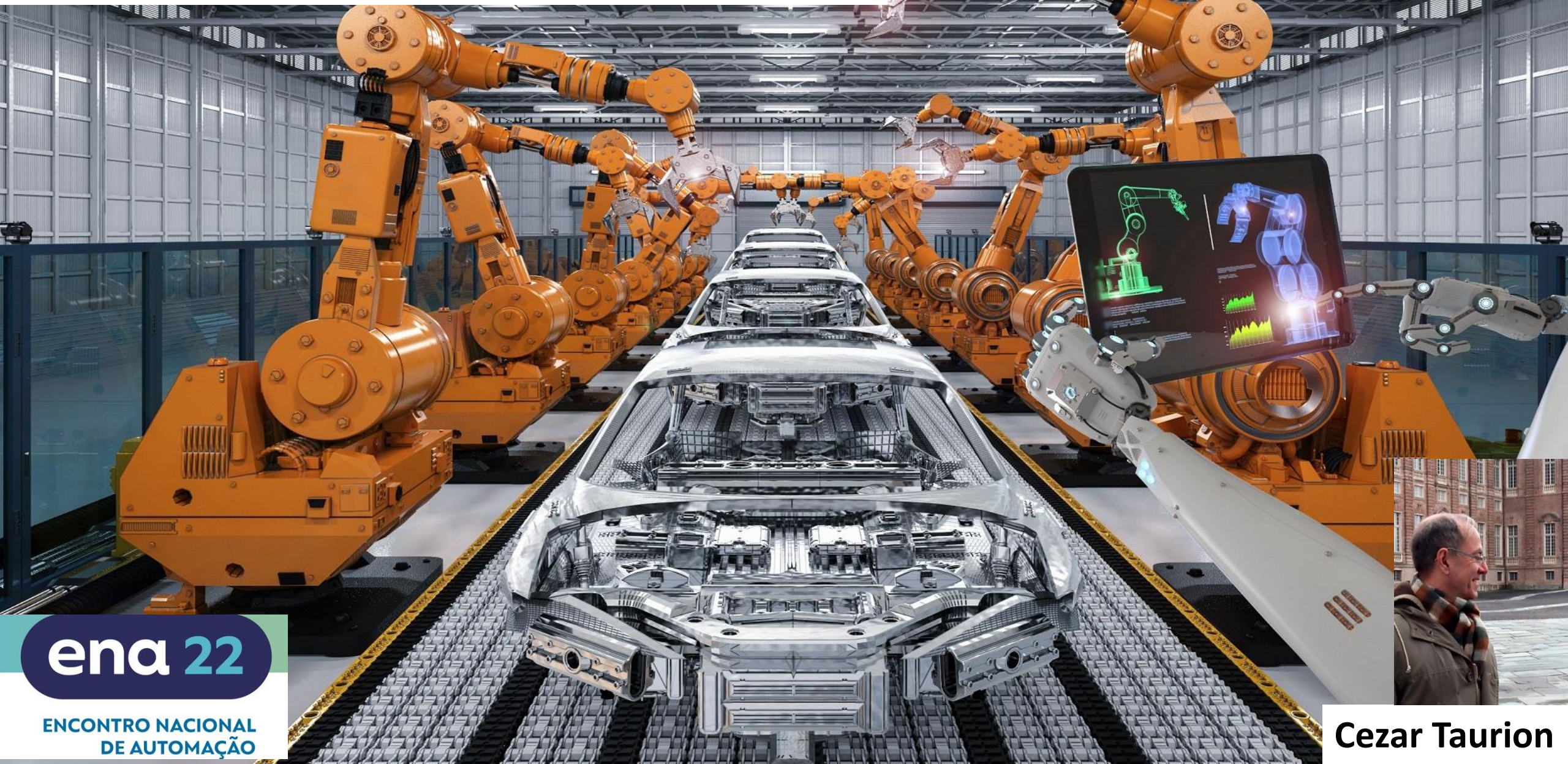


IA na indústria:

Como nos preparamos para um futuro que chega rápido?



ena 22

ENCONTRO NACIONAL
DE AUTOMAÇÃO

Cezar Taurion

Vamos compartilhar experiências...



CHASE



Kick
YOUR IDEA
OUR CHALLENGE



cia técnica
consulting



Finep
Startup

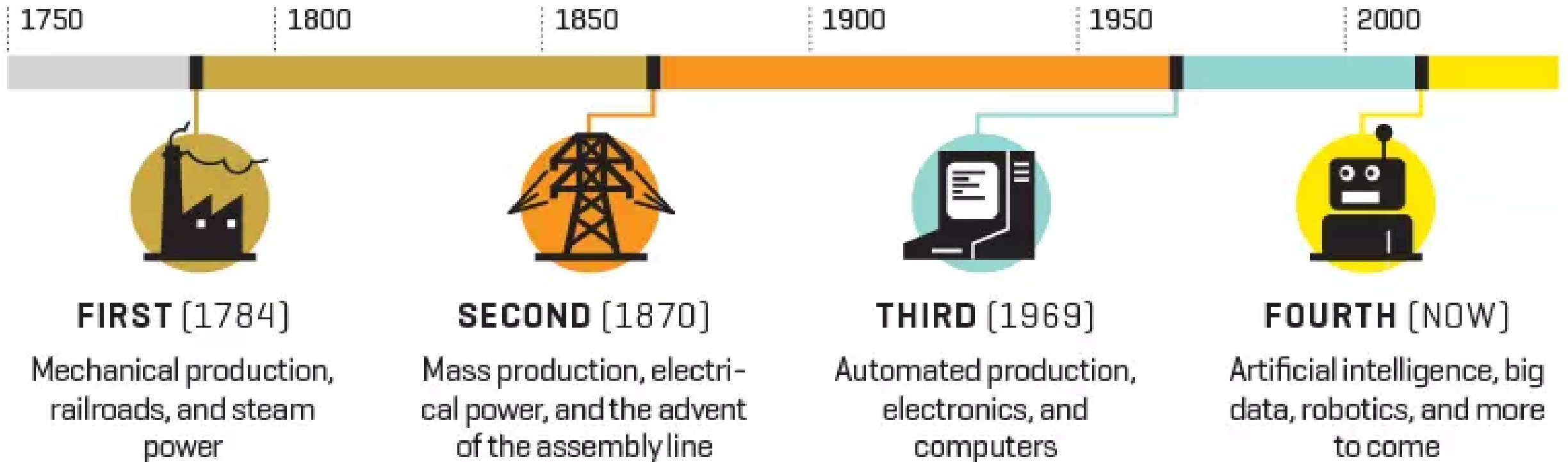


FDC
Para ser relevante.



