

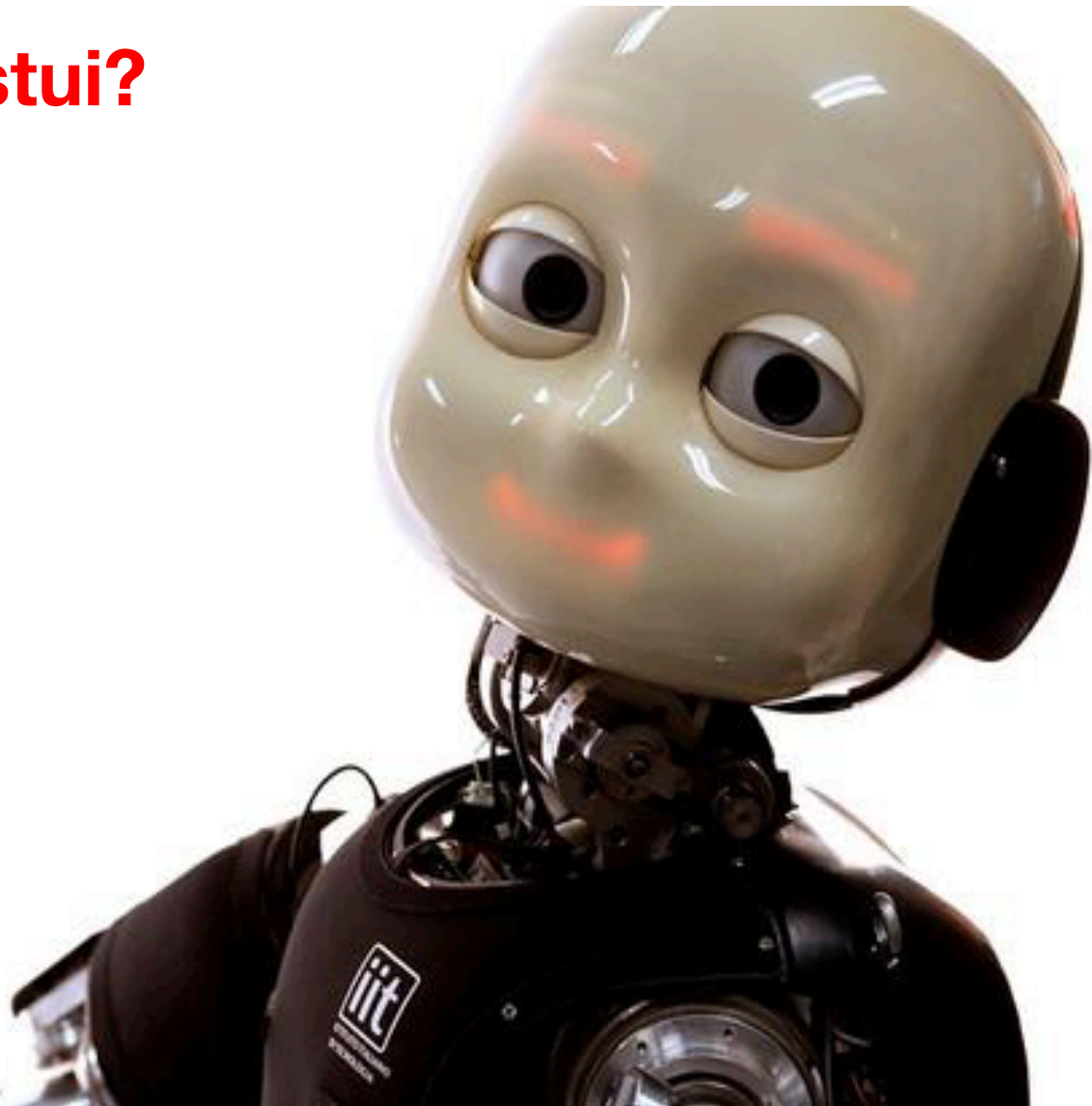
Il Digitale: chi e' costui?

