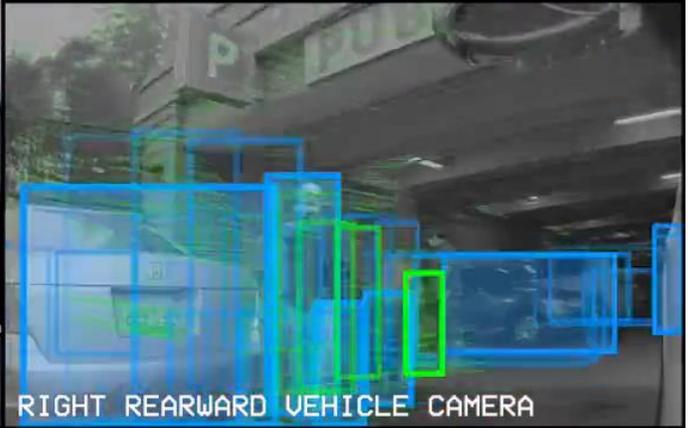
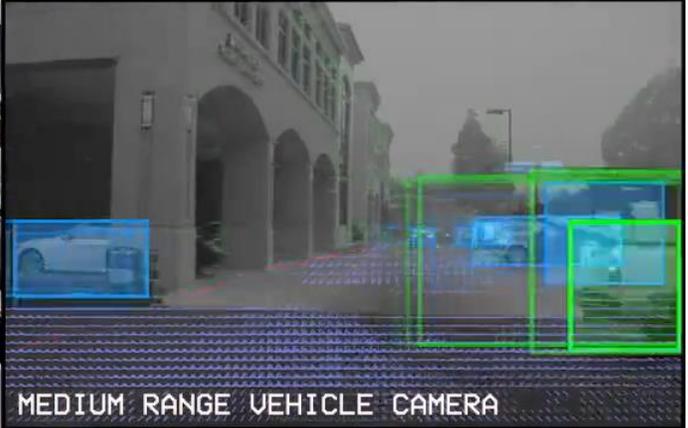
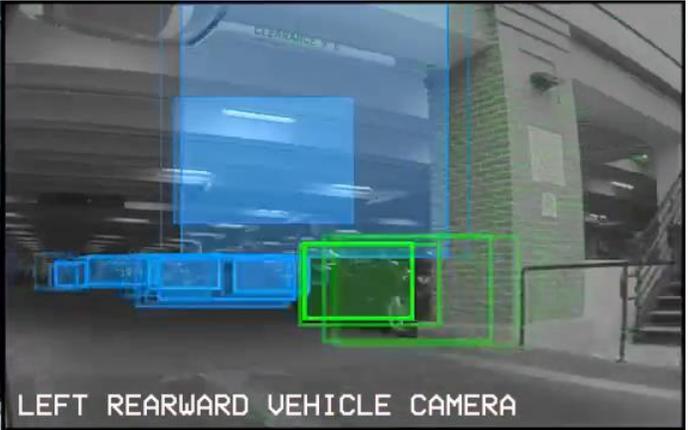