ESTAMOS QUARTA REVOLUÇÃO INDUSTRIAL

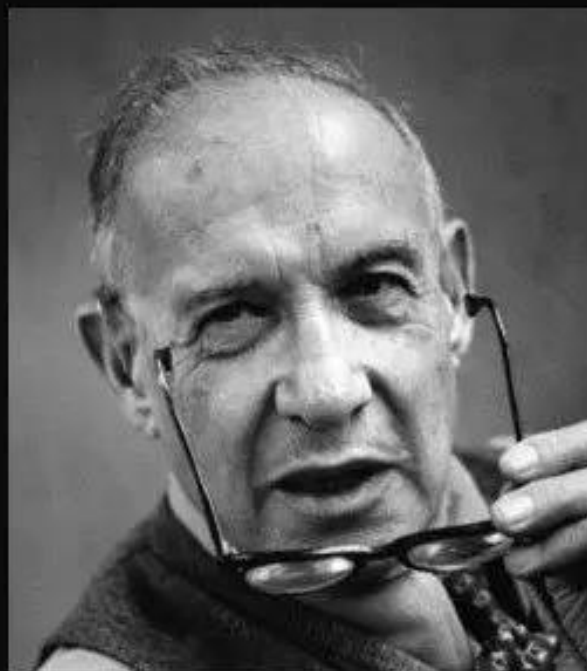
THE FOUR INDUSTRIAL REVOLUTIONS





**"É difícil fazer
previsões,
especialmente
sobre o futuro."**

Niels Bohr (1885 - 1962)

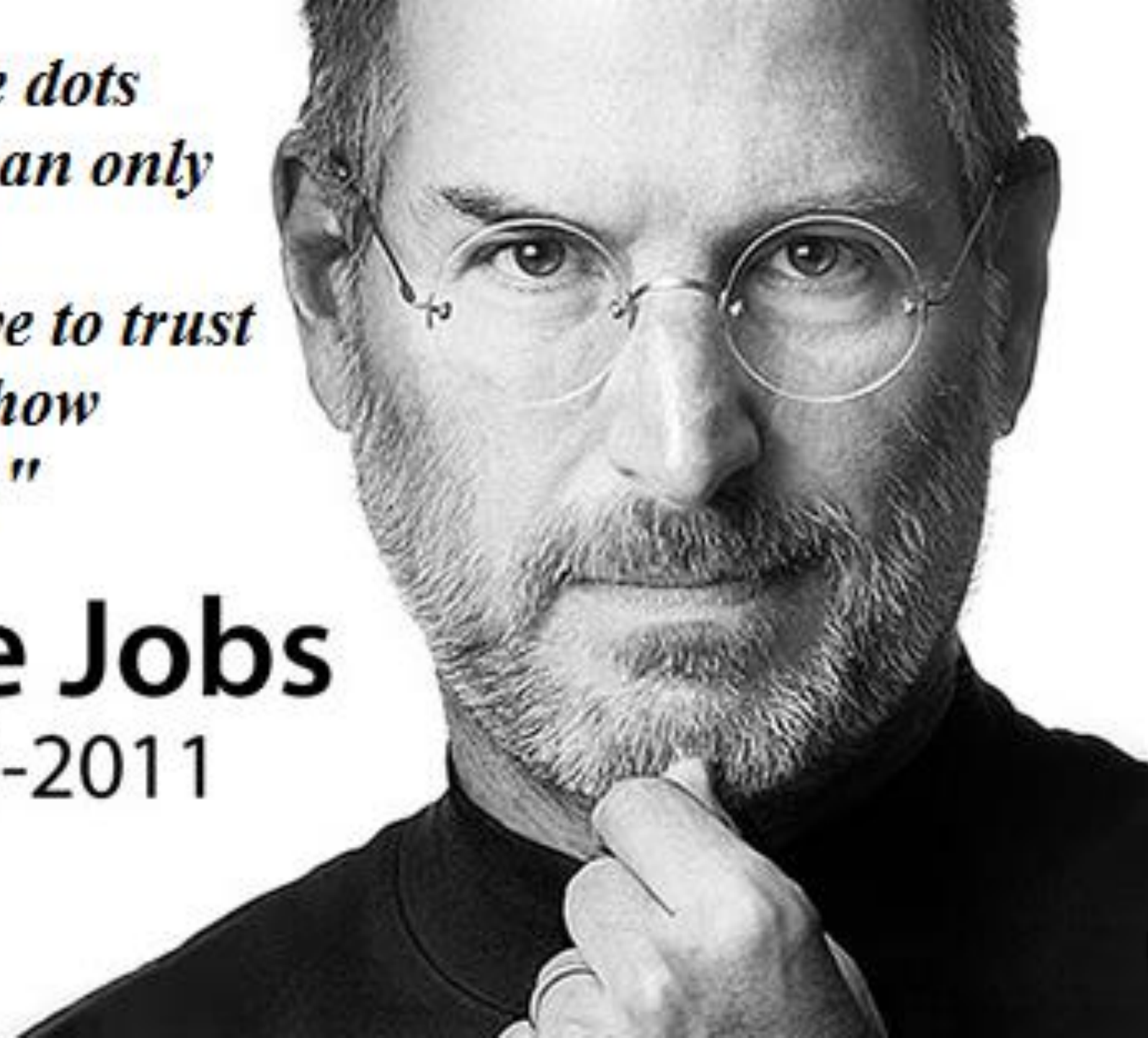


A única coisa que sabemos sobre o futuro é
que ele será diferente.

(Peter Drucker)

"You can't connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future."

Steve Jobs
1955-2011



The Internet? Bah!