Barbara Caputo
Sanguis Jovis

Montalcino, 15/07/2022



POLITECNICO
DI TORINO





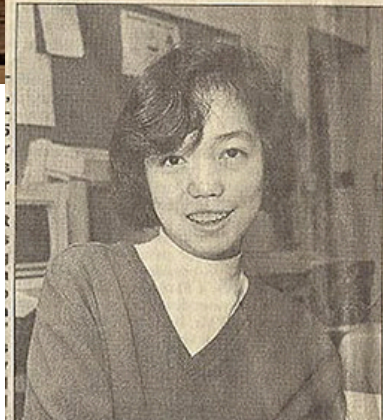


Daily Record, Morris County, N.J. Tuesday, January 17, 1995 **A7**

Our town Parsippany

Parsippany factoids

■ The largest increase in township population since 1980 is among Asians or Pacific Islanders. More than 10 percent of the population of 48,478 — about 4,900 — identified themselves as such in the last census. That's up from less than 4 percent in 1980.



‘American dream come true’

Teen masters new language to excel

BY ARON PILHOFER
Daily Record

Ask Parsippany High School senior Fei Fei Li about herself and she'll say she's just like everyone else.

But those who know the 18-year-old say that's not true.

"Talk about the American dream come true, this is it," said Melvin Zirkes, the school's principal.

An honors student who scored 1,250 combined on her Scholastic Aptitude Test, including a perfect 800 on math, Li will graduate this spring in the top 5 percent of her class. She was also one of only 90

Li and her mother moved to Parsippany from mainland China in May 1992.

"My father came first for several years, then my mom and I came," she said. The family chose Parsippany "because there is a big Chinese population and my father's research showed that Parsippany High School was a good school."

At first, the transition was difficult.

"I was never not able to communicate with people before, and all of a sudden communication was a big problem," she said. At first, she had to take English as a Second Language classes, but was taking

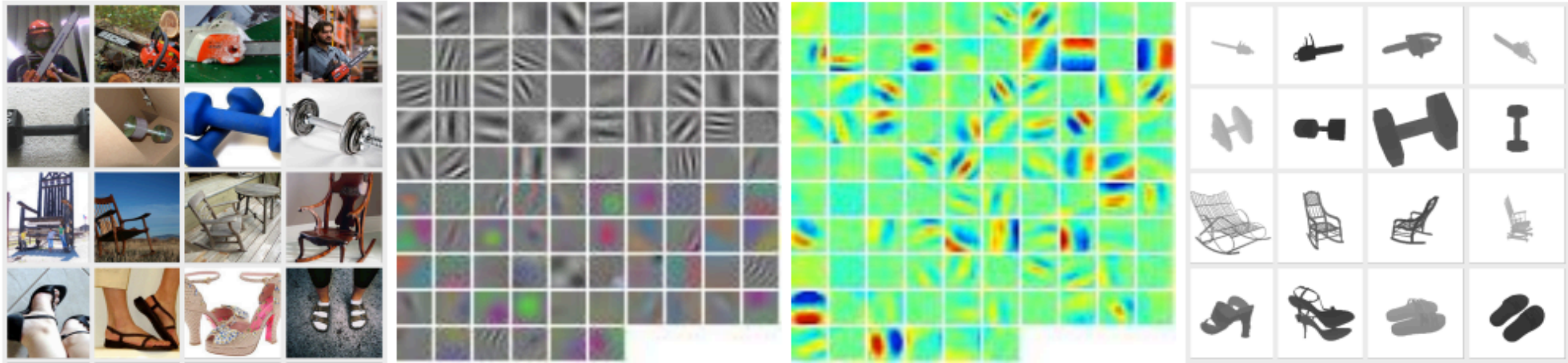
"You are so much a part of your culture, and all of a sudden you're going to a place you're not familiar with," Li said. "In a way, I don't feel I totally belong here still. I had my own life for 15 years in China. It's a big change."