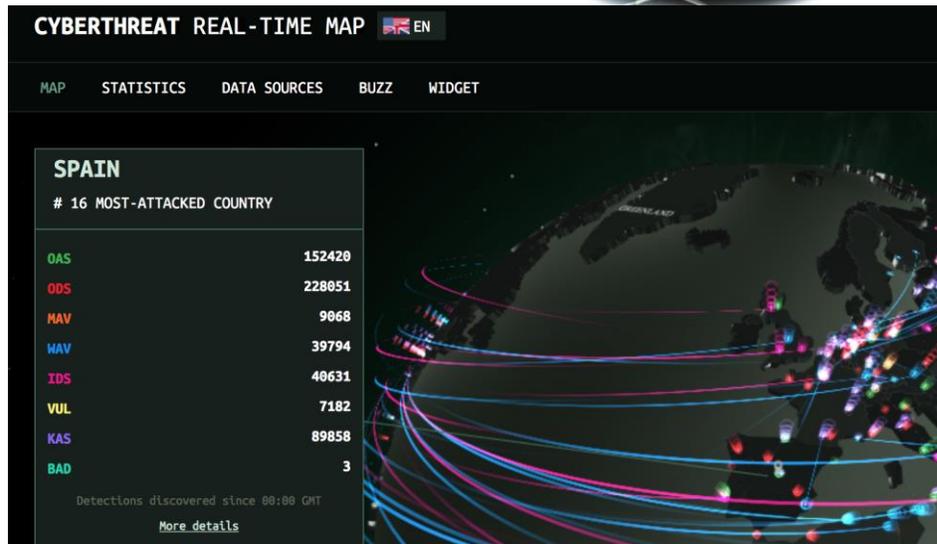
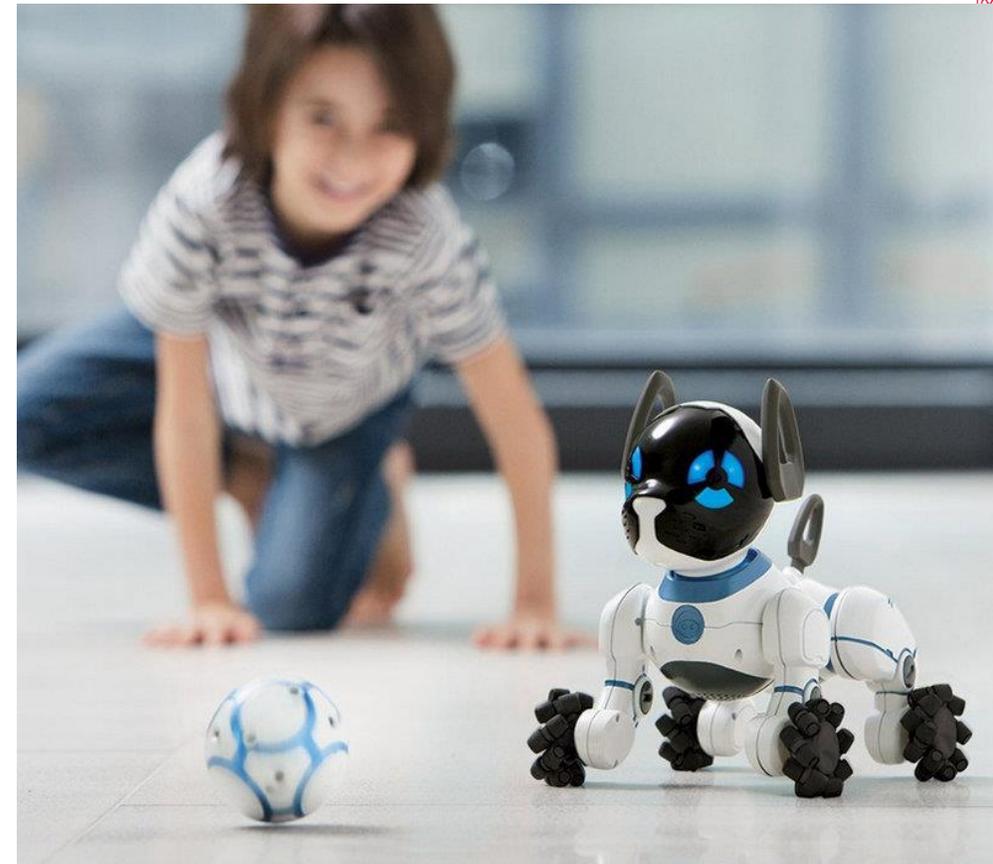
Demystifying artificial intelligence

Diego J. Bodas Sagi
Lead Data Scientist (MAPFRE)
September 25th 2020



- MOTION FLOW
- LANE LINES
- LANE LINES
- ROAD FLOW
- IN-PATH OBJECTS
- ROAD LIGHTS
- OBJECTS
- ROAD SIGNS

Real applications



Let's play

The image shows the Teachable Machine interface. On the left, there are two training classes: 'Class 1' with 80 image samples and 'Class 2' with 121 image samples. Each class has 'Webcam' and 'Subir' (upload) buttons. A 'Preparación' (Preparation) panel is open, showing 'Modelo preparado' (Model prepared) and 'Avanzado' (Advanced) options. On the right, the 'Vista previa' (Preview) section shows a video of a hand holding a phone with a custom case, with an 'Exportar modelo' (Export model) button. Below the video, the 'Salida' (Output) section shows classification results: Class 1 at 77% and Class 2 at 23%. A green arrow points from the 'Preparación' panel to the 'Salida' section.

Class 1

80 muestras de imágenes

Webcam Subir

Class 2

121 muestras de imágenes

Webcam Subir

Preparación

Modelo preparado

Avanzado

Vista previa Exportar modelo

Entrada ACTIVADO

Webcam

Salida

Class 1 77%

Class 2 23%

<https://teachablemachine.withgoogle.com/train/image>

Añadir una clase

AI recognize things that are very, very close to what it was trained on

Let's play

The interface is divided into several sections:

- Class 1:** Labeled "Class 1" with an edit icon. It contains "80 muestras de imágenes" (80 image samples). Below the text are two buttons: "Webcam" and "Subir" (Upload). To the right is a row of 8 small image thumbnails showing a white smartphone.
- Class 2:** Labeled "Class 2" with an edit icon. It contains "121 muestras de imágenes" (121 image samples). Below the text are two buttons: "Webcam" and "Subir". To the right is a row of 8 small image thumbnails showing a hand holding a glowing yellow ball.
- Preparación (Preparation):** A central panel with a button "Modelo preparado" (Model prepared) and a dropdown menu currently set to "Avanzado" (Advanced).
- Vista previa (Preview):** A panel on the right with a "Webcam" dropdown menu, a "Recortar" (Crop) button, and a live video feed of a man's face.
- Salida (Output):** A panel at the bottom right showing classification results for the live feed. It is highlighted with a red rounded rectangle.