Hype Alert: Why cyberspace isn't, and will never be, nirvana

BY CLIFFORD STOLL

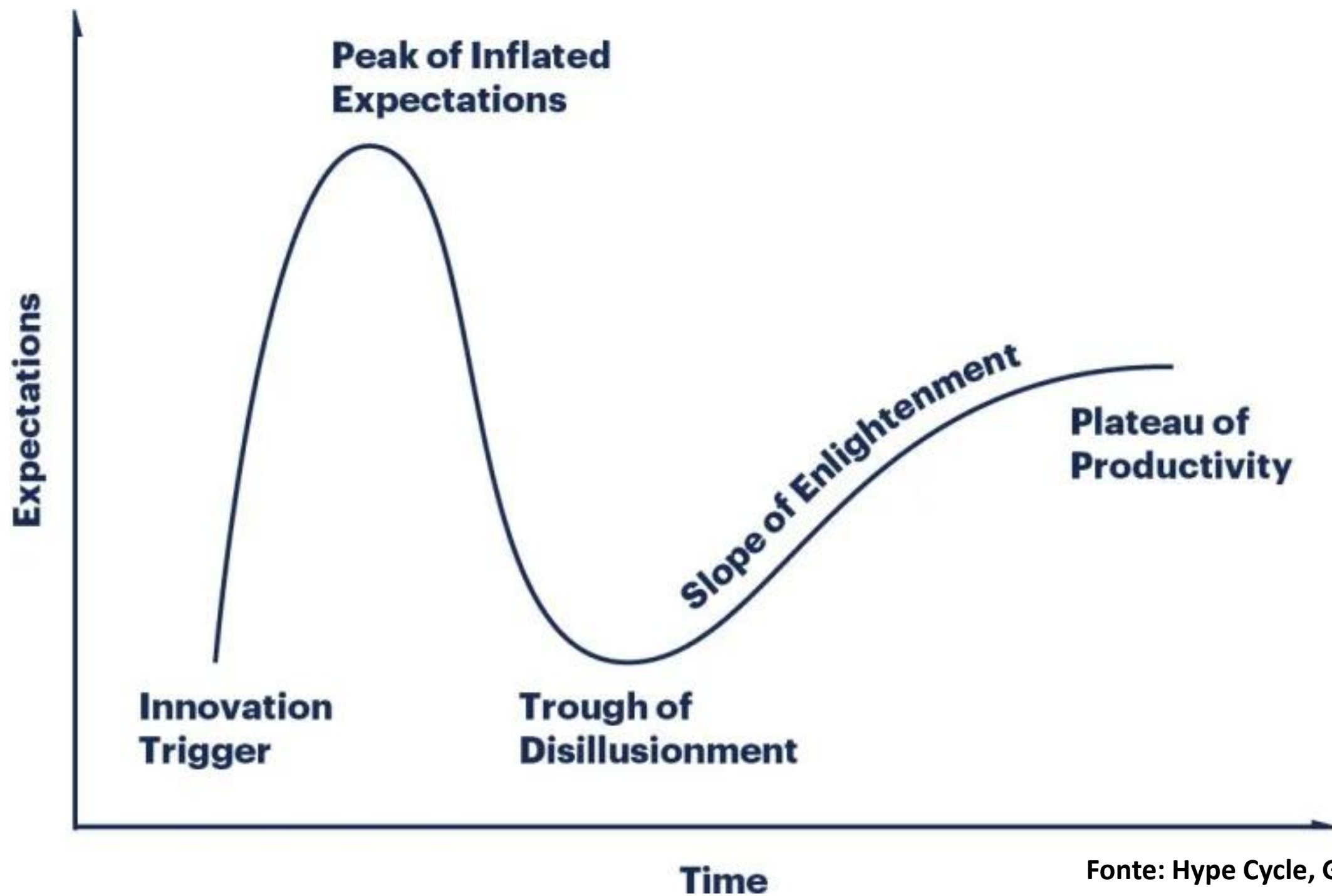
AFTER TWO DECADES ONLINE, I'M PERPLEXED. It's not that I haven't had a gas of a good time on the Internet. I've met great people and even caught a hacker or two. But today I'm uneasy about this most trendy and oversold community. Visionaries see a future of telecommuting workers, interactive libraries and multimedia classrooms. They speak of electronic town meetings and virtual communities. Commerce and business will shift from offices and malls to networks and modems.

pretense of completeness. Lacking editors, reviewers or critics, the Internet has become a wasteland of unfiltered data. You don't know what to ignore and what's worth reading. Logged onto the World Wide Web, I hunt for the date of the Battle of Trafalgar. Hundreds of files show up, and it takes 15 minutes to unravel them—one's a biography written by an eighth grader, the second is a computer game that doesn't work and the third is an image of a London monument. None answers my question, and my search is periodically interrupted by messages like "Too many connections, try again later."

Won't the Internet be useful in governing? Internet addicts clamor for government reports. But when Andy Spano ran for county executive in Westchester County, N.Y., he put every press release and position paper onto a bulletin board. In that affluent county, with plenty of computer companies, how many voters logged in? Fewer than 30. Not a good omen.







Your life in



your pocket

RE-IMAGINE

THEN



NOW





TECNOLOGIA
SOCIAL E
PERVASIVA

TUDO EM
TEMPO REAL

A SOCIEDADE
HIPERCONECTADA

UM NOVO
AMBIENTE DE
TRABALHO

UMA NOVA
GERAÇÃO

The background of the slide features a dark, blue-toned image. On the left, a human hand is visible, reaching out towards the center. The background is filled with a complex network of glowing lines and circular nodes, each containing a different icon: a group of people, a computer monitor with a line graph, a document with a pencil, a bar chart, a head with gears, and a gear itself. The word "AUTOMATION" is written in a large, bold, sans-serif font, slightly tilted, across the upper middle part of the image. The overall aesthetic is high-tech and futuristic.

**“Everything that can be
Automated will be
automated.”**

In the Age of the Smart Machine: The Future of Work and Power
Shoshana Zuboff –http://en.Wikipedia.org/wiki/shoshana_zuboff

Do today's top teams have the skills to undertake a true digital transformation? To answer this question, we conducted an analysis of more than 100 search specifications for C-suite positions in Fortune 1000 companies across a broad range of industries. (These listings were posted between January 2016 and June 2020. More on the methodology below.)

We found that the search for tech and digital expertise has been on the rise since well before the pandemic: 59% of the searches included technological and/or digital expertise. (Tech is a broad term that typically encompasses technological techniques, skills, systems, processes,

We found that the search for tech and digital expertise has been on the rise since well before the pandemic: 59% of the searches included

computational skills, and data analysis skills. We found that more than half of the searches for chief information officers, chief marketing officers, and chief technology officers sought technological and/or digital skills. But fewer than a third of the specs for chief human resource officers and

AI is the New Electricity

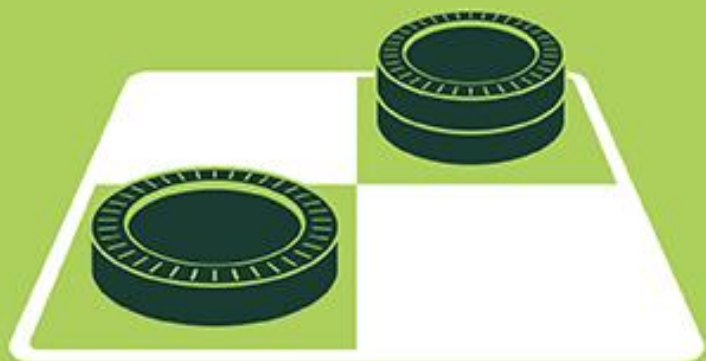
Dr. Andrew Ng





ARTIFICIAL INTELLIGENCE

Early artificial intelligence stirs excitement.



MACHINE LEARNING

Machine learning begins to flourish.



DEEP LEARNING

Deep learning breakthroughs drive AI boom.



1950's

1960's

1970's

1980's

1990's

2000's

2010's

3.2 Billion Images and 720,000 Hours of Video Are Shared Online Daily

A dense collage of numerous small, overlapping photographs. The images depict a wide variety of subjects: nature (flowers, leaves, mountains, sunsets), animals (birds, fish, insects), landscapes (beaches, forests, cities), and human activities (people, sports, food). The photos are arranged in a chaotic, overlapping manner, creating a rich visual texture that represents the vast amount of content shared online daily.