Li has been documenting her experiences in a series of articles she has written for the Chinese magazine "Teenagers in China and Abroad."

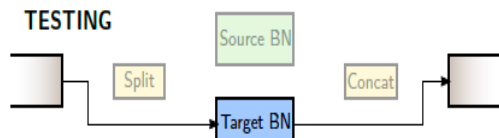
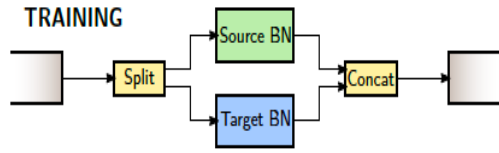
"To a Chinese teenager, everything I have experienced is new," she said. "The underlying reason I write is to get out the facts (they can't receive from textbooks and newspapers."

That's not easy considering the Chinese government's censorship,

FEI FEI LI



Fei Fei Li



Take-home messages

1. **Data, data, data**
2. **Meaning in data**
3. **Game changer**

Data, data, data

A DAY IN DATA

The exponential growth of data is undisputed, but the numbers behind this explosion - fuelled by internet of things and the use of connected devices - are hard to comprehend, particularly when looked at in the context of one day

500m

tweets are sent every day
Twitter



4PB

of data created by Facebook, including

350m photos
100m hours of video watch time

Facebook Research

DEMISTIFYING DATA UNITS

From the more familiar 'bit' or 'megabyte', larger units of measurement are more frequently being used to explain the masses of data

Unit	Value	Size
b	bit	0 or 1
B	byte	8 bits
KB	kilobyte	1,000 bytes
MB	megabyte	1,000 ² bytes
GB	gigabyte	1,000 ³ bytes
TB	terabyte	1,000 ⁴ bytes
PB	petabyte	1,000 ⁵ bytes
EB	exabyte	1,000 ⁶ bytes
ZB	zettabyte	1,000 ⁷ bytes
YB	yottabyte	1,000 ⁸ bytes

*A lowercase "b" is used as an abbreviation for bits, while an uppercase "B" represents bytes.

463EB

of data will be created every day by 2025
ioc

294bn

billion emails are sent

Radical Group

320bn

emails to be sent each day by 2021

306bn

emails to be sent each day by 2020

3.9bn

people use emails



4TB

of data produced by a connected car

Intel

65bn

messages sent over WhatsApp and two billion minutes of voice and video calls made

Facebook



95m

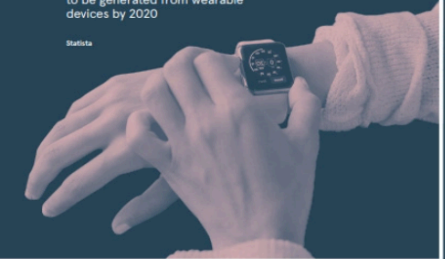
photos and videos are shared on Instagram