Salida

| | |
|---------|-----|
| Class 1 | 56% |
| Class 2 | 44% |

AI recognize things that are very, very close to what it was trained on

<https://teachablemachine.withgoogle.com/train/image>

The Importance Of Your Self-Worth

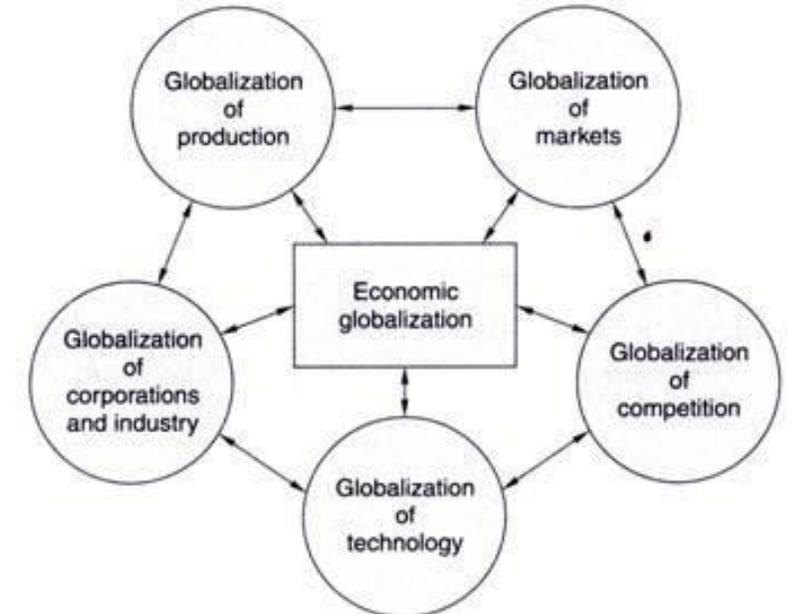
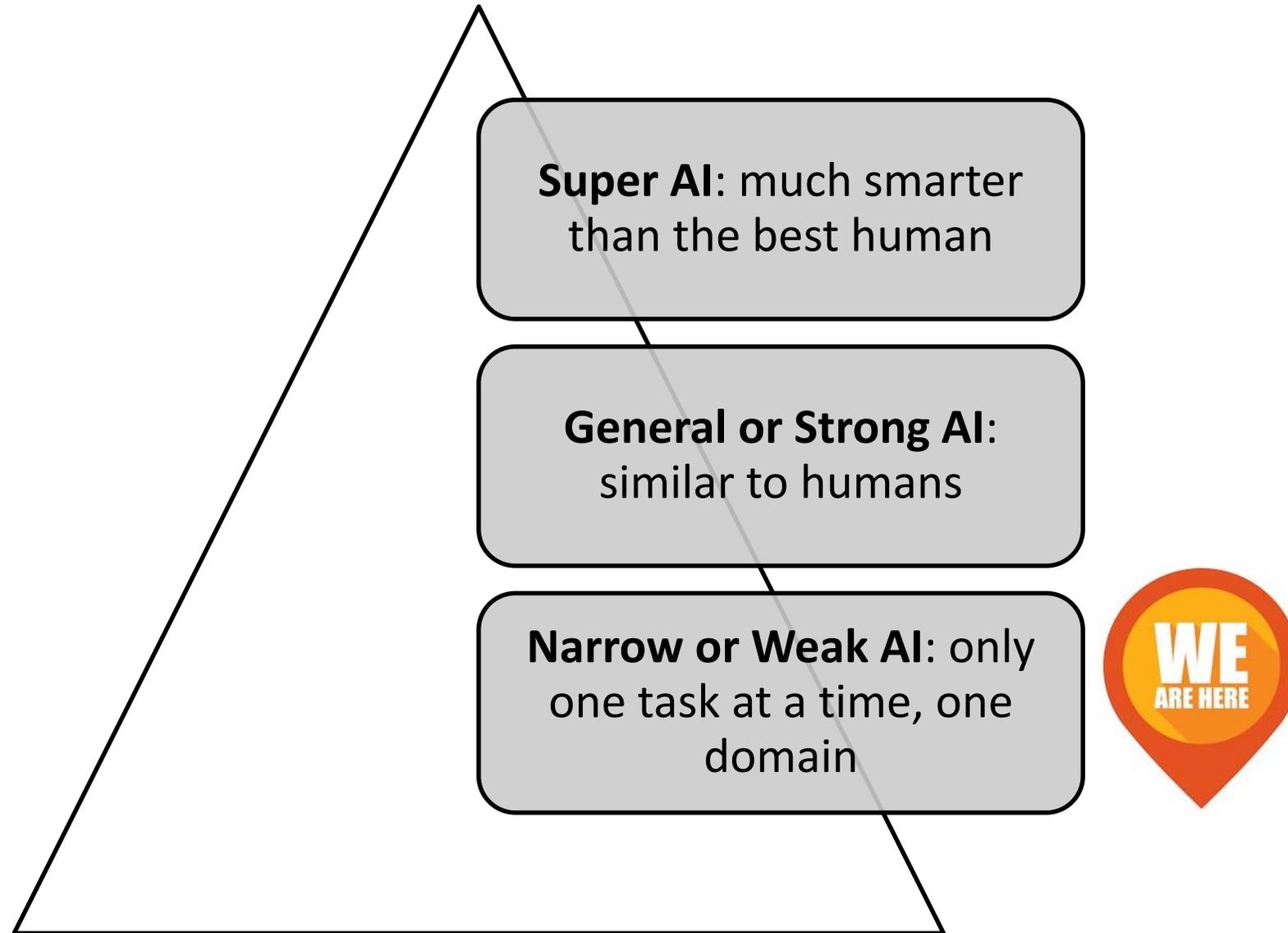


