

Artificial Intelligence

How are we different from
Machines?

Miguel A. Román – Co-founder IIA
ELRA Assembly
November 26th, 2021



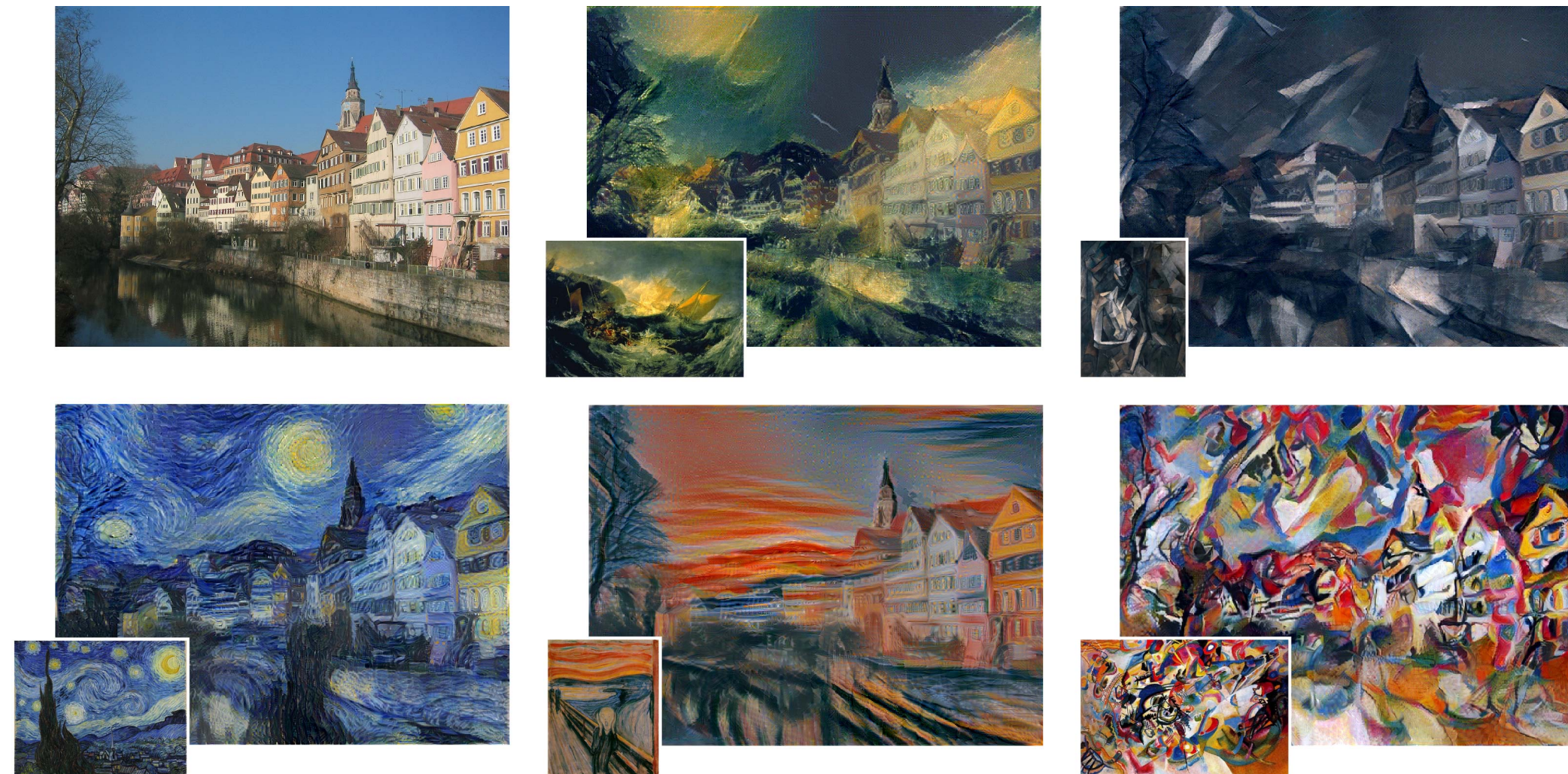
Mark Andreessen

founder of Netscape,
renowned Venture Capitalist
Andreessen-Horowitz