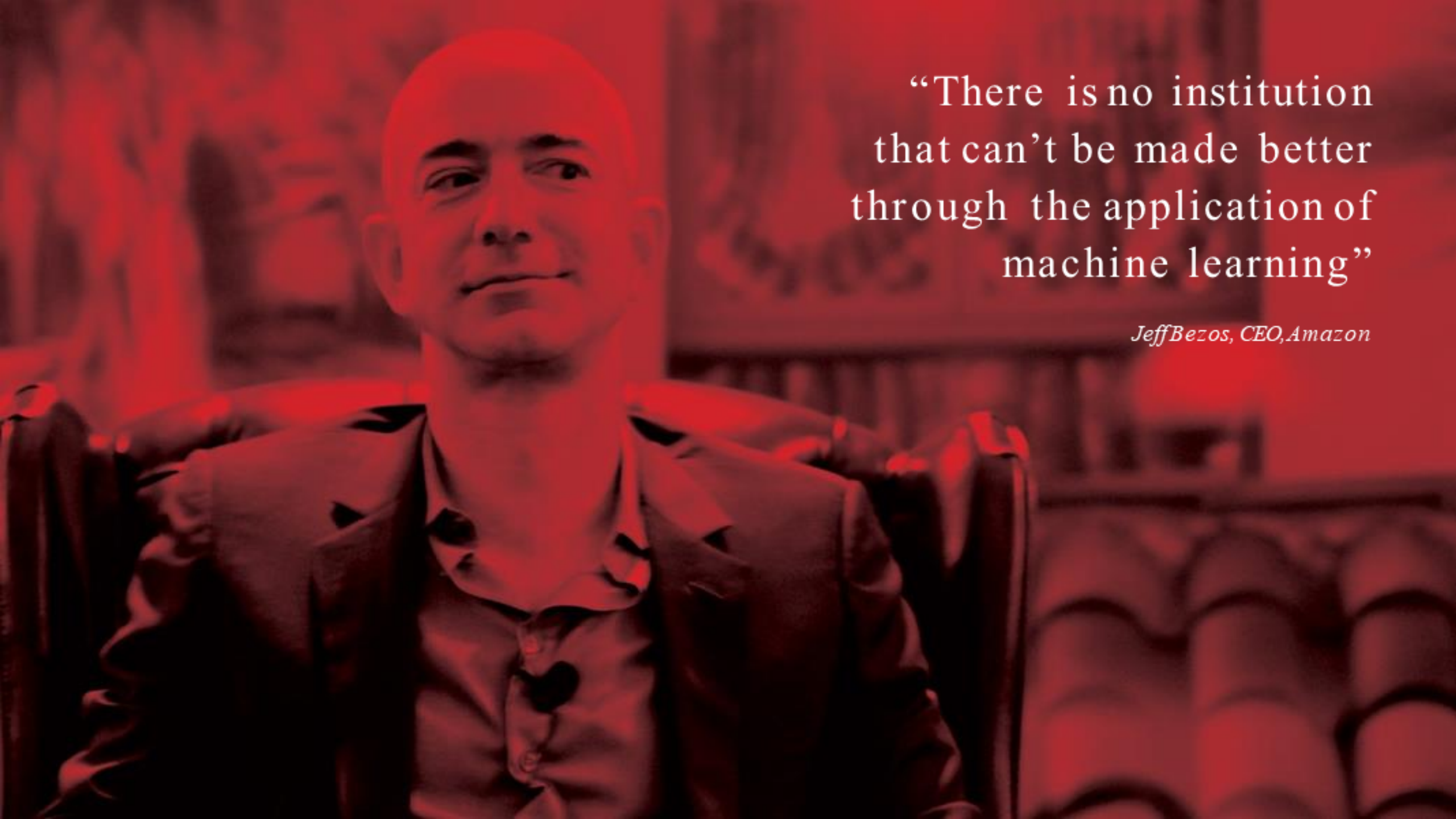
Google DeepMind Challenge Match

8 - 15 March 2016



AlphaGo



A photograph of Jeff Bezos sitting in a leather armchair, looking slightly to his left. He is wearing a dark blazer over a light-colored button-down shirt. The background is a blurred library with bookshelves. The entire image has a red color overlay.

“There is no institution
that can’t be made better
through the application of
machine learning”