Instagram Business

28PB

to be generated from wearable devices by 2020

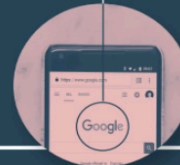
Statista



Searches made a day **5bn**

Searches made a day from Google **3.5bn**

Smart Insights



ACCUMULATED DIGITAL UNIVERSE OF DATA

4.4ZB

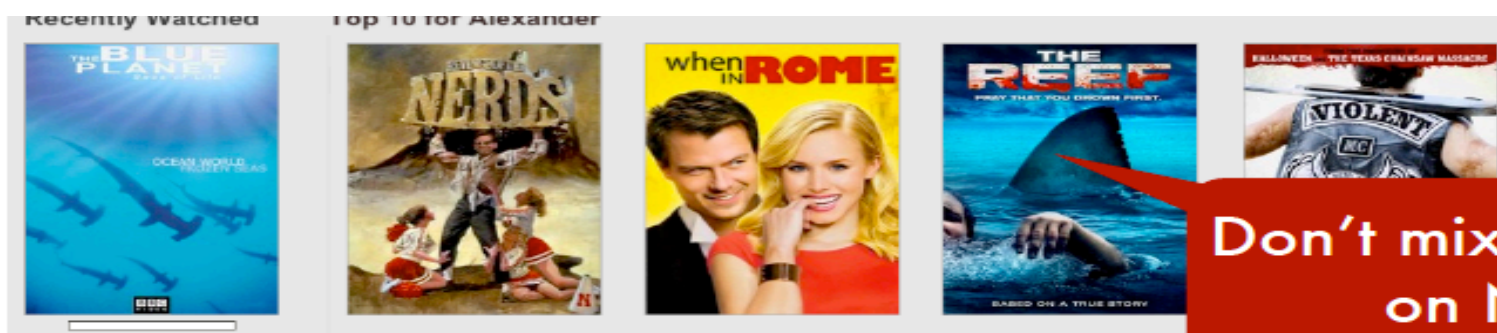
44ZB

PwC

2013

2020

Meaning in data



Don't mix preferences on Netflix!

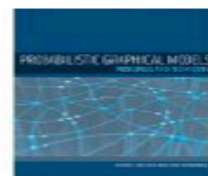
Customers Who Bought This Item Also Bought



Convex Optimization by Stephen Boyd
 ★★★★★☆ (11)
 \$65.78



Point Processes
 (Chapman & Hall / CRC Monographs on S... by D.R. Cox
 \$125.47



Probabilistic Graphical Models: Principles and Techniques by Daphne Koller
 ★★★★★☆ (5)
 \$71.52

Amazon books

"The Nikon S60 detects up to 12 faces."



[E]
AUTO



Nikon

The Nikon S60. Detects up to 12 faces.

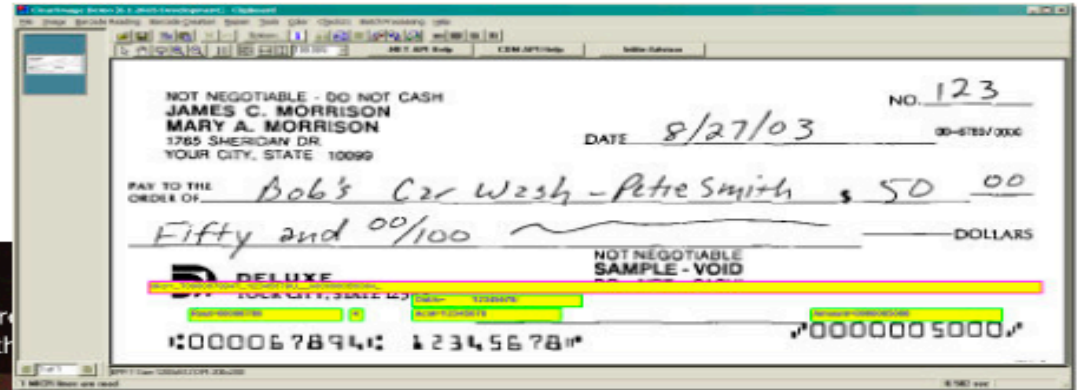
segment image

Photograph Front of Check

Place the check on a dark background in a well-lit area, hold the camera steady and align the check's edges with the frame.