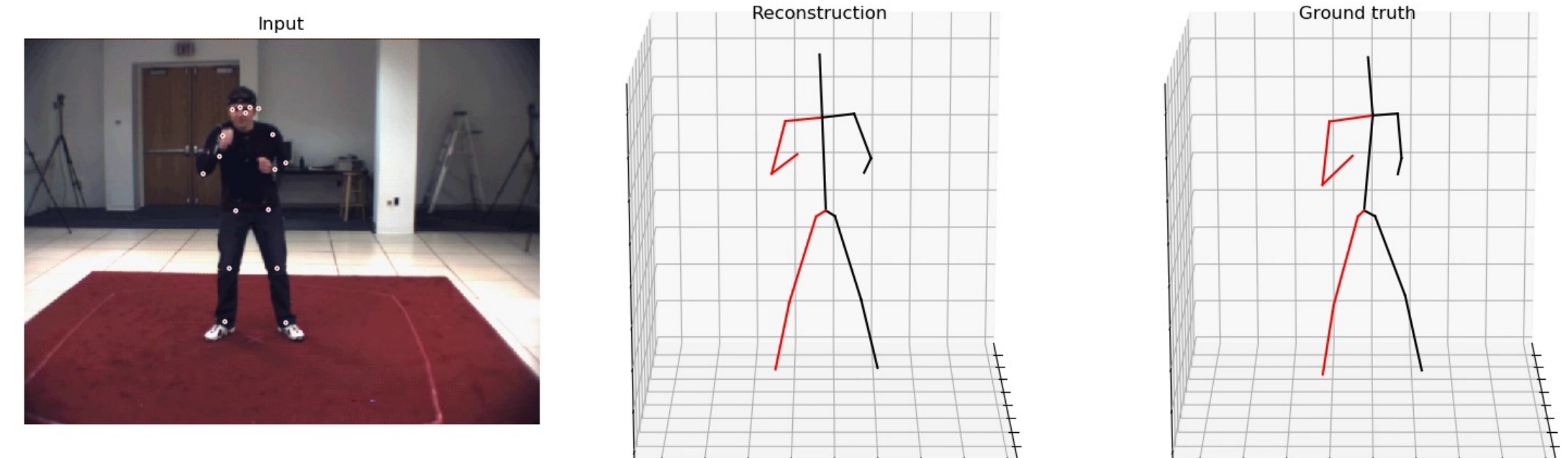
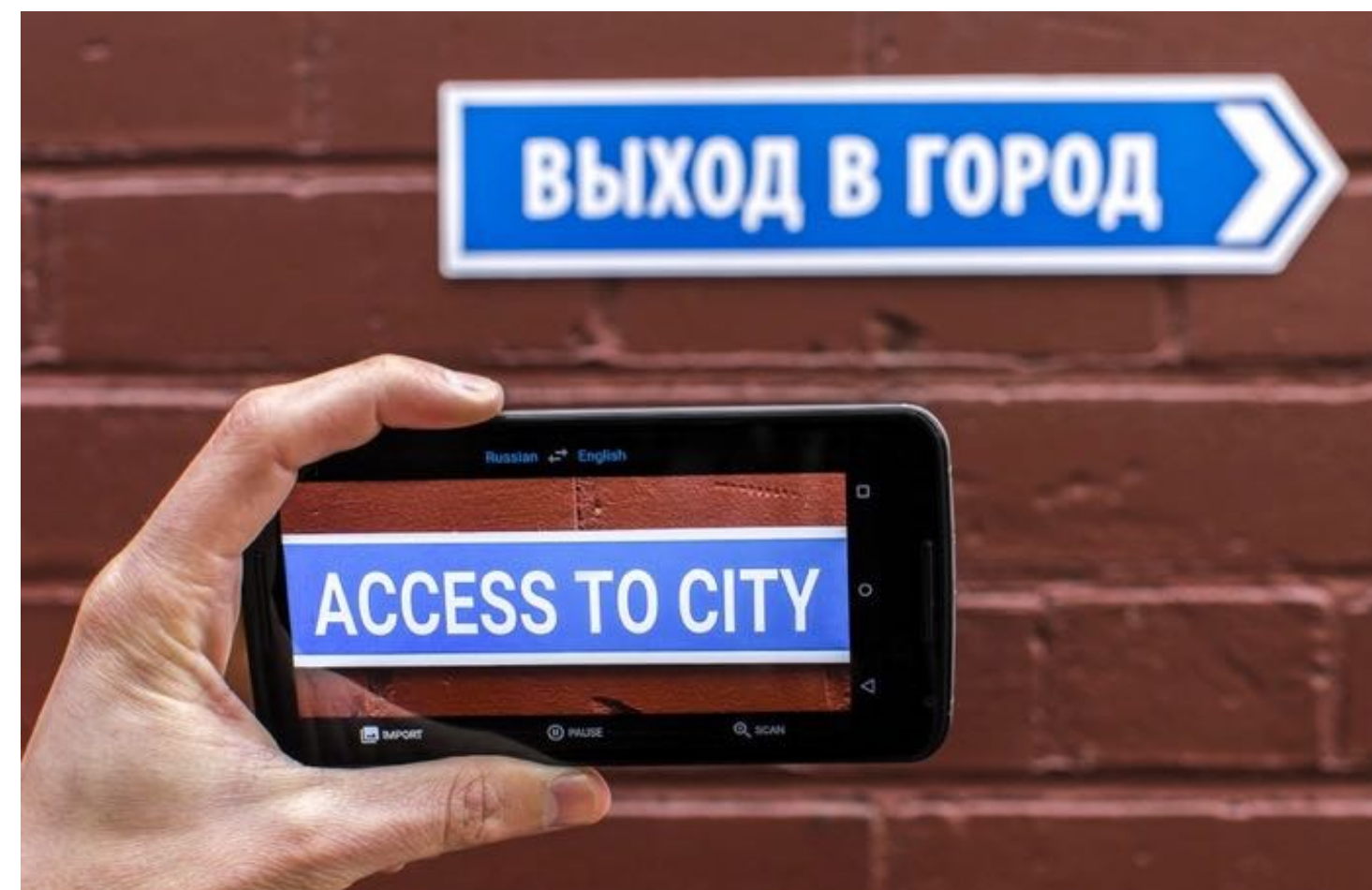
**Software is eating the
world, in all sectors**