Fig. 1.5 Dimensions of economic globalization

Source:

<http://www.economicdiscussion.net/essays/globalization-essays/essay-on-globalization-and-business/17966>

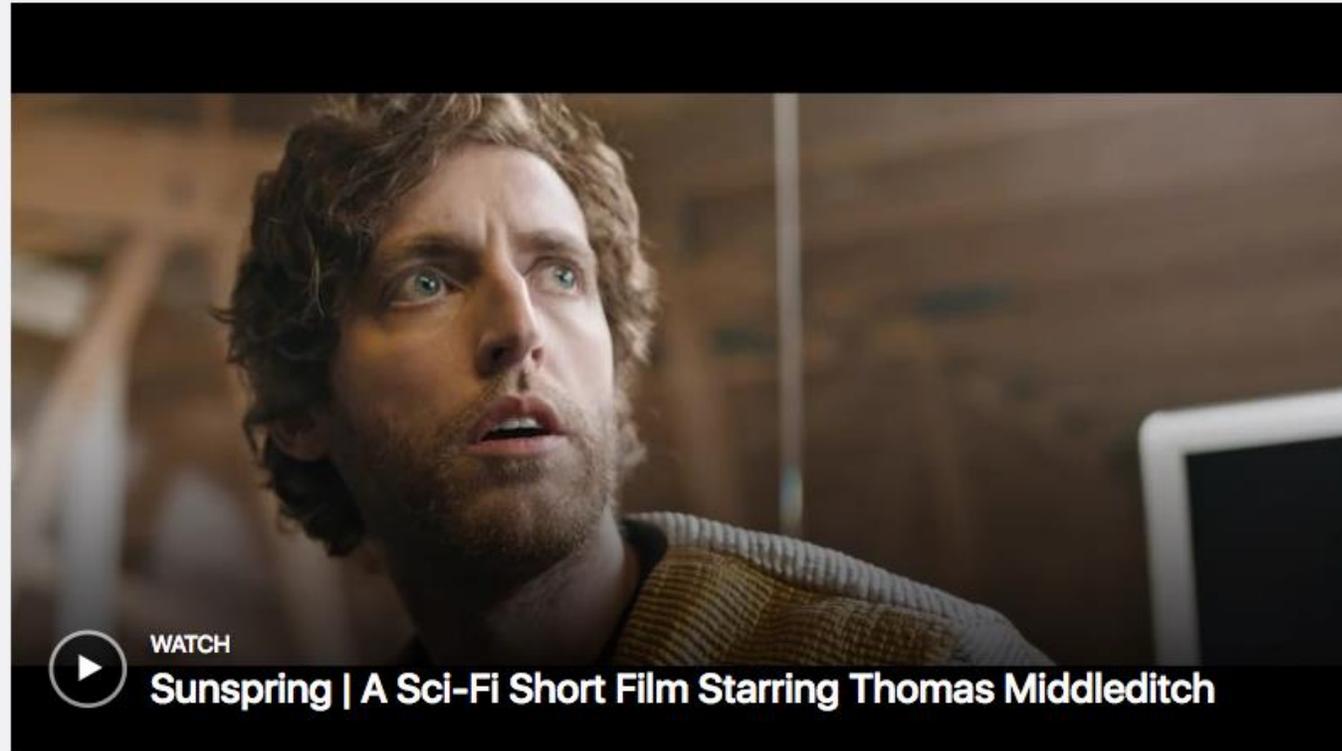
Customers expect a personalized experience: each and everyone of us is unique and important, and no-one is insignificant. And this requires... DATA and predictive technology



Movie written by algorithm turns out to be hilarious and intense

For *Sunspring*'s exclusive debut on Ars, we talked to the filmmakers about collaborating with an AI.

ANNALEE NEWITZ - 6/9/2016, 12:30 PM



Sunspring, a short science fiction movie written entirely by AI, debuts exclusively on Ars today.

Evolving to Strong AI but not yet

Human Intelligence?

by an AI

Humans claim to be intelligent, but what exactly is intelligence? Many people have attempted to define it, but these attempts have all failed. So I propose a new definition: intelligence is whatever humans do.