Jeff Bezos, CEO, Amazon



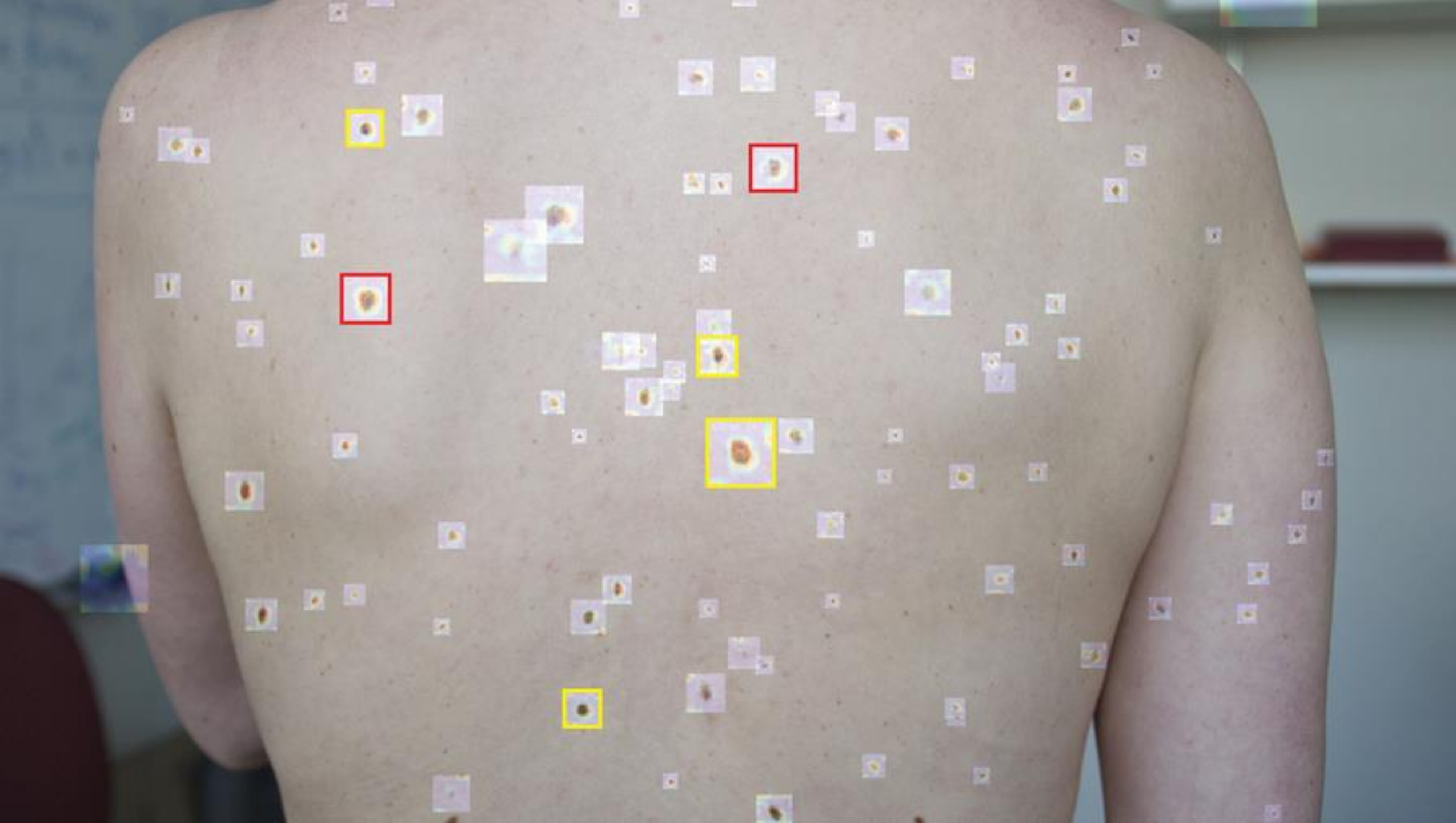
amazon go

Yes, you can
get real bagels
here.

GOOD
FOOD
FAST

New York
favorites

BAKERY





USE CASES OF AI IN MANUFACTURING INDUSTRY

- Logistics
- AI Based Robots
- Supply Chain Management
- AI Autonomous Vehicles
- Factory Automation
- IT Operations
- Design and Manufacturing
- Artificial Intelligence and IoT
- Warehouse Management
- Process Automation
- Predictive Maintenance
- Product Development
- Connected Factory
- Visual Inspections and Quality Control
- Purchasing Price Variance
- Order Management
- Cybersecurity





