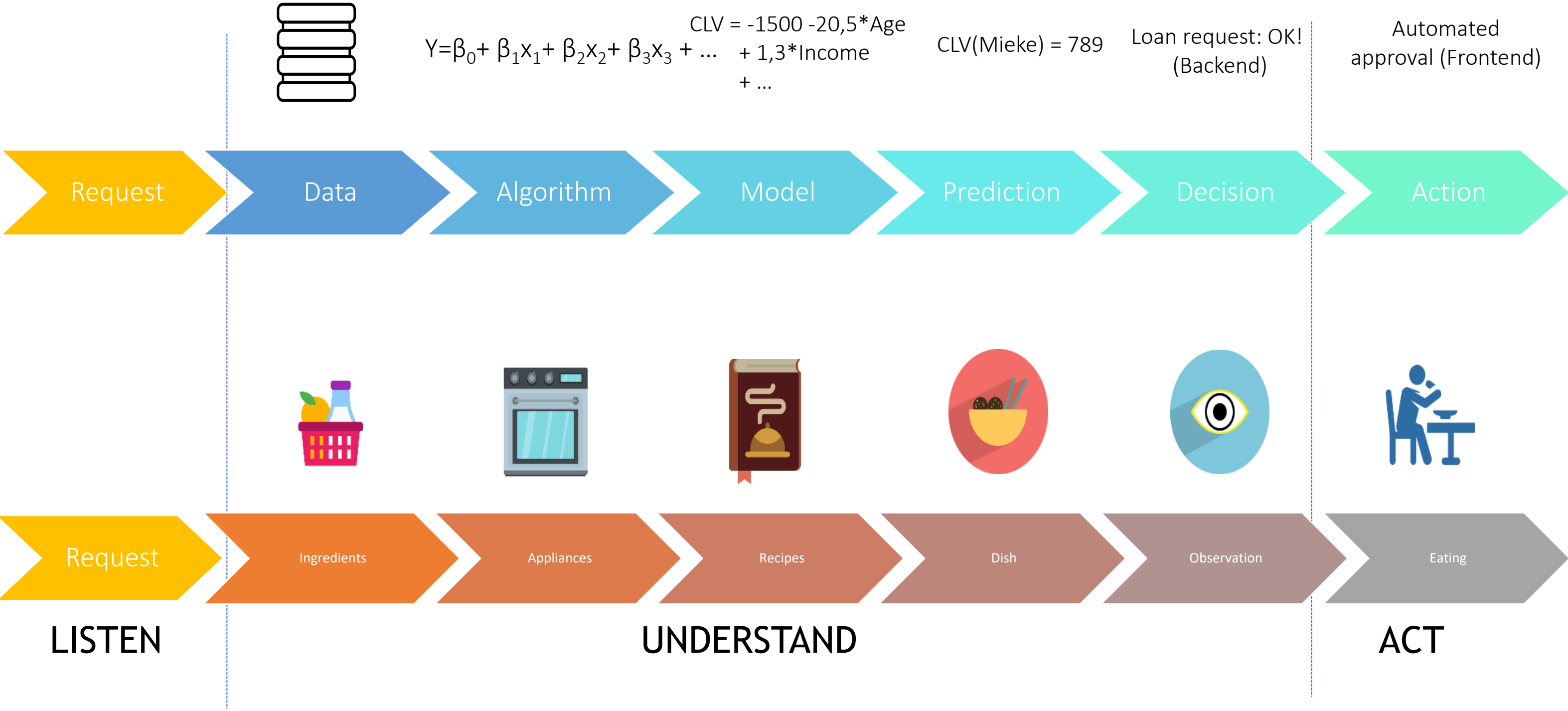
by **Will Douglas Heaven**

May 11, 2020

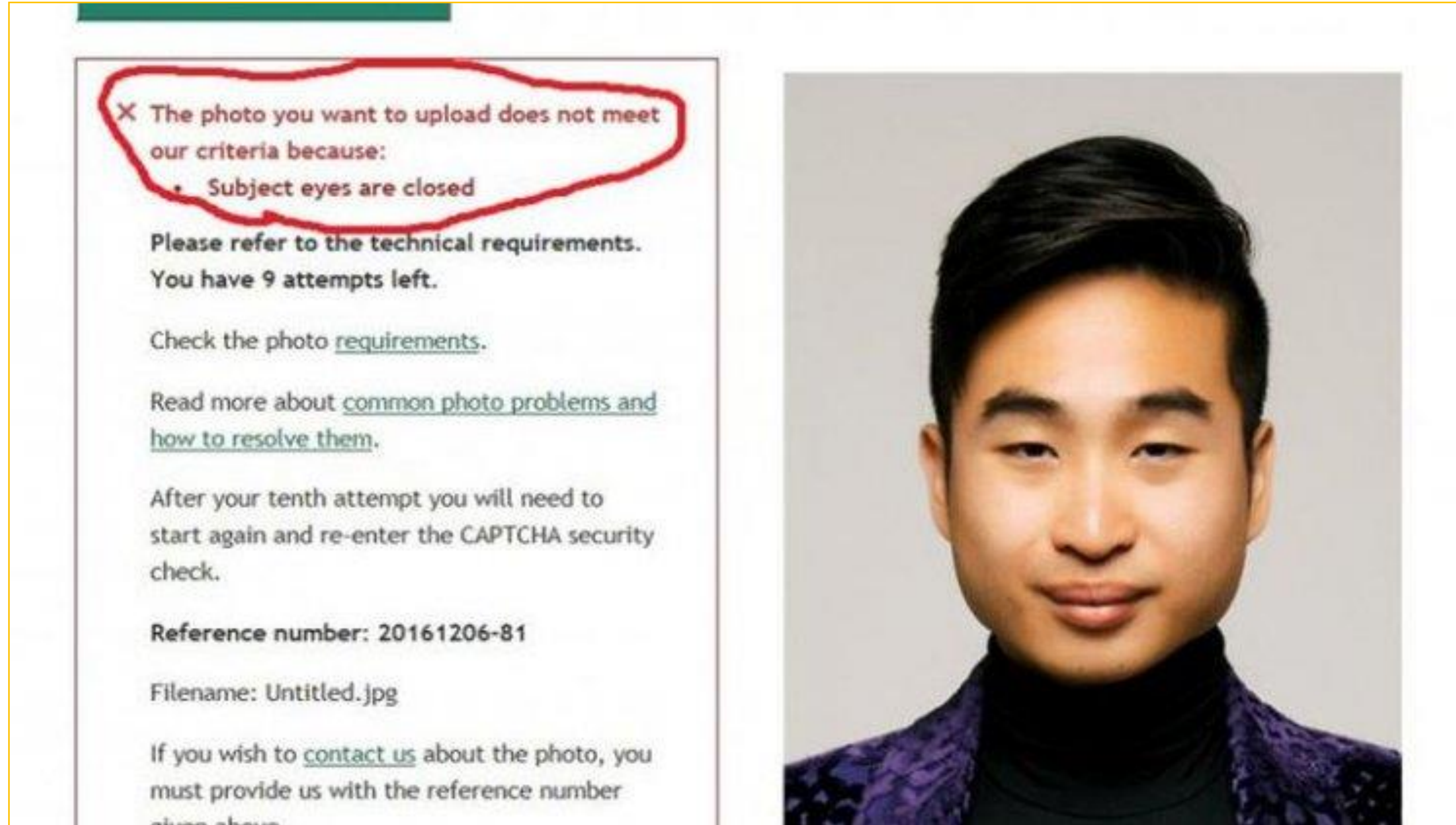
THE BAD



THE PROCESS



INCORRECT TRAINING DATA TO MATCH CONTEXT



DANGER OF UNCONSCIOUS BIAS

An Algorithm Determined UK Students' Grades. Chaos Ensued

This year's A-Levels, the high-stakes exams taken in high school, were canceled due to the pandemic. The alternative only exacerbated existing inequities.