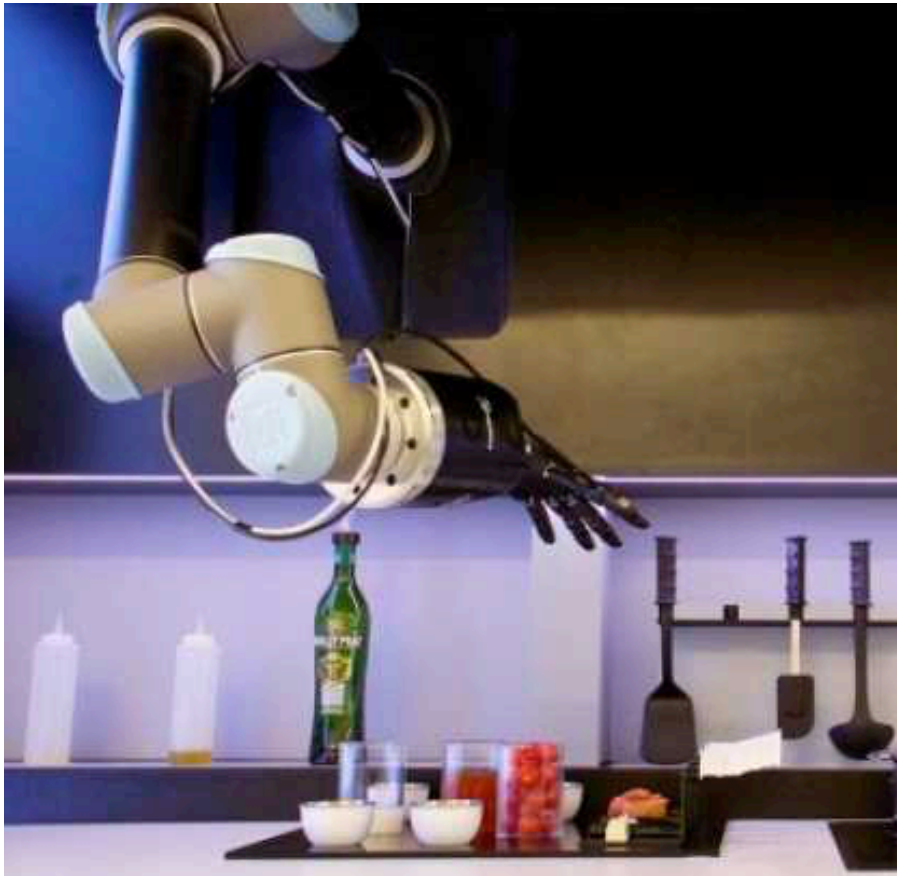


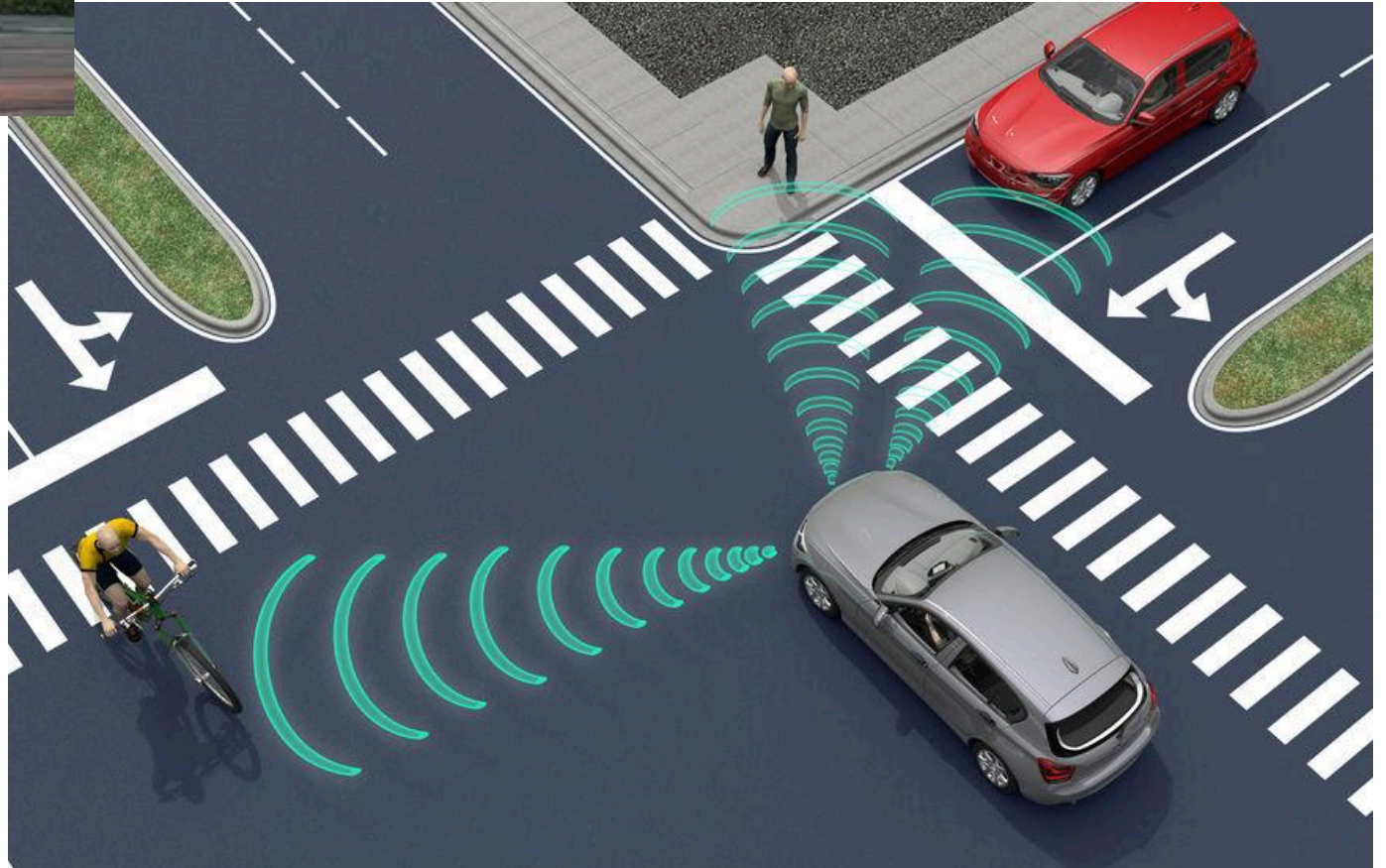
Note: Fidelity cannot act on any written instructions



recognize
handwriting









NEW NAVY DEVICE LEARNS BY DOING

Psychologist Shows Embryo
of Computer Designed to
Read and Grow Wiser

"If this were an entirely accurate
count of my life in Cork," the
of "Mrs. O'" tells us, "I should
ably be writing it behind bars. So I
say that it is impressionistically true
not always factually so."

Dr. Frank Rosenblatt, designer of the Perceptron, conducted the demonstration. He said the machine would be the first device to think as the human brain. As do human beings, Perceptron will make mistakes at first, but will grow wiser as it gains experience, he

Later Perceptrons will be able to recognize people and call out their names and instantly translate speech in one language to speech or writing in another language, it was predicted. Mr. Rosenblatt said in principle it would be possible to build brains that could reproduce themselves on an assembly line and which would be conscious of their existence. In today's demonstration, the "T4" was fed two cards, one with squares marked on the left side and the other with squares on the right side. Learns by Doing In the first fifty trials, the machine made no distinction between them. It then started registering a "Q" for the left register and "O" for the right

PERSONAL SAVINGS LOANS COST YOU LESS!

4 1/2% simple interest
on loan, less 2 1/2%
dividend on savings
Net Cost 1 1/2% a year

Avoid expensive installment buying credit... get a Personal Savings Loan from The Brooklyn Savings Bank. We lend up to the full balance in your savings account... no exclusive service to our depositors. No divorce, penalties, or service charges. Payments on account will be accepted from you at your convenience on this demand loan.

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Learns by Doing

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sometimes tragic. The gamut of life she saw was as various as the life you will encounter on Manhattan Island if you follow Park Avenue down from the Street Fair near 125th Street to the local Mayfair within a mile of the Grand Central Terminal.