In the future every
company will become a
software company

AI = Computational Leap



```
sentiment.ts write_sql.go parse_expenses.py addresses.rb
1 #!/usr/bin/env ts-node
2
3 import { fetch } from "fetch-h2";
4
5 /
6
7
8
9
10
11
12
13
14
15
16
17
```



Revolution in Computer Vision and Natural Language Processing



TEXT PROMPT
an armchair in the shape of an avocado [...]

AI-GENERATED IMAGES



[Edit prompt or view more images ↓](#)

TEXT PROMPT
a store front that has the word 'openai' written on it [...]

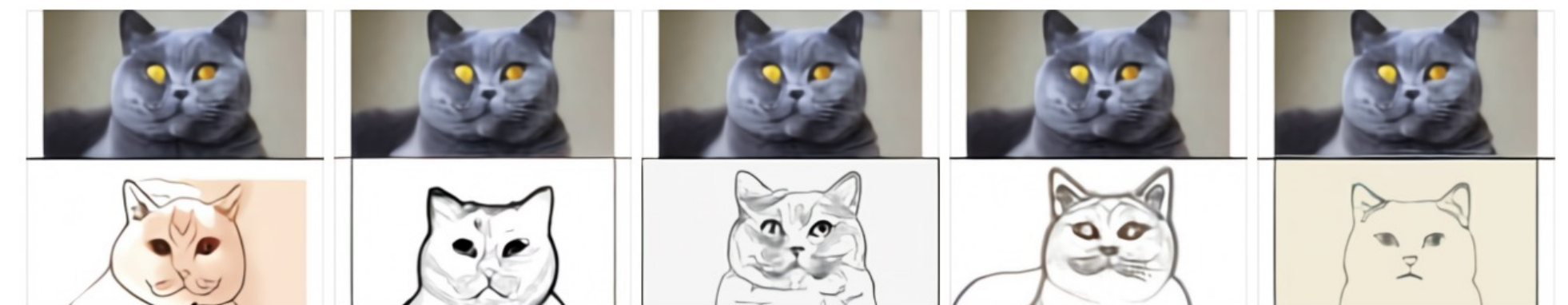
AI-GENERATED IMAGES



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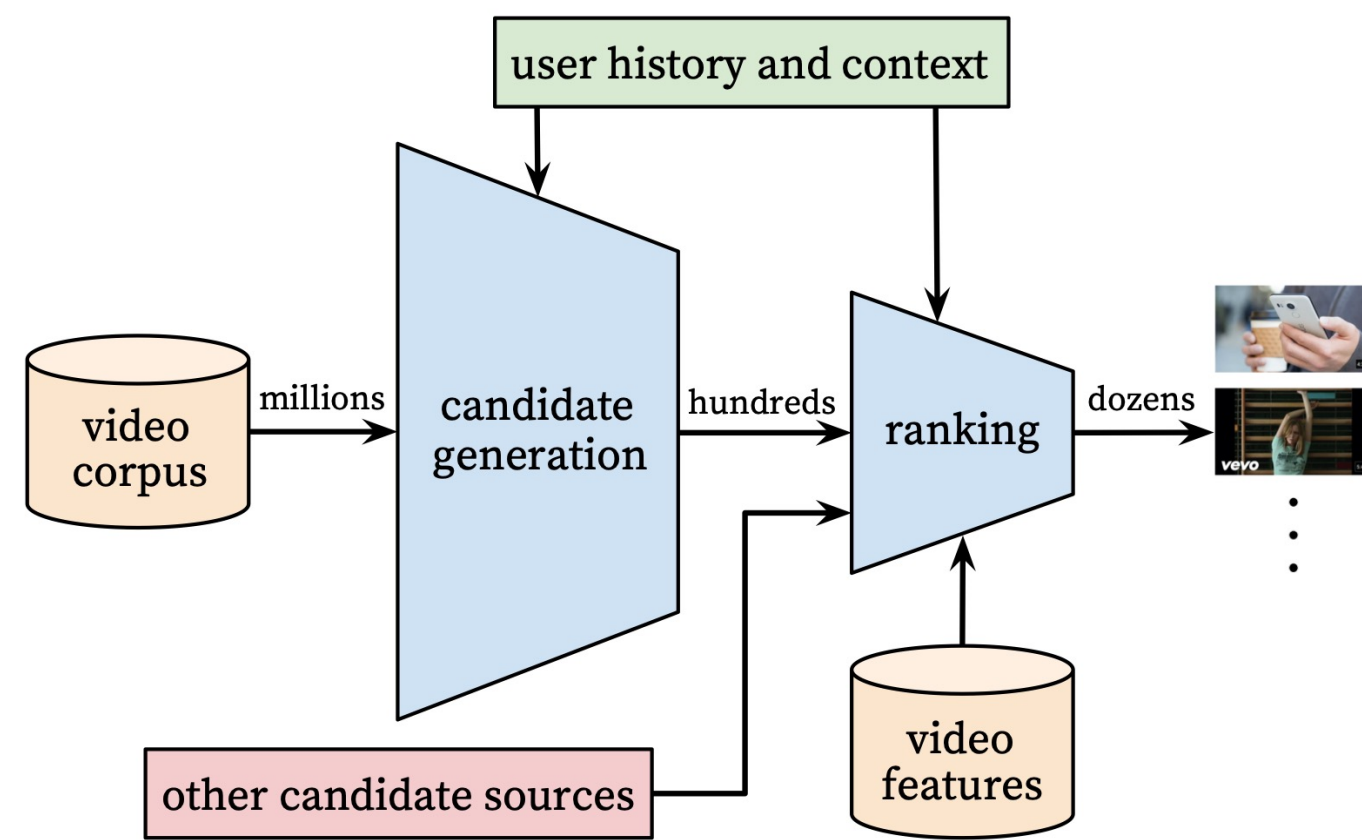
TEXT AND IMAGE PROMPT
the exact same cat on the top as a sketch on the bottom