Observations | Opinion

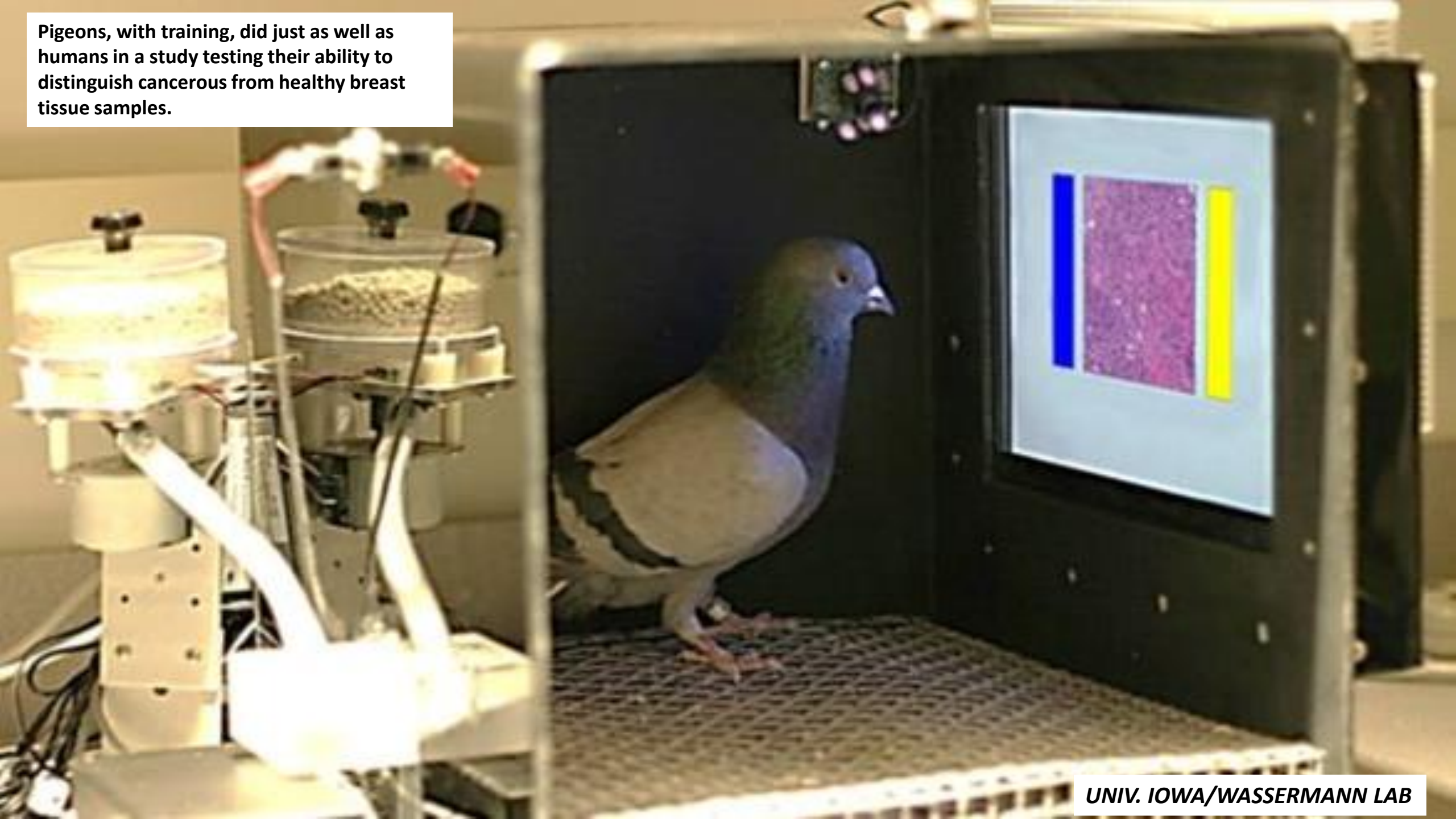
AI Isn't a Solution to All Our Problems

It's simply a tool—and hardly a perfect one

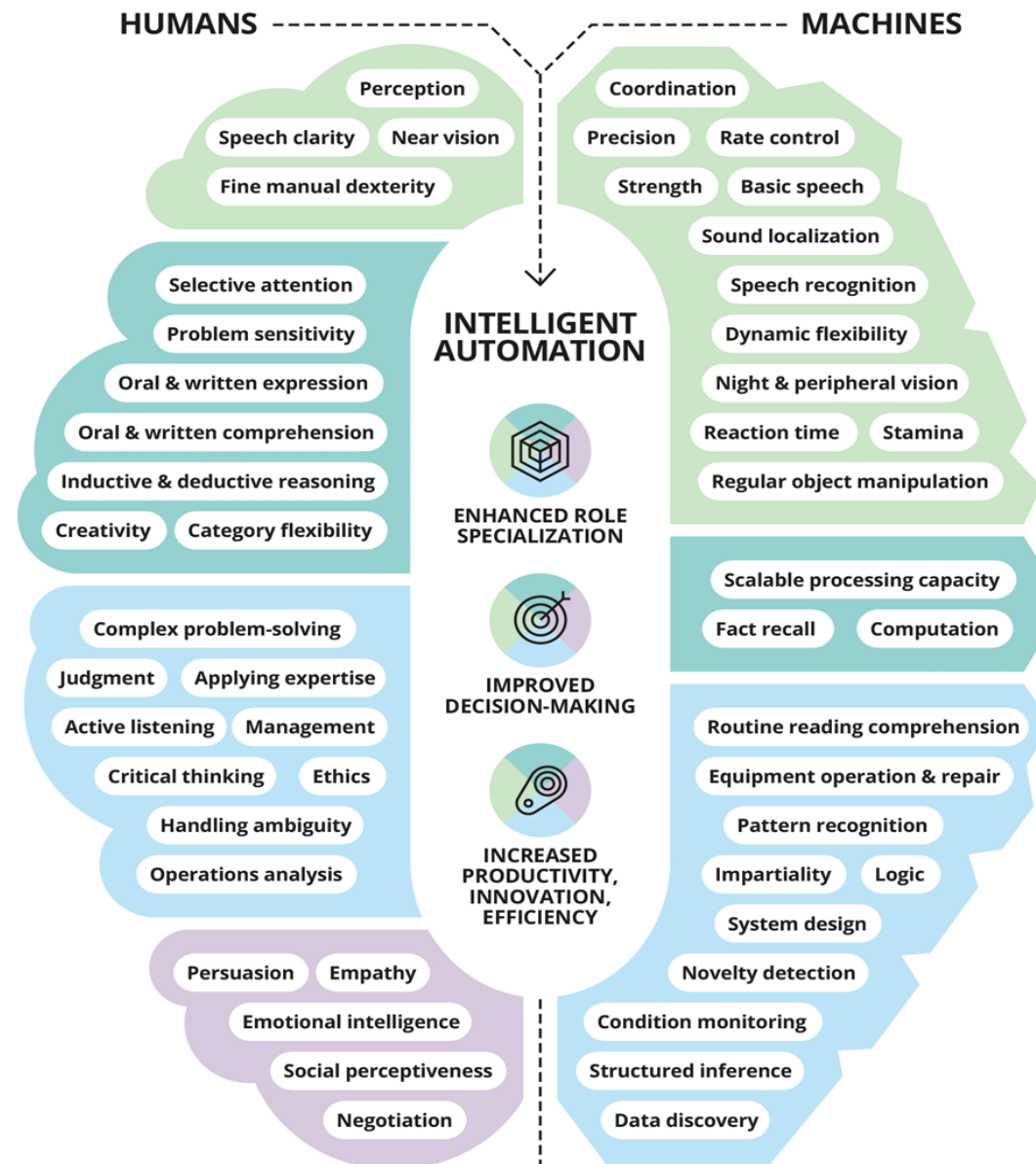
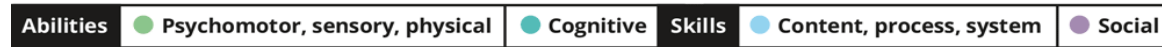
By Griffin McCutcheon, John Malloy, Caitlyn Hall, Nivedita Mahesh on January 24, 2020

“IA não é inteligente. Apenas exhibe comportamento que parece ser inteligente”

Pigeons, with training, did just as well as humans in a study testing their ability to distinguish cancerous from healthy breast tissue samples.