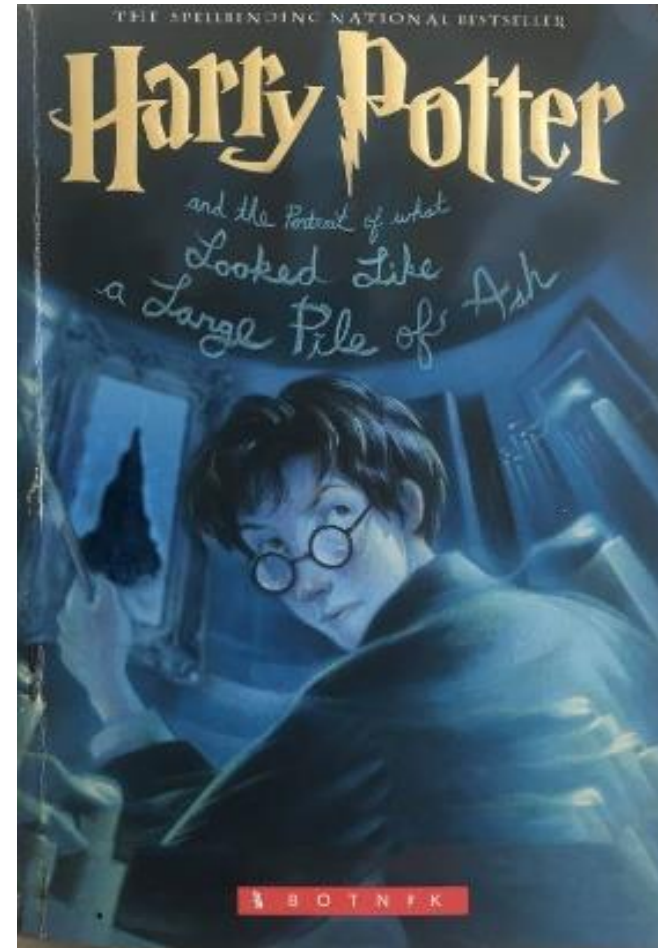


PHOTOGRAPHY: TOLGA AKMEN/AFP/GETTY IMAGES

THE UGLY

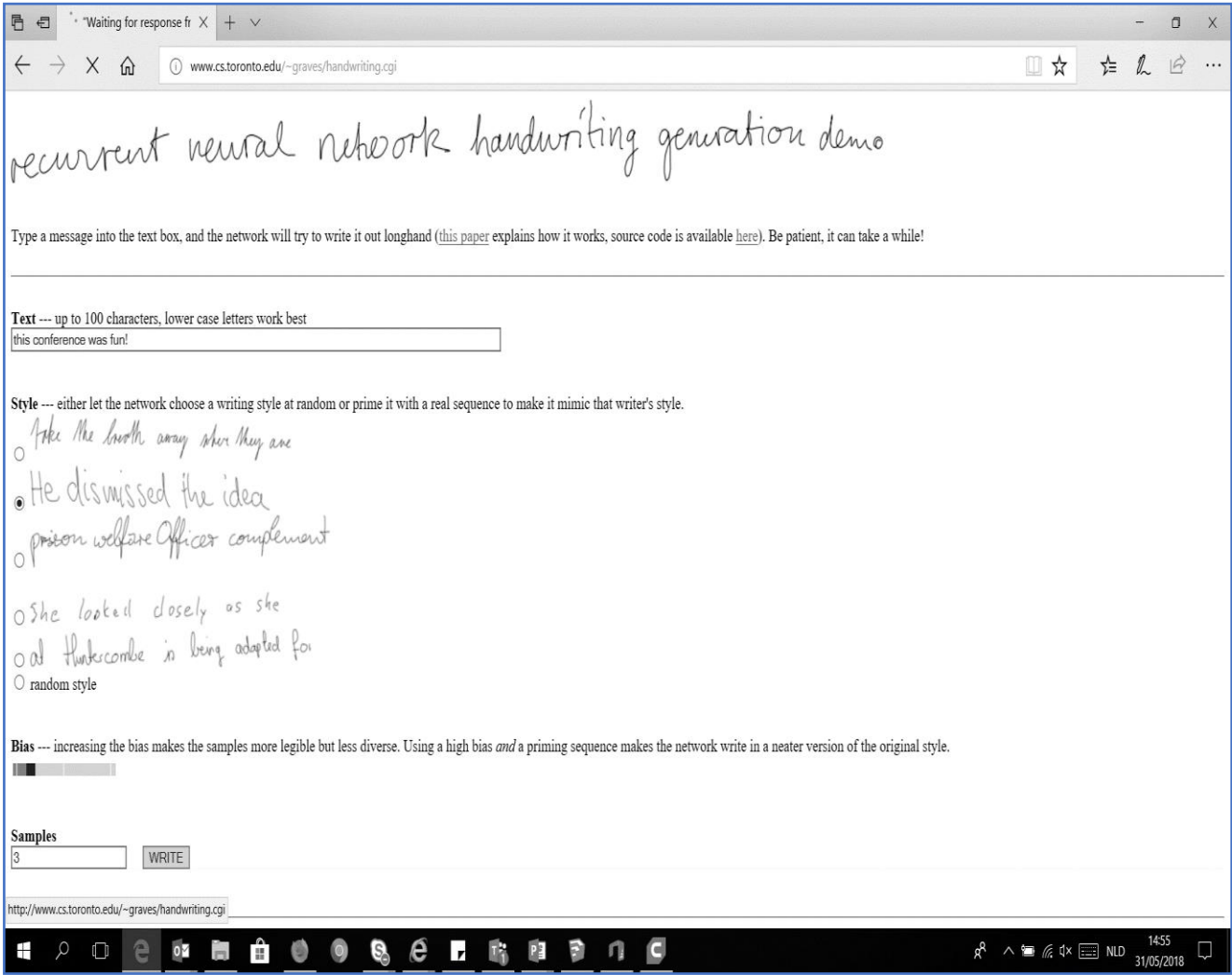


AUTOGENERATION ROLLERCOASTER

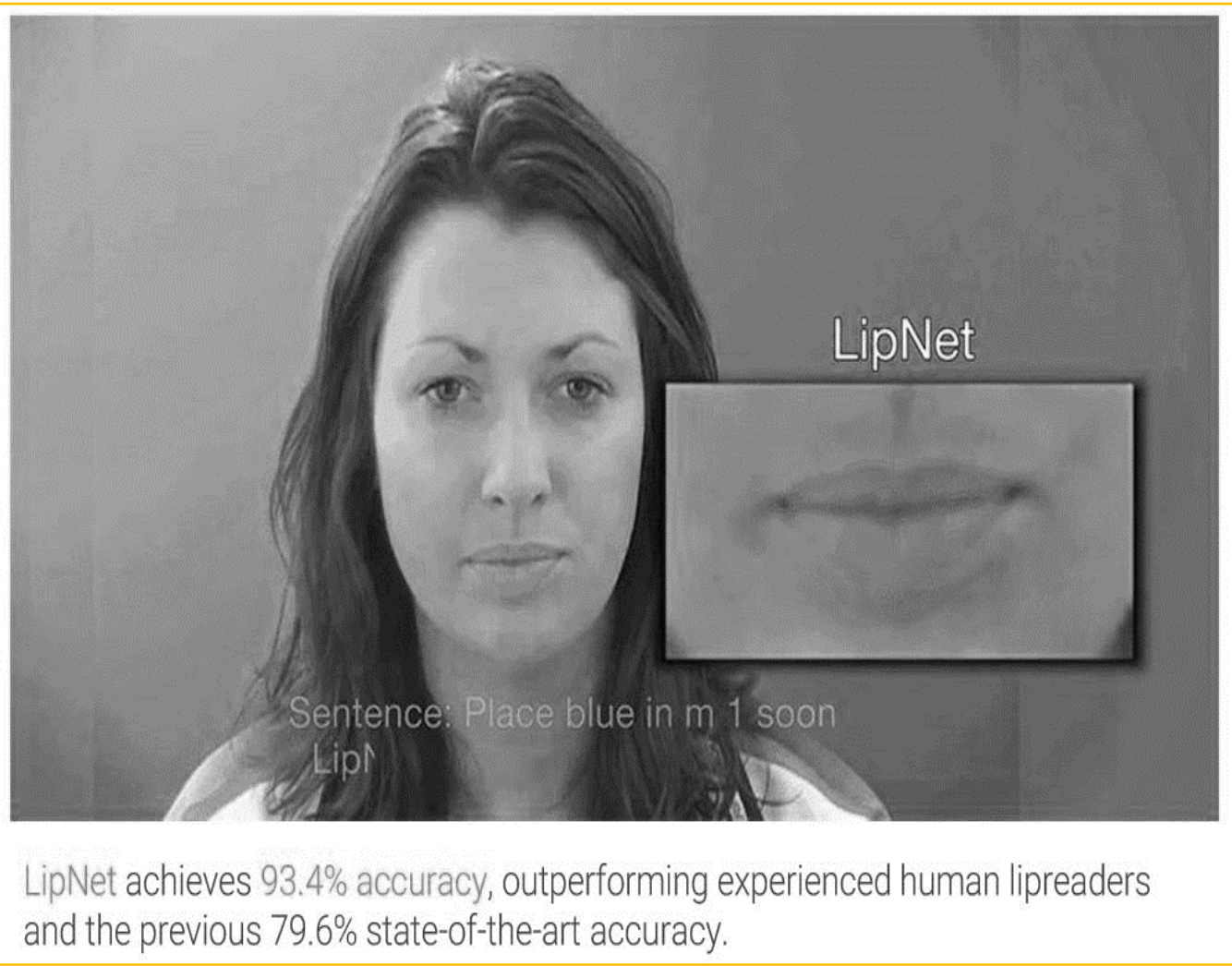


AUTOGENERATED BOOKS

AUTOGENERATION ROLLERCOASTER



AUTOGENERATED WRITTEN LETTERS



AUTOGENERATED TEXT

AUTOGENERATION ROLLERCOASTER