She liked the Irish and the Irish liked her. They brought her their problems and she shared their celebrations. If she was appalled by poverty and superstition she admired the prevalence of gaiety and wit. Once, on the way to a picnic, she asked a gentleman why, since he intended to stop, without favoritism, at every pub on their route, he had brought along a flagon of whisky.

"You must guard your supply lines," he answered. "If you had read your von Clause-

"MRS. O." By Claude. 121 pages. Harcourt, \$2.95.

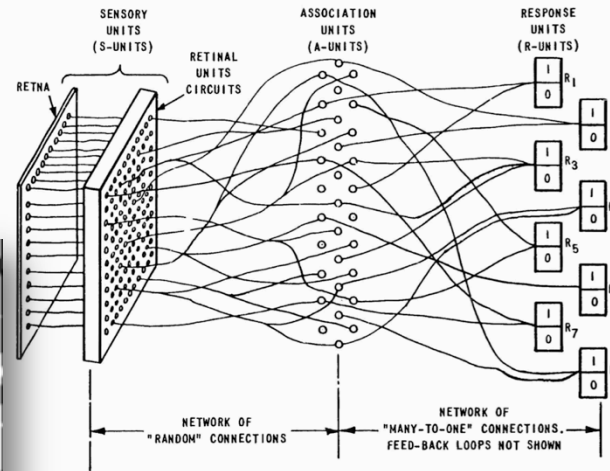


Figure 1 ORGANIZATION OF THE MARK I PERCEPTRON

Connectionism



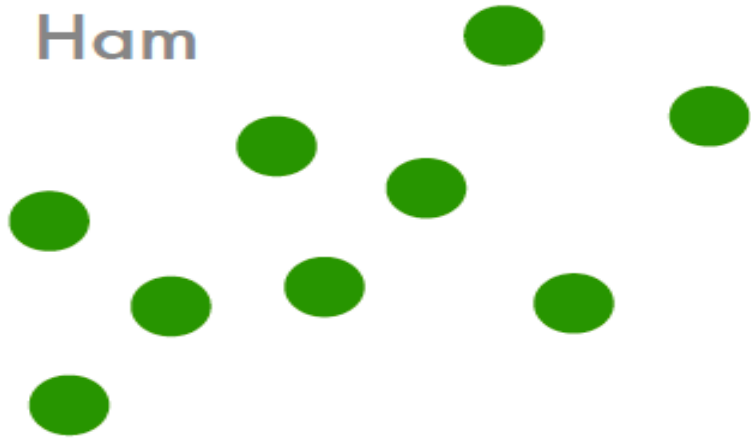
No one... henceforth discuss... having read what an uncultivated woman has written about my miserable native land, now stirred by a heart-rending hope."