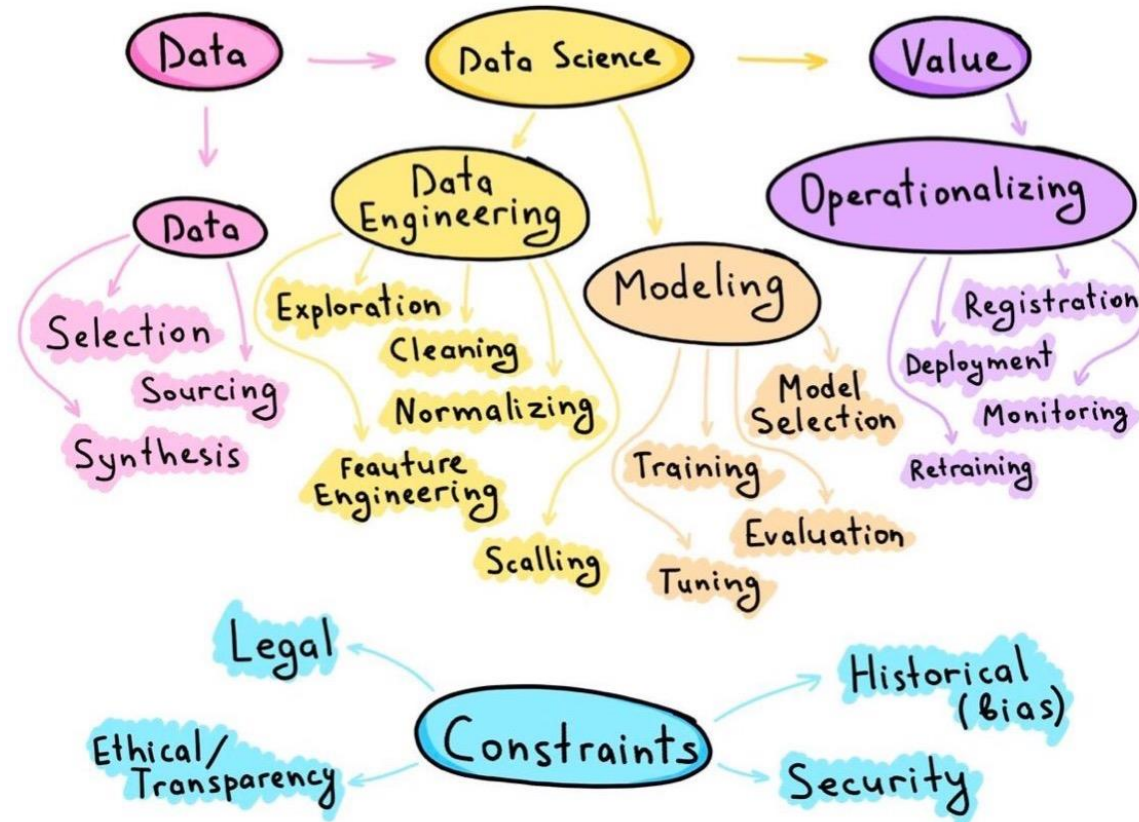




WHAT COMPANIES THINK A.I. LOOKS LIKE

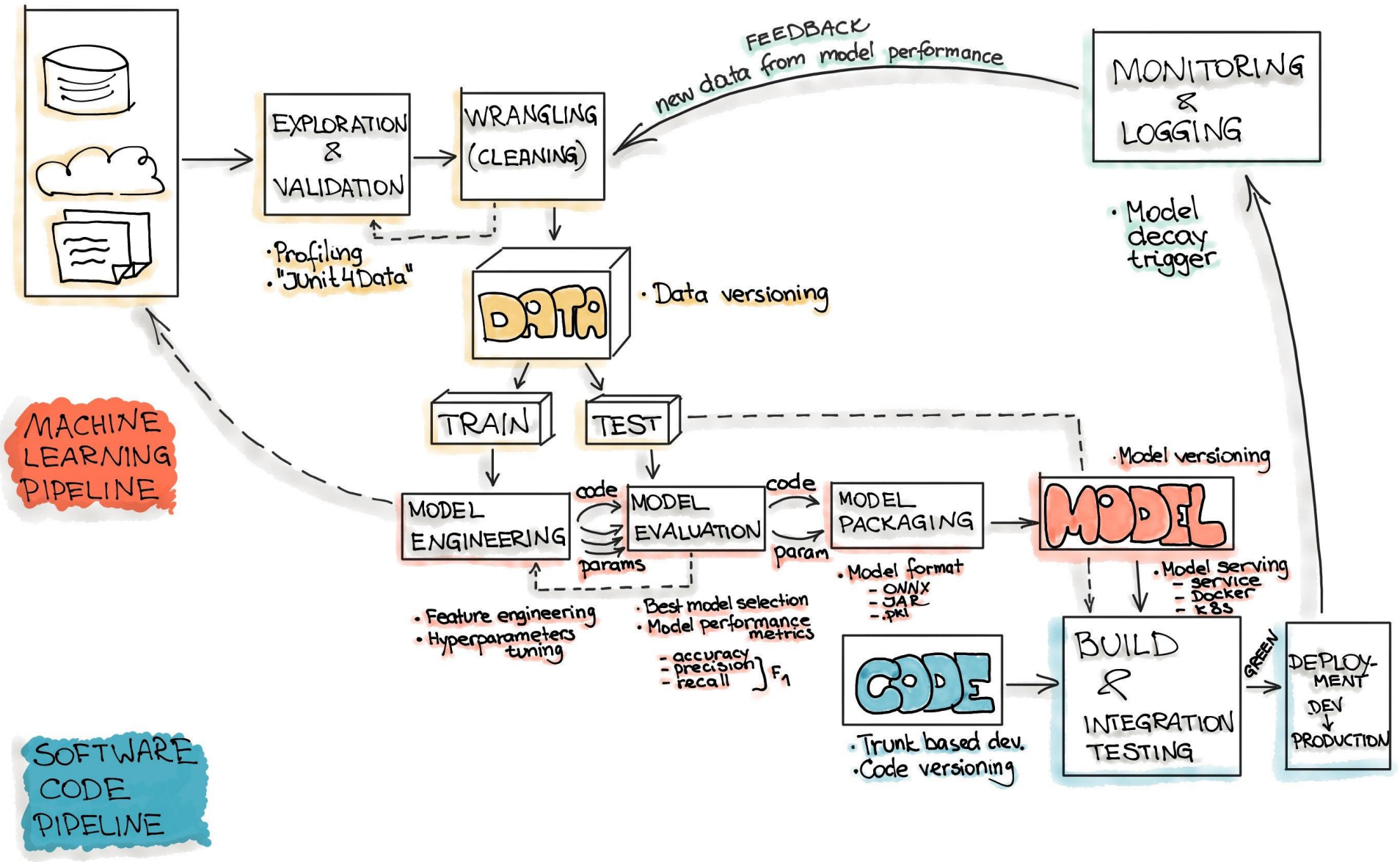


WHAT IT ACTUALLY IS



MACHINE LEARNING ENGINEERING

DATA PIPELINE





Francesco Pochetti

@Fra_Pochetti



All ML projects which turned into a disaster in my career have a single common point:



I didn't understand the business context first, got over-excited about the tech, and jumped into coding too early.

**If a machine can't read the data, it
can't be used to train an algorithm.**





✗ The photo you want to upload does not meet our criteria because:

- Subject eyes are closed

Please refer to the technical requirements.
You have 9 attempts left.

Check the photo [requirements](#).

Read more about [common photo problems and how to resolve them](#).

After your tenth attempt you will need to start again and re-enter the CAPTCHA security check.

Reference number: 20161206-81

Filename: Untitled.jpg









(a)



school bus 1.0

(b)



garbage truck 0.99

(c)



punching bag 1.0

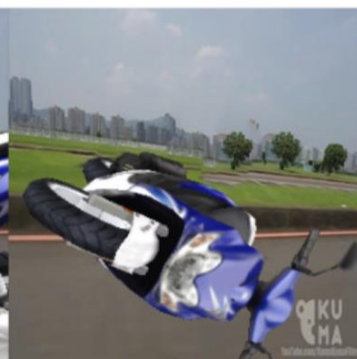
(d)