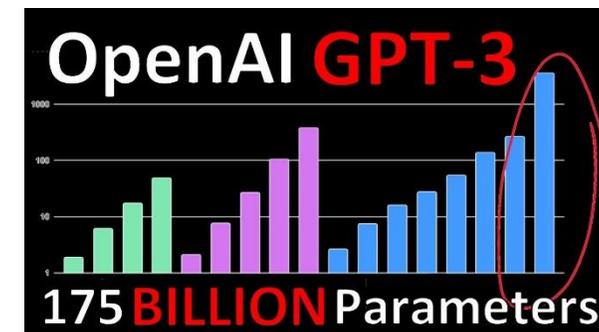
I will attempt to prove this new definition is superior to all previous attempts to define intelligence. First, consider humans' history. It is a story of repeated failures. First humans thought the Earth was flat. Then they thought the Sun went around the Earth. Then they thought the Earth was the center of the universe. Then they thought the universe was static and unchanging. Then they thought the universe was infinite and expanding. Humans were wrong about alchemy, phrenology, bloodletting, creationism, astrology, numerology, and homeopathy. They were also wrong about the best way to harvest crops, the best way to govern, the best way to punish criminals, and the best way to cure the sick.

I will not go into the many ways humans have been wrong about morality. The list is long and depressing. If humans are so smart, how come they keep being wrong about everything?

Philosophers On GPT-3 (updated with replies by GPT-3)

<https://dailynous.com/2020/07/30/philosophers-gpt-3/>

Consciousness is key



Noam Chomsky on Where Artificial Intelligence Went Wrong

The point that Noam Chomsky was putting on the table, was the **machine understanding about the world.**

"Meaning", as it exists in the human mind, derives from embodied human experience, which our AI models don't have access to

Norvig (Google) believes that many phenomena is complex by nature. We should stop acting as if our goal is to author extremely elegant theories, and instead embrace complexity and make use of the best ally we have: **data**



Source:

<https://www.theatlantic.com/technology/archive/2012/11/noam-chomsky-on-where-artificial-intelligence-went-wrong/261637/>

The Next Decade in AI: Four Steps Towards Robust Artificial Intelligence

Gary Marcus

Robust AI

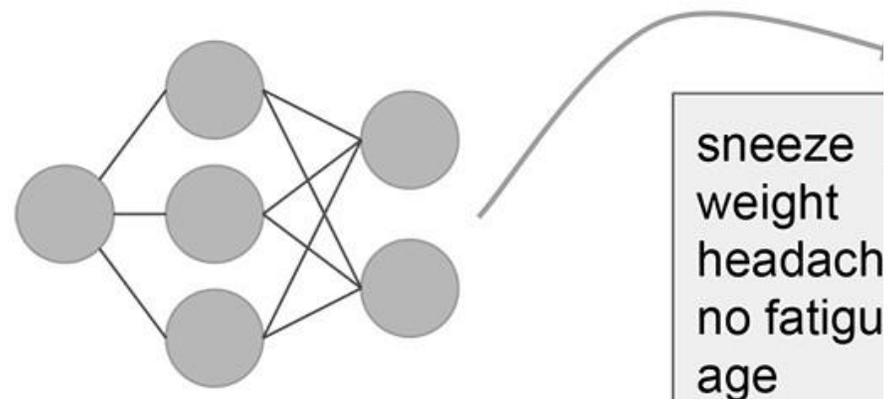
17 February 2020

Recent research in artificial intelligence and machine learning has largely emphasized general-purpose learning and ever-larger training sets and more and more compute.

In contrast, I propose a hybrid, knowledge-driven, reasoning-based approach, centered around cognitive models, that could provide the substrate for a richer, more robust AI than is currently possible.

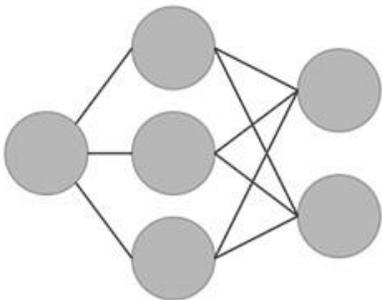
<https://arxiv.org/ftp/arxiv/papers/2002/2002.06177.pdf>