AI-GENERATED IMAGES



[Edit prompt or view more images ↓](#)

We are surrounded by AI



Customer Sales Details

Company	Sales Person	City	State	Profit	Year	Dividend
Chipotle	Linda	Memphis	TN	\$2,500	2013	<input checked="" type="checkbox"/>
Walmart	Mary	Nashville	TN	\$3,000	2013	<input type="checkbox"/>
Home Depot	Kent	Bridgewater	NJ	\$1,964	2013	<input type="checkbox"/>
Sears	Rick	Somerville	NJ	\$2,486	2014	<input type="checkbox"/>
Kohls	Martin	Philadelphia	PA	\$3,125	2016	<input type="checkbox"/>
Michael Page	Linda	Nashville	TN	\$1,023	2014	<input type="checkbox"/>
Walmart	Mary	Bridgewater	NJ	\$523	2014	<input type="checkbox"/>
Home Depot	Kent	Somerville	NJ	\$2,546	2014	<input type="checkbox"/>
Sears	Gary	Arlington	TX	\$234	2016	<input type="checkbox"/>
Chipotle	Novel	Norman	OK	\$1,456	2016	<input checked="" type="checkbox"/>
SNS Logistics	Kris	Bridgewater	NJ	\$2,145	2016	<input type="checkbox"/>
Microsoft	Mary	Somerville	NJ	\$1,029	2013	<input type="checkbox"/>
Google	Linda	Philadelphia	PA	\$1,678	2013	<input type="checkbox"/>
IBM	Rick	Columbus	OH	\$1,000	2016	<input type="checkbox"/>
Green House	Linda	Memphis	TN	\$2,500	2013	<input type="checkbox"/>
K Mart	Mary	Nashville	TN	\$3,000	2013	<input type="checkbox"/>
Toys Rus	Kent	Bridgewater	NJ	\$1,964	2013	<input type="checkbox"/>
Burger King	Rick	Somerville	NJ	\$2,486	2014	<input type="checkbox"/>
Bed & Bath	Novel	Norman	OK	\$1,456	2016	<input checked="" type="checkbox"/>
Kohls	Martin	Philadelphia	PA	\$3,125	2016	<input type="checkbox"/>
Michael Page	Linda	Nashville	TN	\$1,023	2014	<input type="checkbox"/>
Walmart	Mary	Bridgewater	NJ	\$523	2014	<input type="checkbox"/>
Home Depot	Kent	Somerville	NJ	\$2,546	2014	<input checked="" type="checkbox"/>
Sears	Gary	Arlington	TX	\$234	2016	<input type="checkbox"/>
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Microsoft	Mary	Somerville	NJ	\$1,029	2013	<input type="checkbox"/>
Google	Linda	Philadelphia	PA	\$1,678	2013	<input type="checkbox"/>
IBM	Rick	Columbus	OH	\$1,000	2016	<input checked="" type="checkbox"/>
Burger King	Rick	Somerville	NJ	\$2,486	2014	<input type="checkbox"/>
Bed & Bath	Novel	Norman	OK	\$1,456	2016	<input type="checkbox"/>

Answers

How does total profit looks like for each ?

For A1:G33

QUESTION

How does total profit looks like for each year

ANSWER

Sum of Profit by Year

Year	SUM of Profit
2013	\$20,342
2014	\$16,665
2016	\$19,812
Grand Total	\$56,819

PIVOT TABLE CHART

INSERT PIVOT TABLE



Recent Examples



El coche autónomo que te lleva la comida a casa Goggo • Omicrono

TECNOLOGÍA

Goggo Cart, los coches autónomos que repartirán comida en Madrid

La empresa Goggo trae a España dos coches autónomos diseñados específicamente para llevar la comida de los restaurantes y supermercados a casa de los usuarios.