<http://makemeazombie.com>

SECURITY BY DESIGN: RISKS OF ADVERSARIAL ATTACKS

Deep Learning Malware Can Fake Cancer on Medical Images

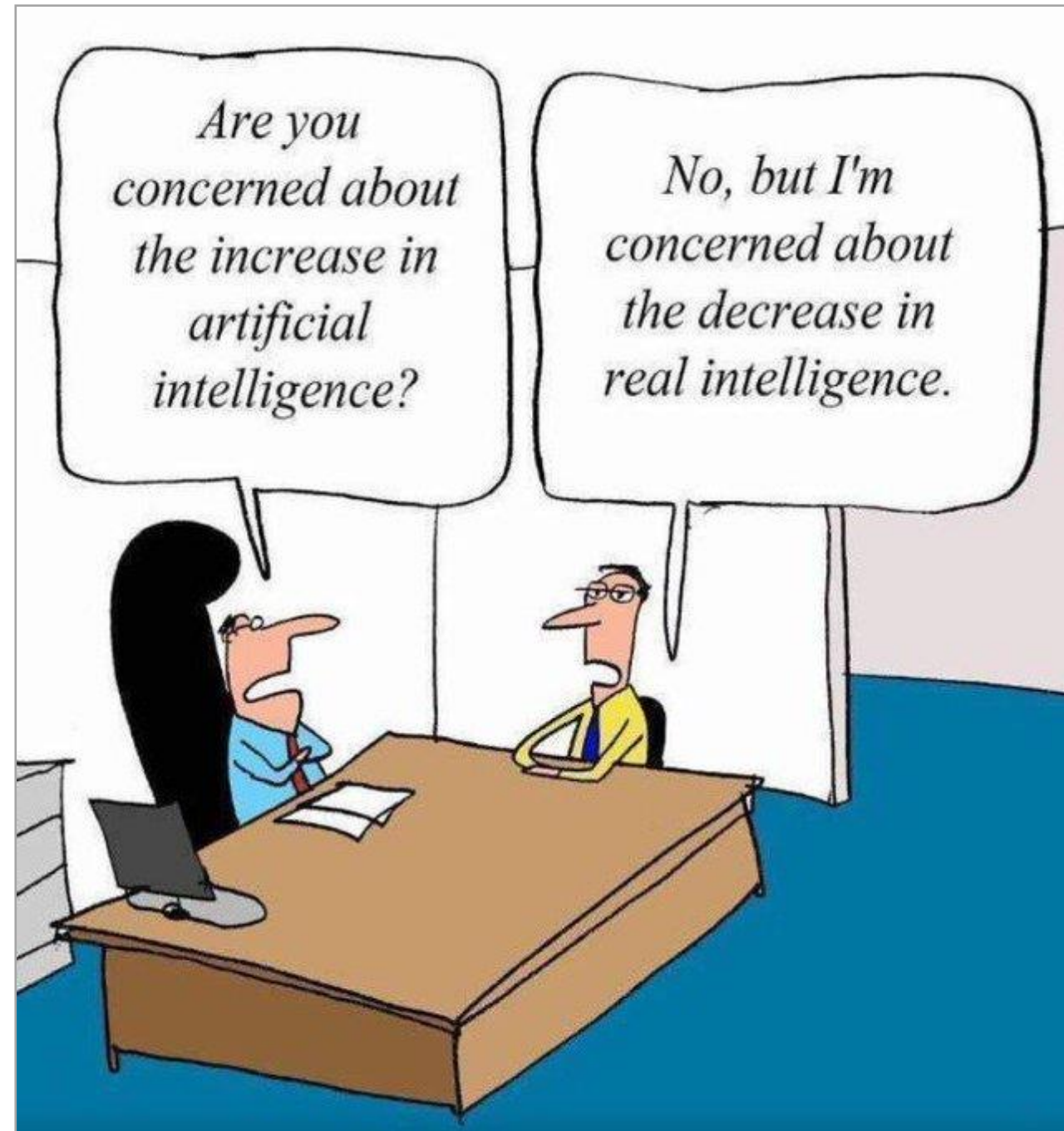
A deep learning algorithm successfully penetrated a healthcare organization and fooled both humans and an AI system with faked medical images.



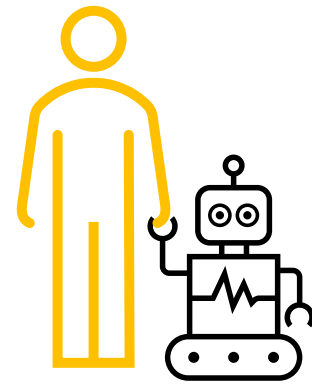
Source: Thinkstock

The team explains how to successfully infiltrate a typical health system's PACS infrastructure and alter MRI or CT scan images using malware based on a type of machine learning called generative adversarial networks (GANs) to inject fake tumors or remove real cancers from the patient data.