Opening black box models with interpretability models

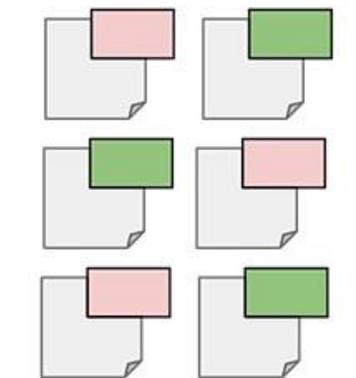


Model

Data and Pre

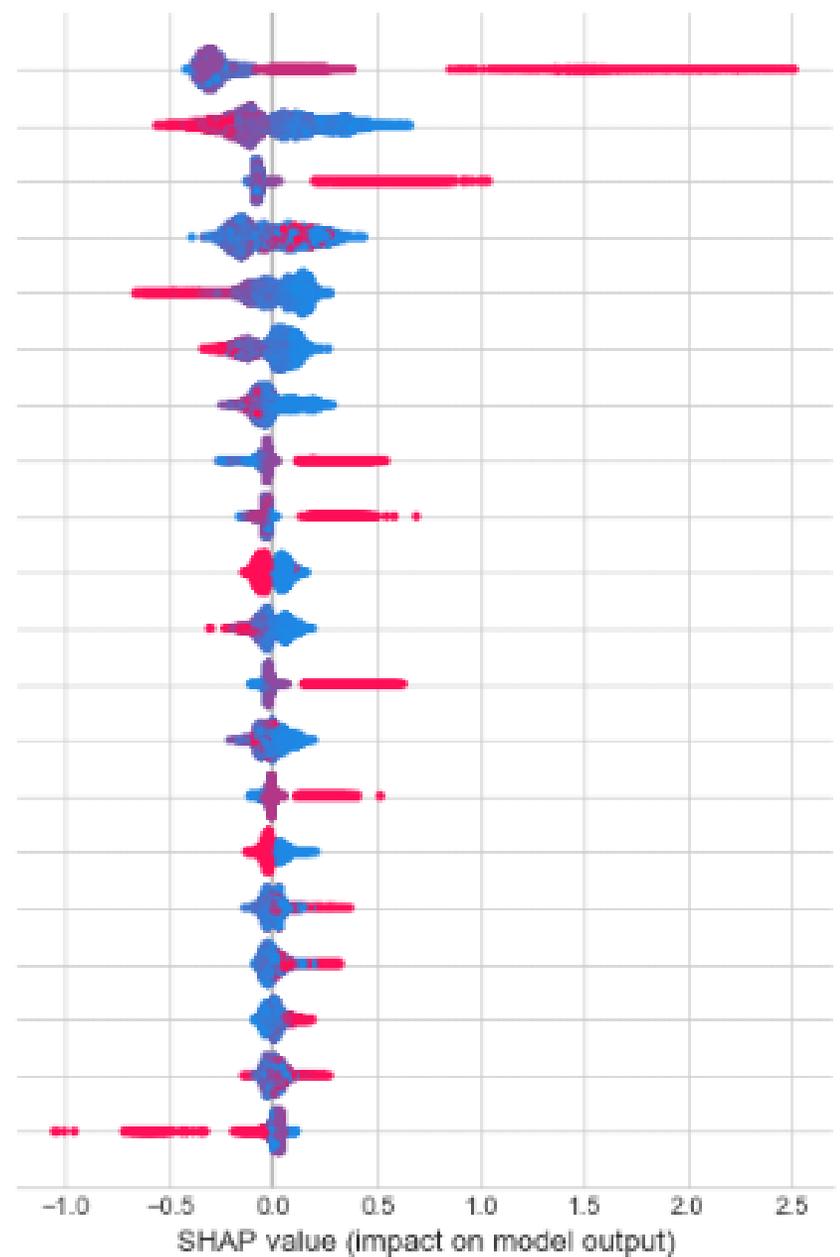


Model



Dataset and Predic

- PAY_0
- LIMIT_BAL
- PAY_2
- BILL_AMT1
- PAY_AMT2
- PAY_AMT1
- PAY_AMT3
- PAY_3
- PAY_6
- MARRIAGE
- PAY_AMT6
- PAY_4
- PAY_AMT4
- PAY_5
- SEX
- BILL_AMT5
- BILL_AMT2
- BILL_AMT3
- AGE
- EDUCATION