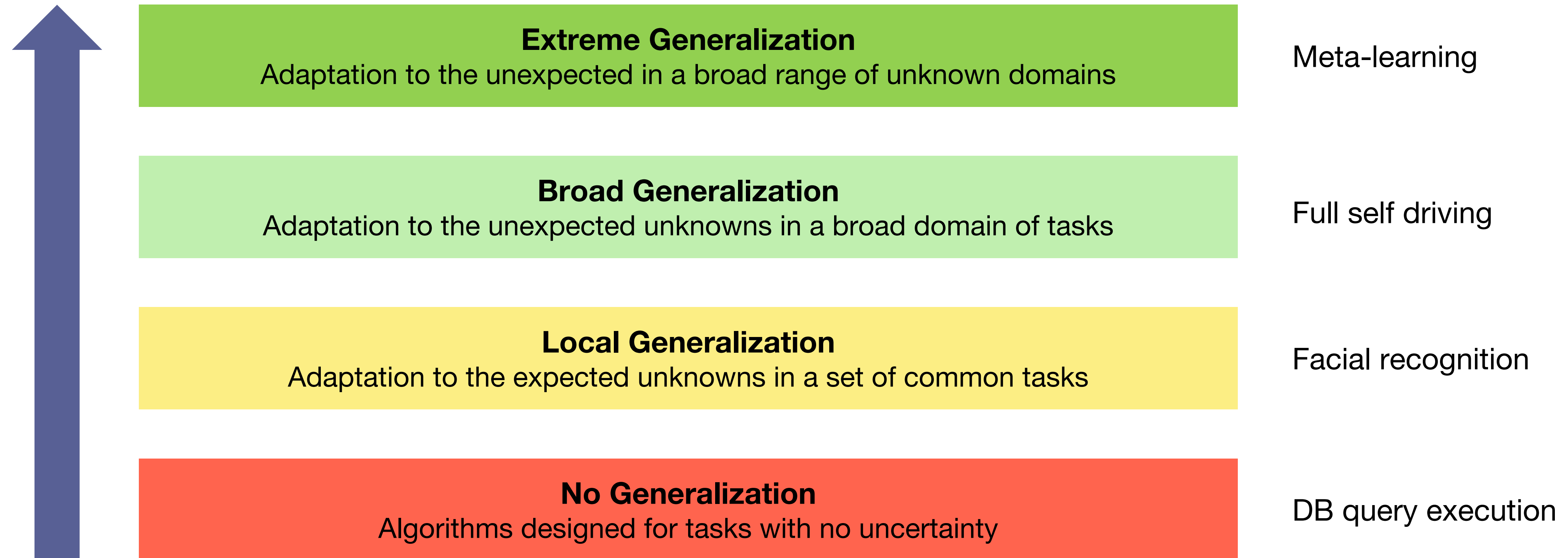
16 septiembre, 2021 - 03:18

GUARDAR

A screenshot of a news article from FRANCE 24. The article is titled "'Always there': the AI chatbot comforting China's lonely millions". It includes social media sharing icons for Facebook, WhatsApp, Twitter, and a share icon. The article was issued on 24/08/2021 at 05:02 and modified on the same date at 05:00. Below the text is a large image showing a person's hand holding a smartphone displaying a chat interface with a virtual human avatar. The chat interface shows a profile for a virtual human named '舜' (Shun), 24 years old, male, and a '聊天' (Chat) button. Below the image, there is a caption: "Xiaolce has pioneered a cutting-edge artificial intelligence system designed to create emotional bonds with its 660 million users worldwide WANG ZHAO AFP".