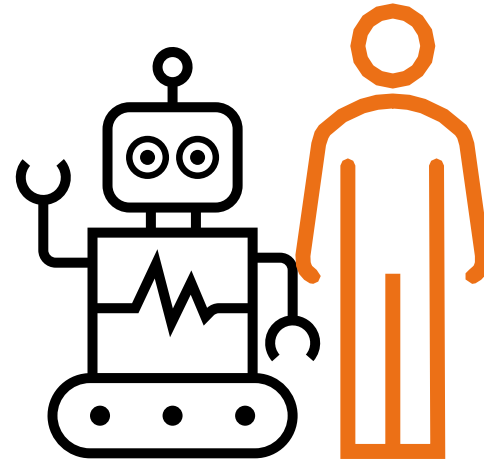
WANTED: HUMAN-AI TRANSLATORS



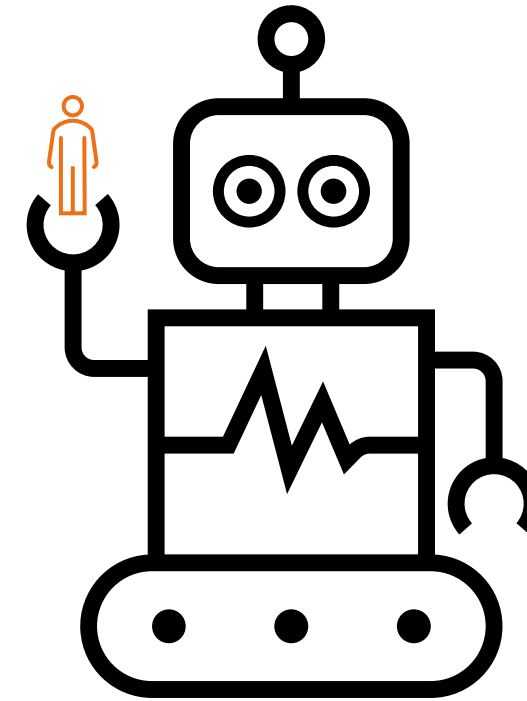
WANTED: HUMAN-AI TRANSLATORS



NARROW AI

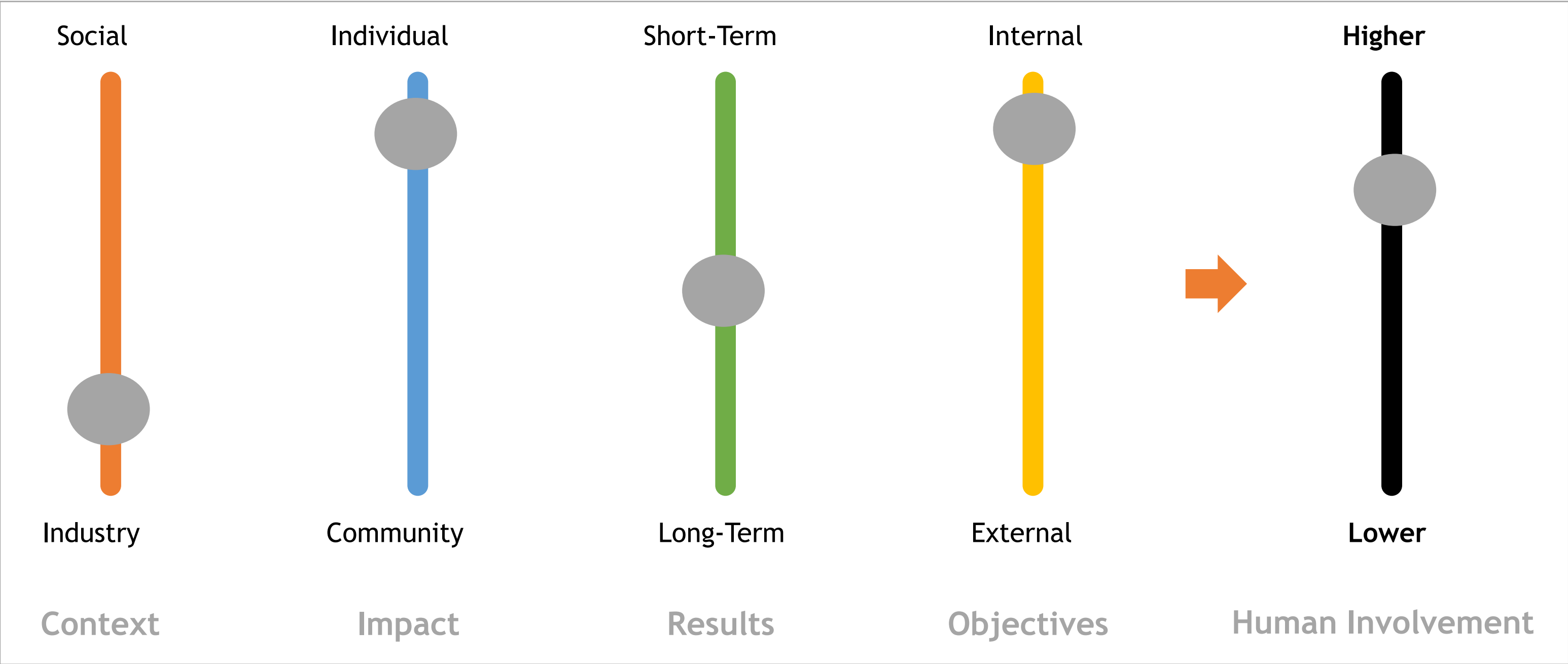


BROAD AI

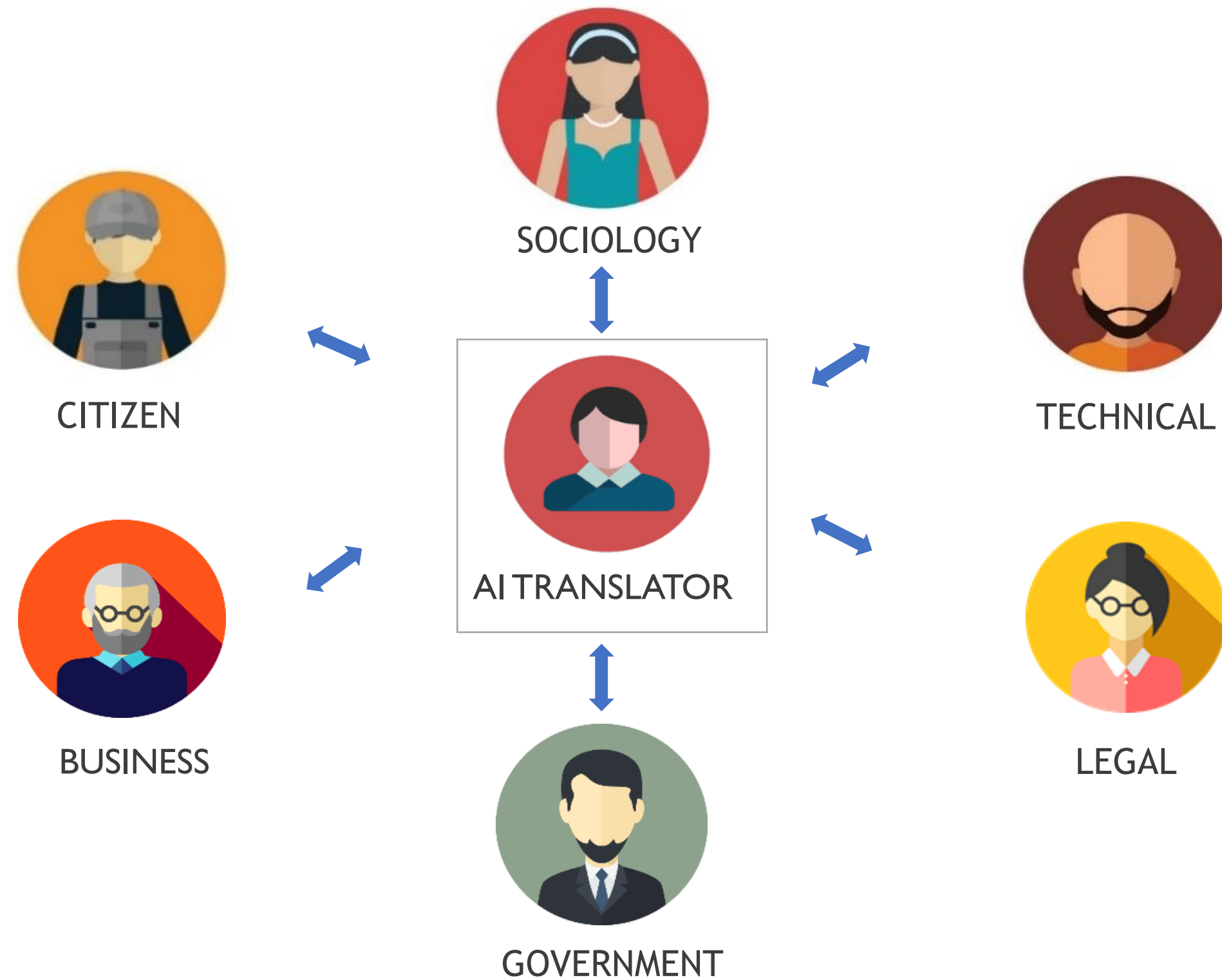