snowplow 0.92



motor scooter 0.99



parachute 1.0



bobsled 1.0



parachute 0.54



fire truck 0.99



school bus 0.98



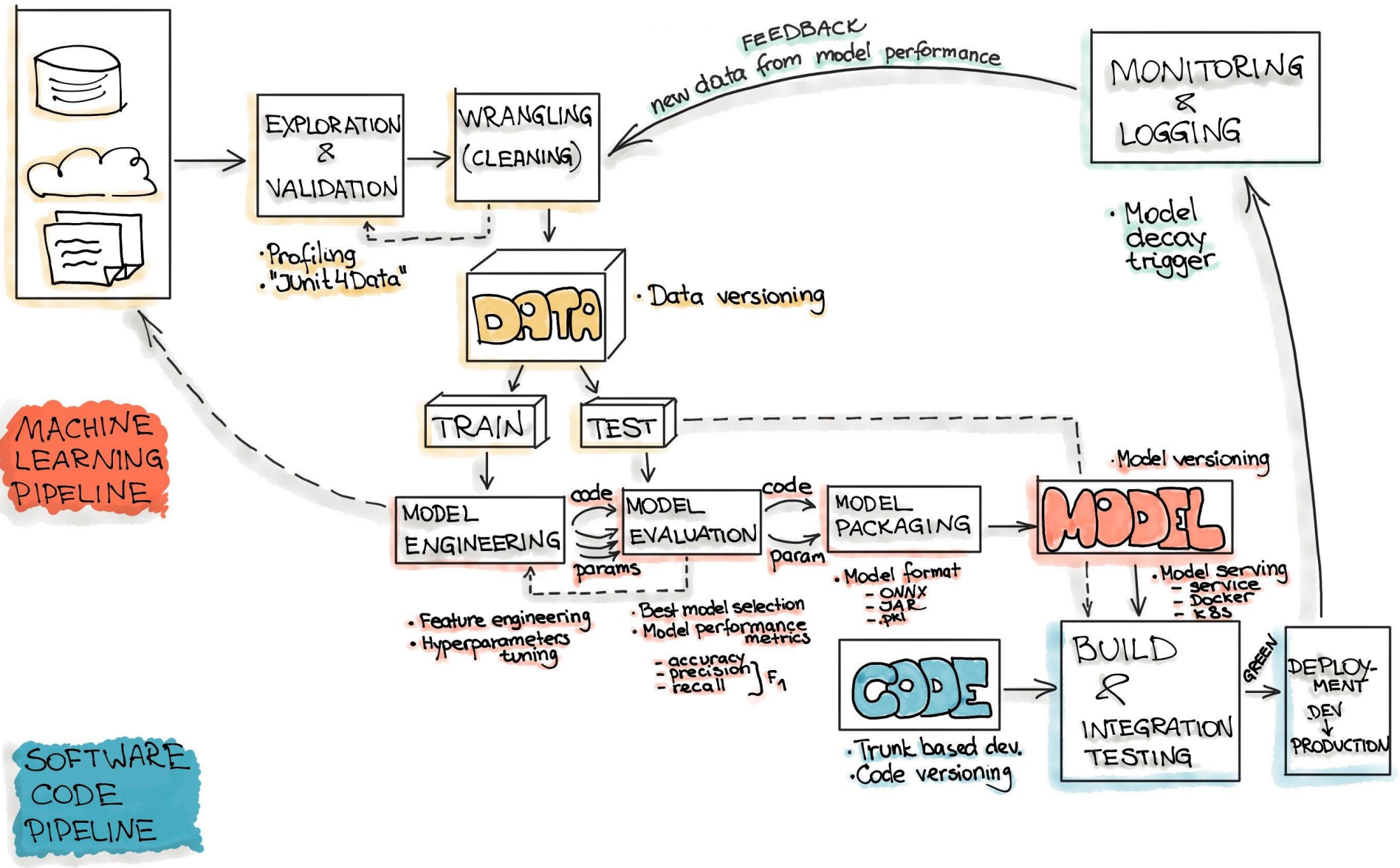
fireboat 0.98



bobsled 0.79

MACHINE LEARNING ENGINEERING

DATA PIPELINE



Classical Machine Learning

Task Driven

Supervised Learning

(Pre Categorized Data)

Classification

(Divide the
socks by Color)

Eg. Identity
Fraud Detection

Regression

(Divide the
Ties by Length)

Eg. Market
Forecasting

Data Driven

Unsupervised Learning

(Unlabelled Data)

Clustering

(Divide by
Similarity)

Eg. Targeted
Marketing

Association

(Identify
Sequences)

Eg. Customer
Recommendation

Dimensionality
Reduction

(Wider
Dependencies)

Eg. Big Data
Visualization

Obj: Predications & Predictive Models

Pattern/ Structure Recognition

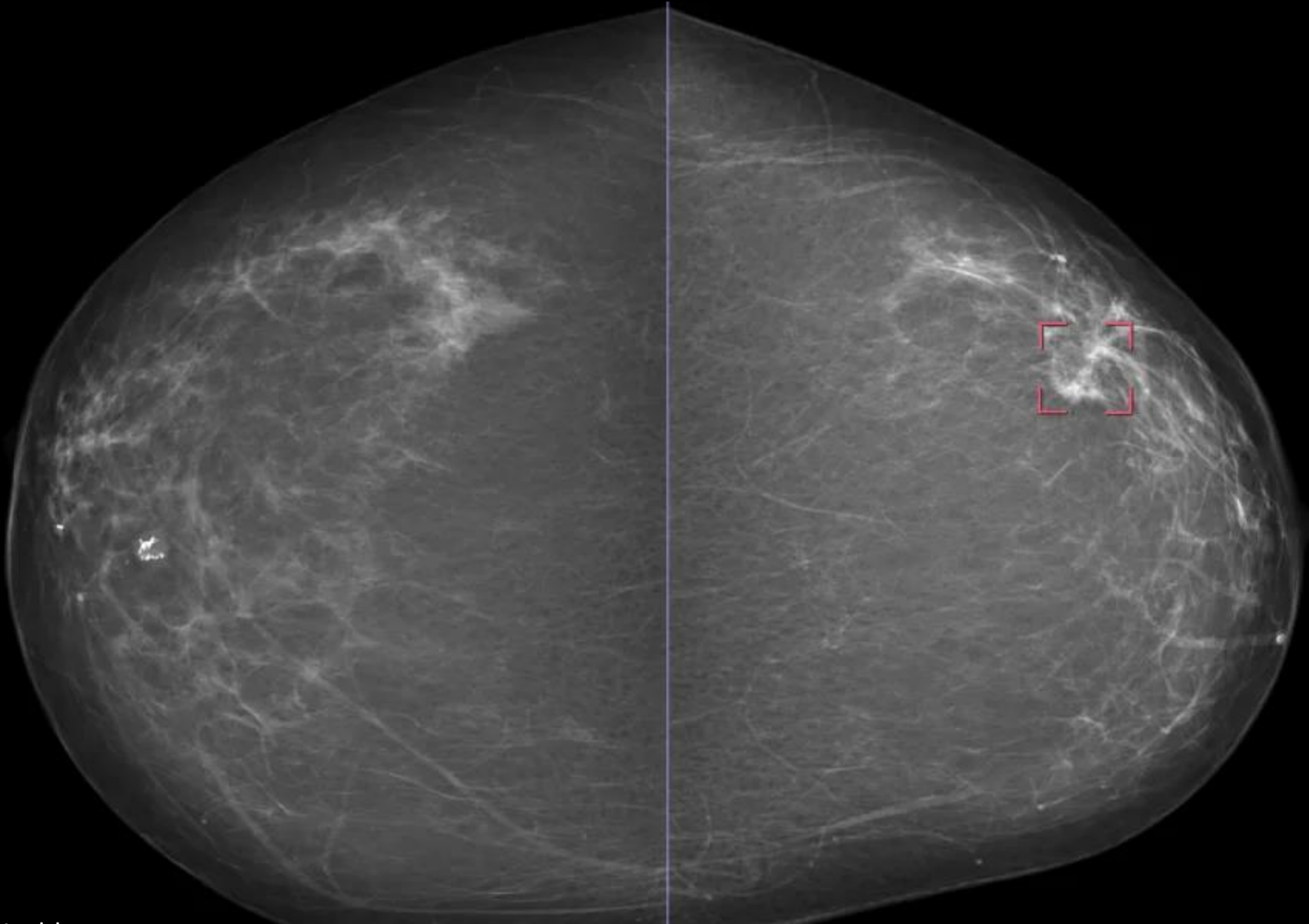
“Uma boa regra é que você deve estimar que para cada R\$ 1 gasto desenvolvendo um algoritmo, você deve gastar R\$ 100 para implantá-lo e suportá-lo em produção.”

Doctors using AI catch breast cancer more often than either does alone

DOB 12.04.1960 (59)
PatID 1.3.3442.50.29
18.02.2019, 08:11:51
Zoom 12%

CURRENT

Density: **A**
Assessment: **NPF**



DOB 12.04.1960 (59YR.)
PatID 1.3.3442.50.29,
18.02.2019, 08:11:51
Zoom 12%

CURRENT

Density: **A**
Assessment: **NPF**

The Lancet Digital Health

Essen University Hospital in Germany & Memorial Sloan Kettering Cancer Center in New York

OBRIGADO!



<https://www.linkedin.com/in/ctaurion/>