Towards Artificial General Intelligence (AGI)

- ▶ Generalization: capacity to confront new situations based on previous experience



François Chollet: "Abstraction and Reasoning in AI systems: Modern Perspectives" (NeurIPS 2020)

Job Displacement

PESSIMISTIC SCENARIO

Universal/Conditioned basic income
Increased rich-poor gap
Machine taxation



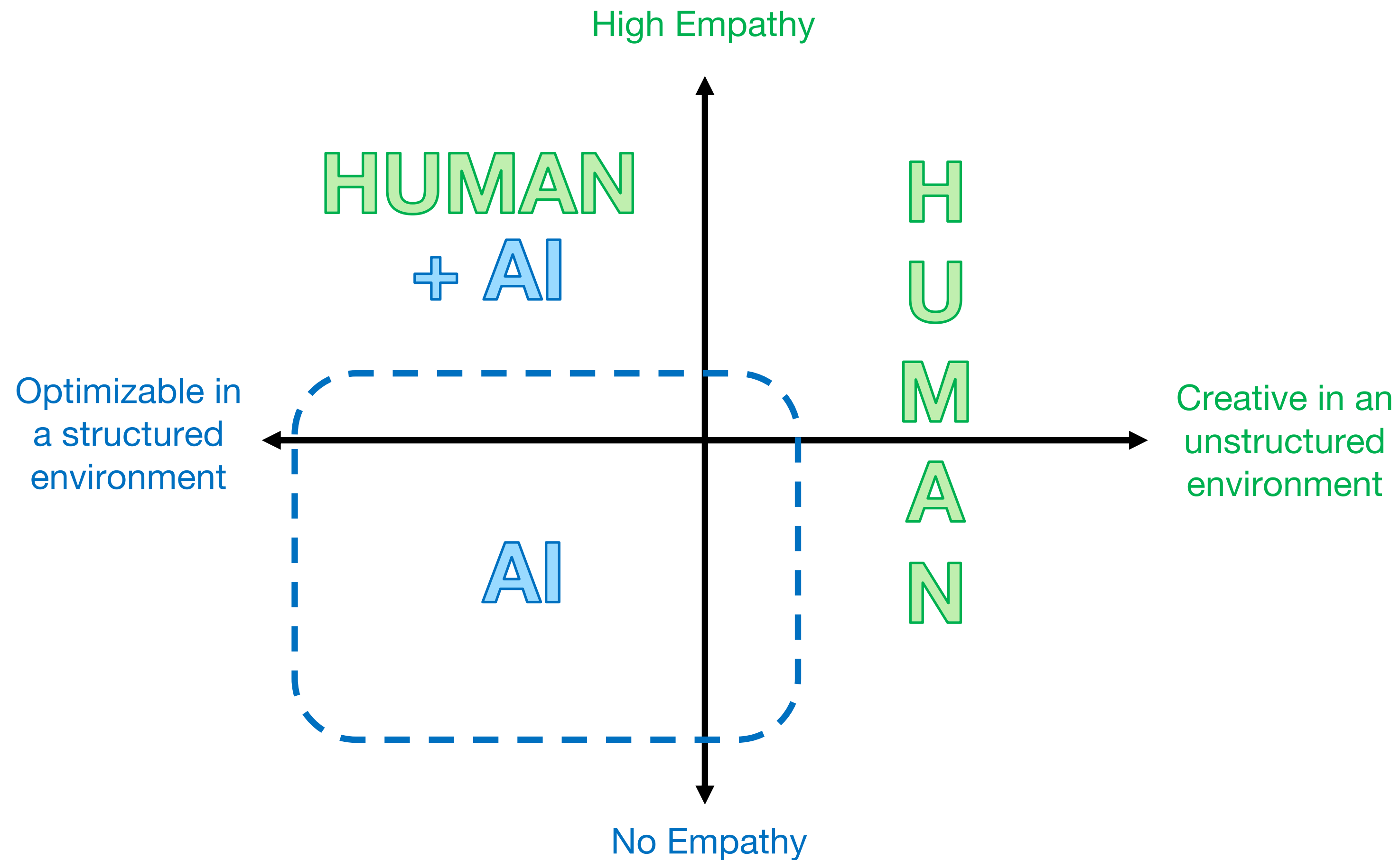
OPTIMISTIC SCENARIO

New jobs
Productivity increase