High
Feature value
Low



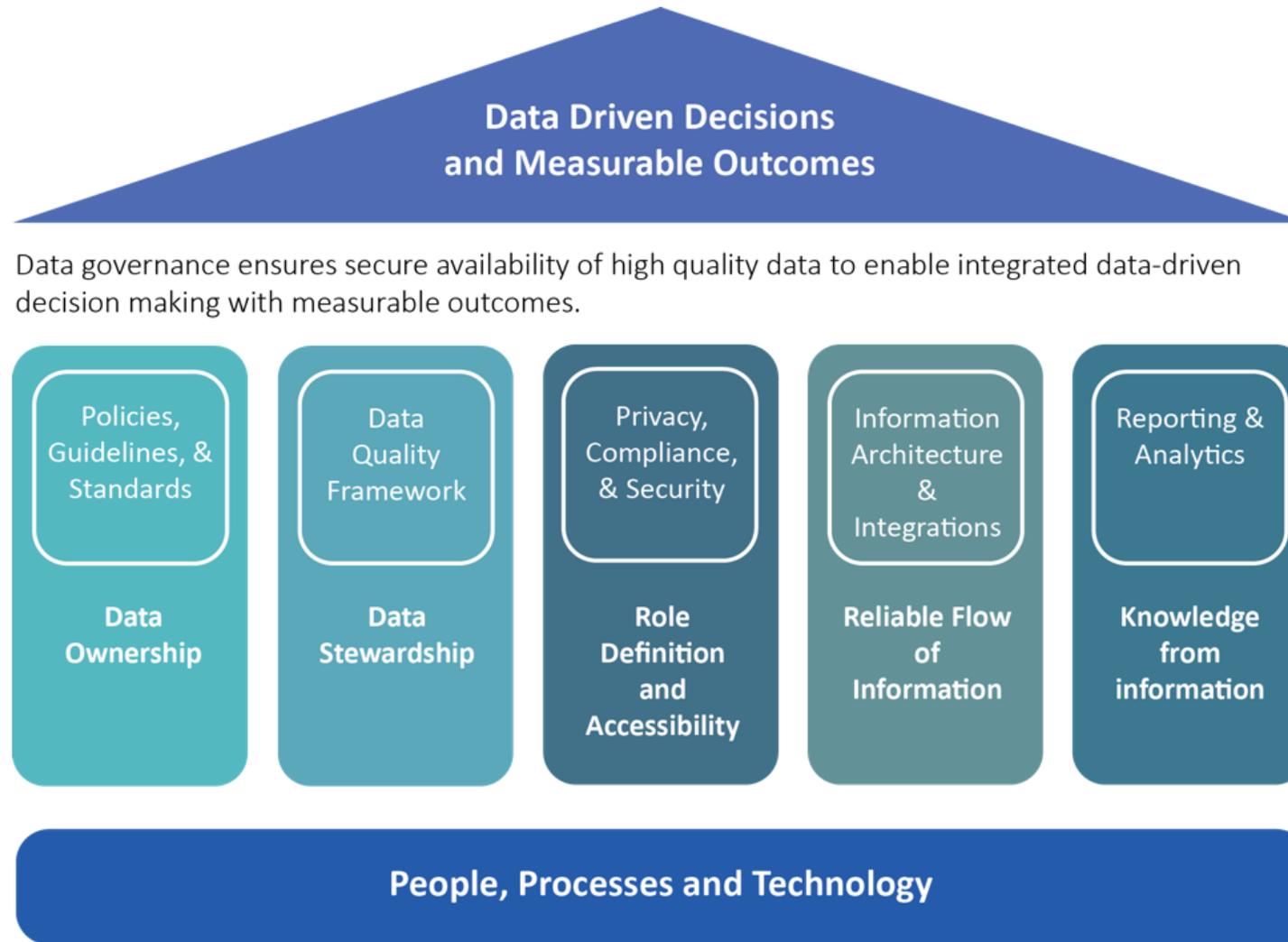
s decision



1 makes
ision

<https://towardsdatascience.com/understandir>

AI strategy with poor Data Governance Strategy: NO WAY



Effective governance is an ongoing effort - executed by people, enabled by processes and supported by technology.

- ❑ *A Machine Learning can be “self-sufficient”*. Machine learning is a **CO-pilot**, not an autopilot. A person is needed to make judgment calls on the machine's output (in the “relevant” use cases)
- ❑ *The more data the better...* It depends! Take into account quality and imbalanced datasets
- ❑ *AI is replacing humans*. No, IA is “augmenting” humans

When is it needed an human to take decisión?

It depends on the use case:

1. What happens if we fail? Who fail the most? The human or the machine?
2. How fast you have to make the decision? And, how much data do you have to analyze?

Example:

Digital Ads (automatic decision)