GENERAL AI

WANTED: HUMAN-AI TRANSLATORS



CURRENT ADOPTION ISSUES AND HOW TO FIX THEM

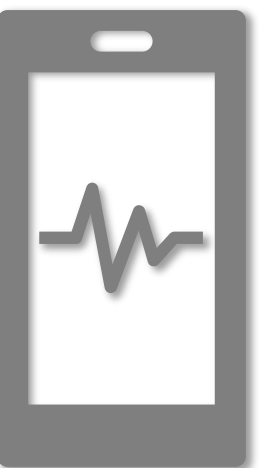


ALL COPYRIGHT INCOME GOES TO DWENGO

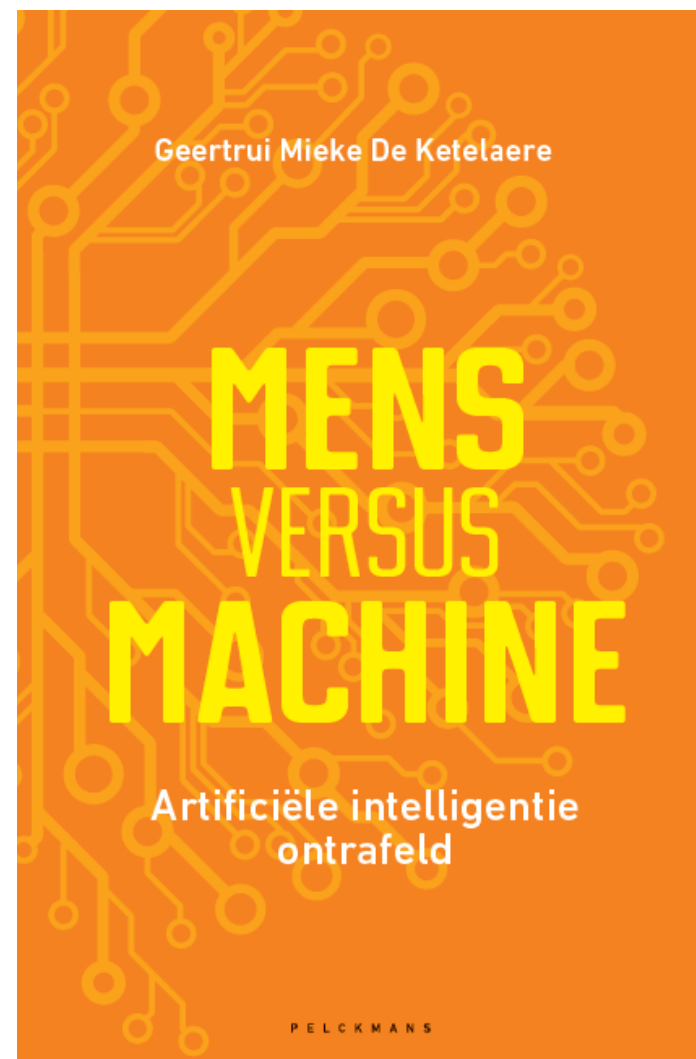


POLL:

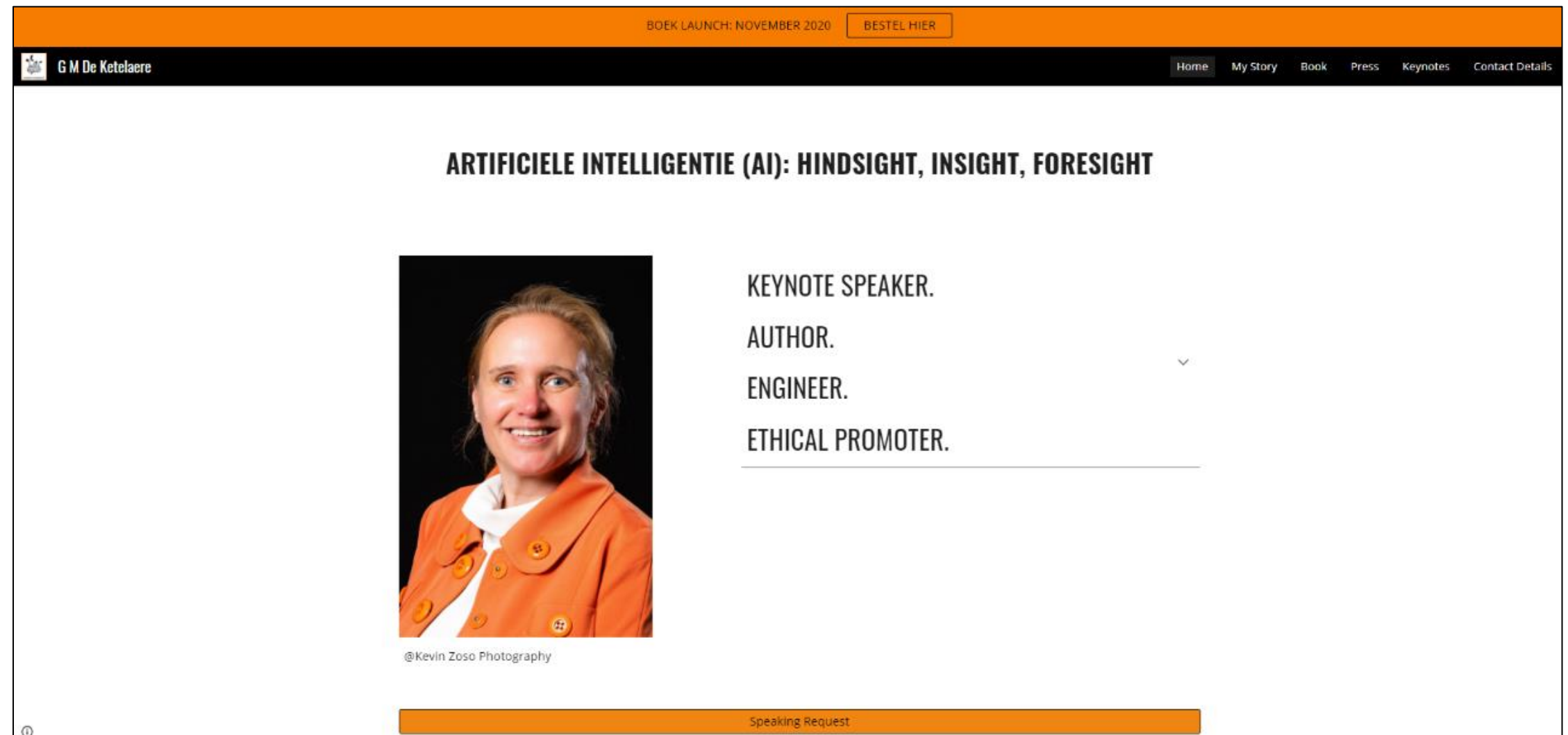
WAAR STAAT BELGIË OP DE AI INDEX?