Economic Growth



MORE TIME FOR WHAT MAKES US HUMAN

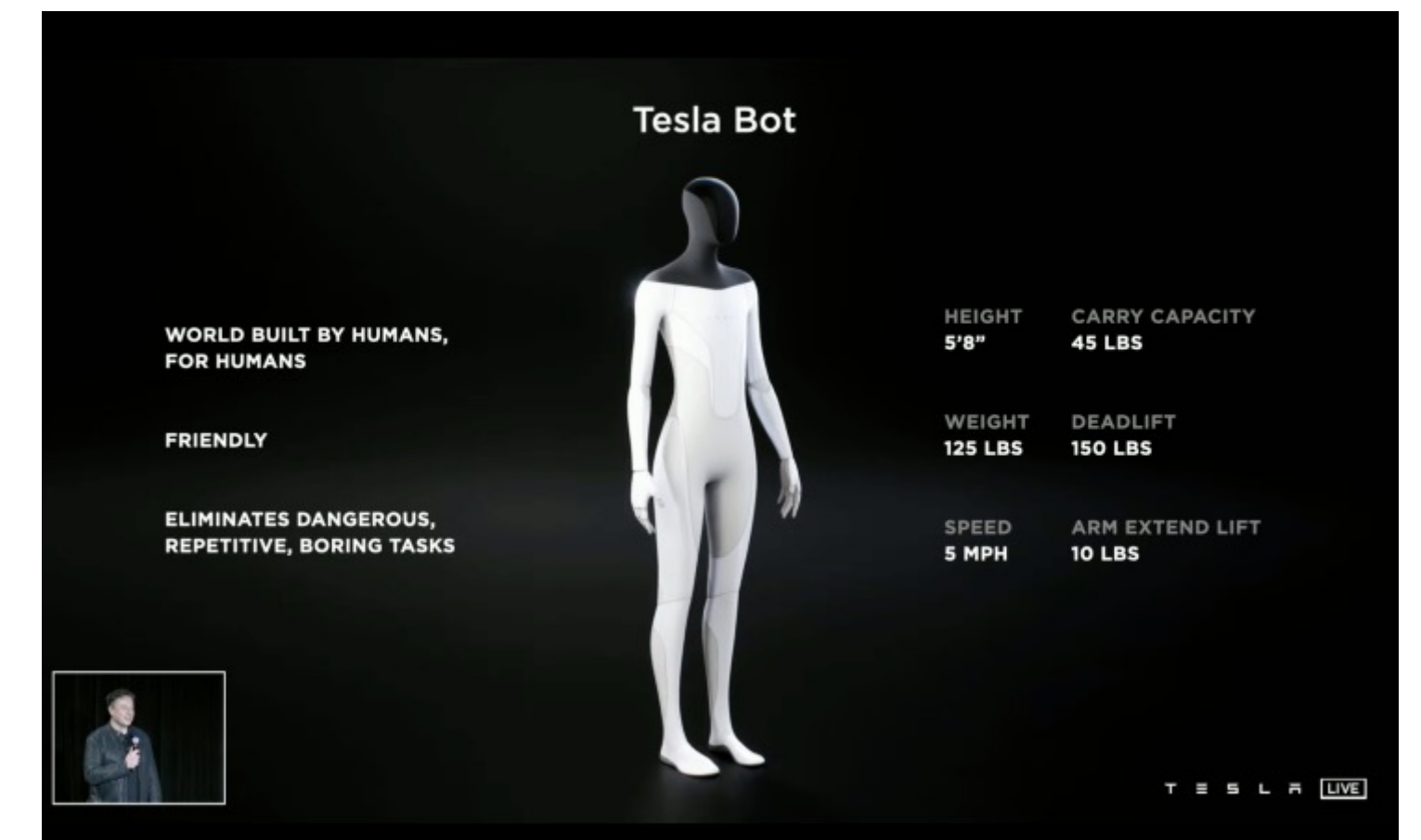
AI automates tasks not jobs



Fuente: "AI Superpowers: China, Silicon Valley and the new world order", Kai-Fu Lee (2018)

Next challenges for AI

- ▶ Universal Robotics
e.g. full self-driving cars, adaptative factory robots



- ▶ Complete Natural Language Understanding
e.g. humor, irony, common sense, metaphores, hyperbole