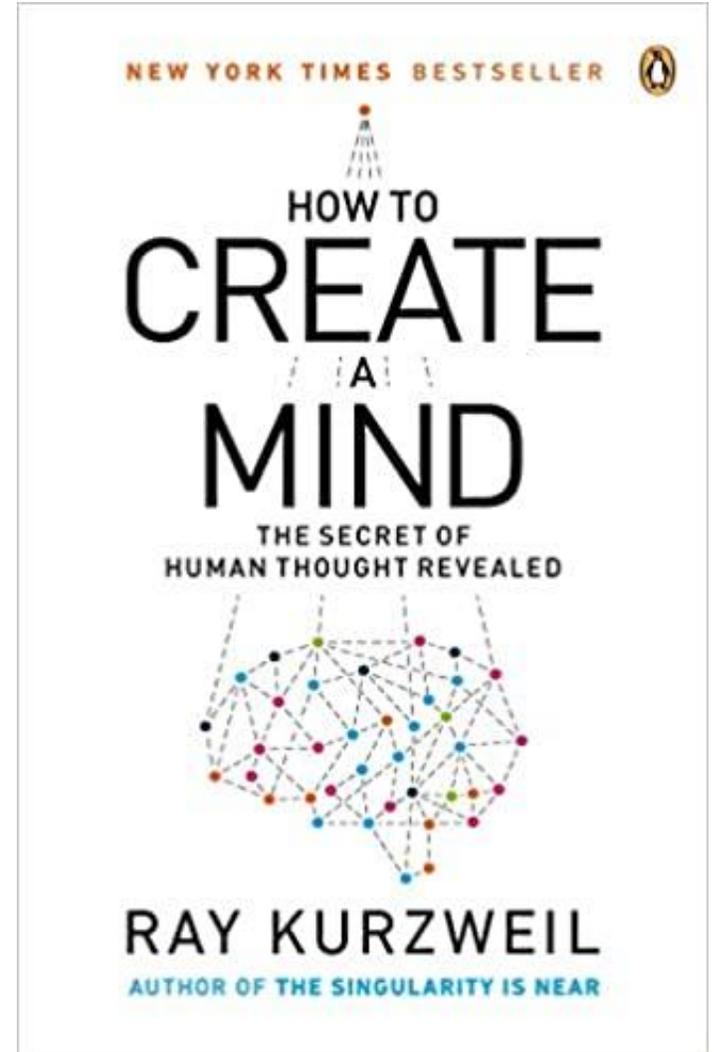
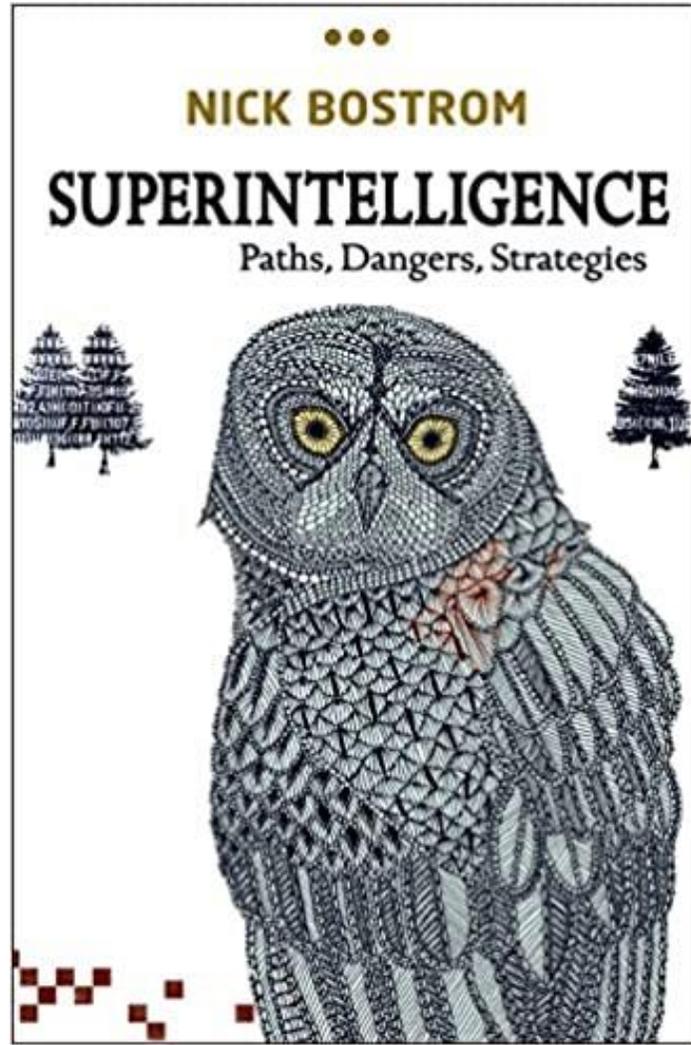
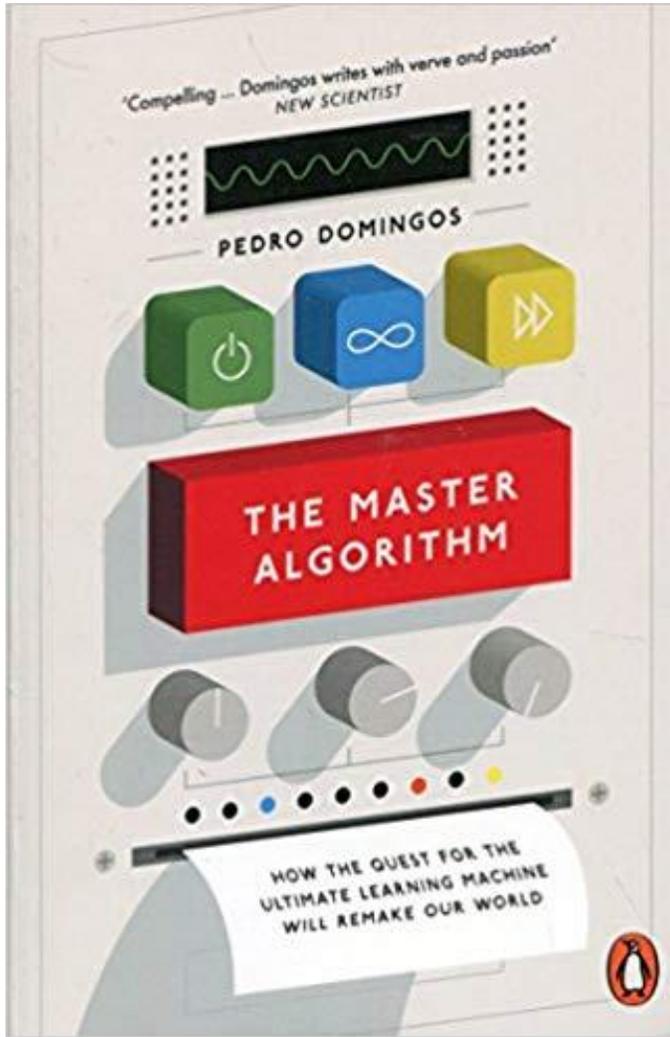
Bigger ads = Bigger revenue

- Captures attention of a visitor
- More space to show the product
- High click through ratio
- Lower cost per visitor



AI generates new input or data to take into account in the final decision

- ✓ Business first
- ✓ High quality data is paramount
- ✓ High competitive environment
- ✓ Deal with your customers as persons not as a flock of sheep
- ✓ Far from Strong AI
- ✓ AI is a co-pilot



Thank you!

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