MENS VERSUS MACHINE: AI ONTRAFELD



English Version: Q2 2021



More information: www.gmdeketelaere.com

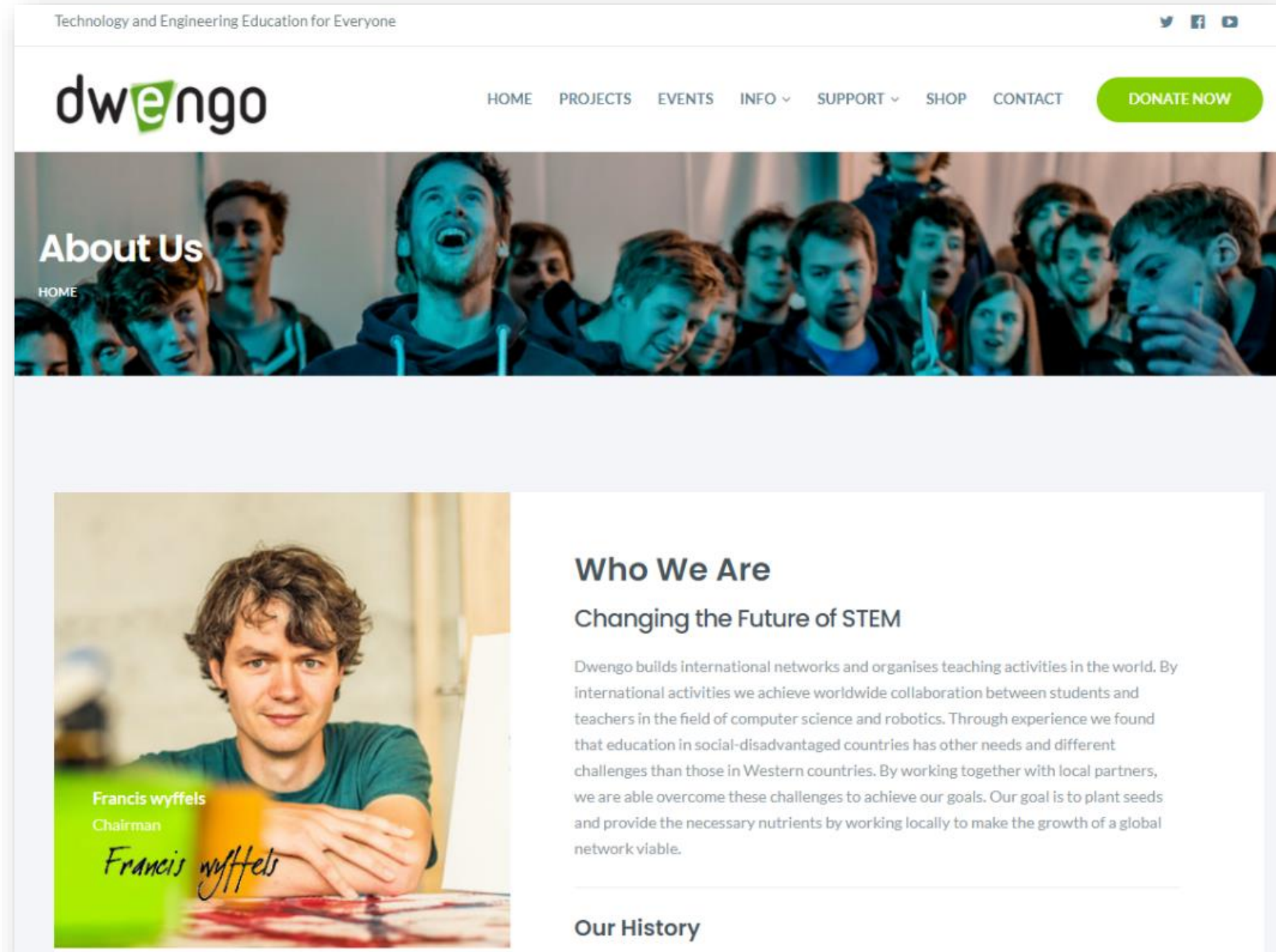
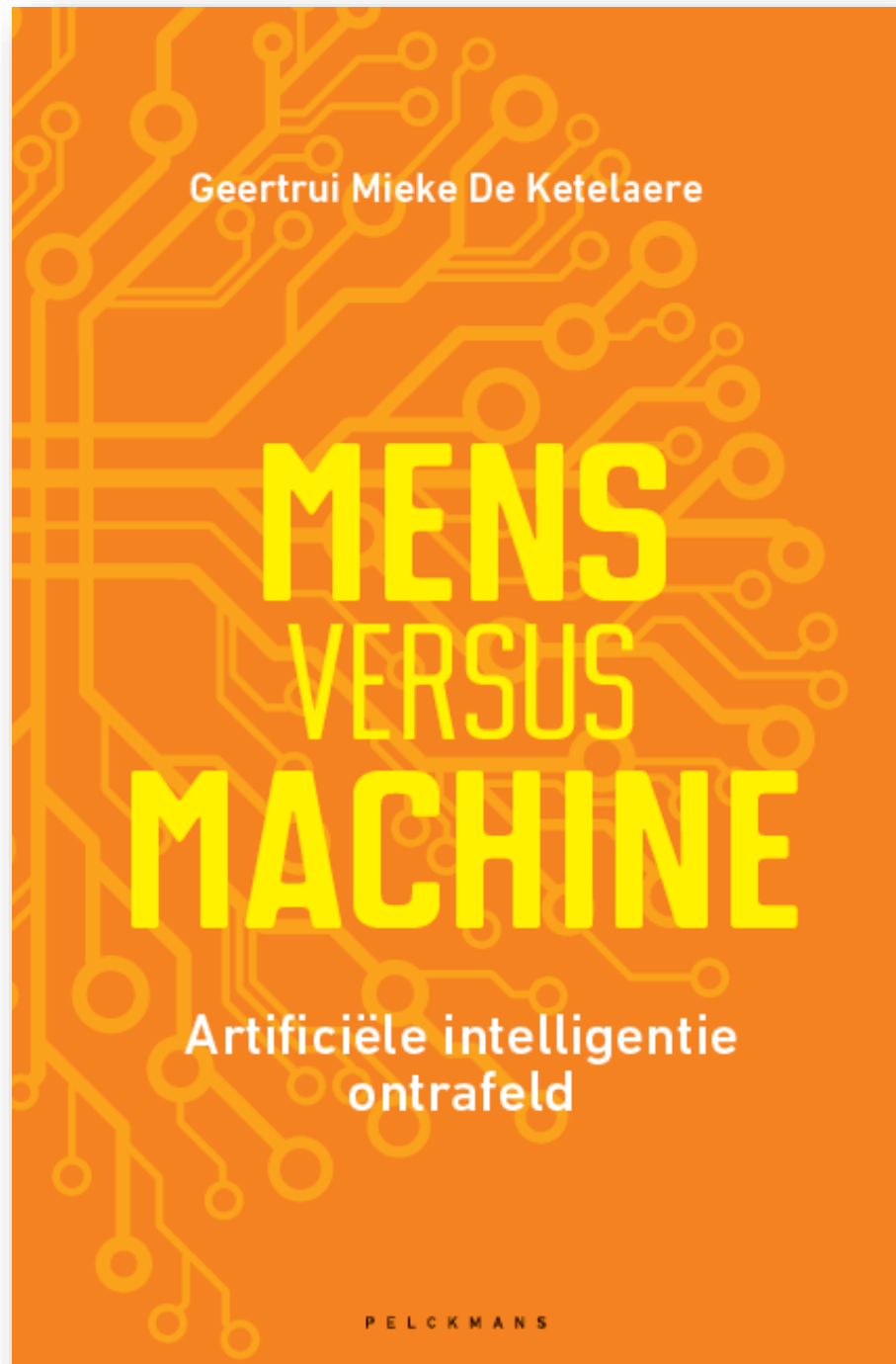
Vragen





one more thing





1948

JANUARY

1948

SUN

MON

TUES

WED

THURS

FRI

SAT

1

2

3

8

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16

17

22

23

24

29

30

31

20 april om 15u00

Commercieel Opschalen

Fabian van Netten
IngramMicro Cloud

 BlueHealthU
Online Essentials



Survey



Bedankt!