A Boring Book
\$2.50 at most bookstores
ALFRED A. KNOPP, Publisher

perceptron



Ham

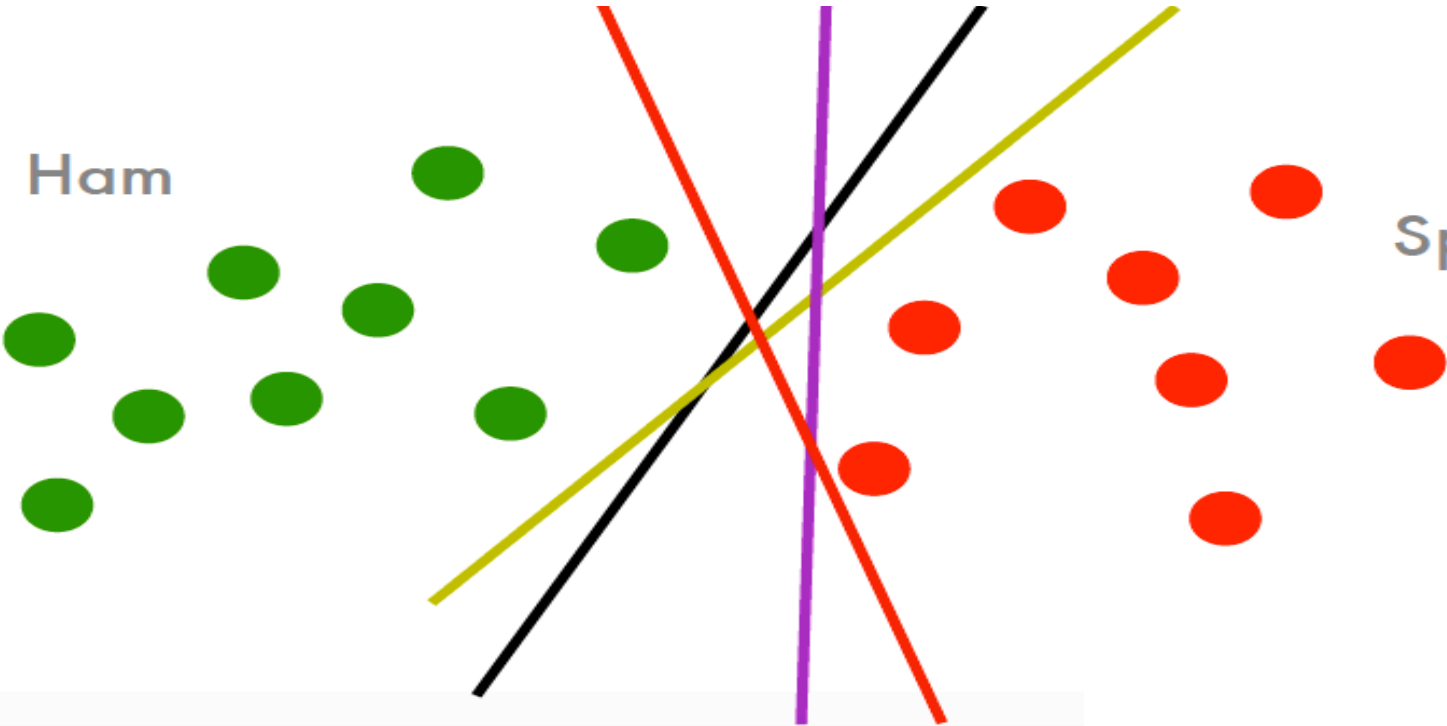


Spam



Ham

Spam



+Alex Search Images Maps Play YouTube News Gmail Drive Calendar More -

Google Alex Smola 0 + Share

Gmail More -

COMPOSE

Inbox (7,180)
Important
Sent Mail
Drafts (61)

<input type="checkbox"/> <input type="star"/> <input type="reply"/>	Southwest Airlines	Your trip is around the corner! - You're all set for your San Jose trip! My Account View My Itinerary Online	2:12 pm
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	DiscountMags.com	\$3.99 Business & Finance Sale.. starts now! - Trouble Seeing This Email? View as Webpage STOP these e-m	12:03 pm
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	support, Alex (3)	Your order has shipped... - please send to the address below for an exchange remotesremotes.com(exchange'	7:22 am
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	American Airlines AAdvan.	AAdvantage eSummary - January 2013 - VIEW IN WEB BROWSER >> http://americanairlines.ed10.net/r/JC	1:17 am
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	Taesup, Alex, Taesup (3)	Happy new year! - Hi Alex, Thanks for your condolence. I will arrive at Berkeley on 16th (wed) night. So, I car	Jan 11

+Alex Search Images Maps Play YouTube News Gmail Drive Calendar More -

Google Alex Smola 0 + Share

Gmail More -

COMPOSE

Inbox (7,180)
Important
Sent Mail
Drafts (61)
All Mail

> Circles

> [Gmail]
Done (1,006)
[Imap]/Drafts
[Imap]/Sent
alex.smola@yah...

Search people...

Delete all spam messages now (messages that have been in Spam more than 30 days will be automatically deleted)

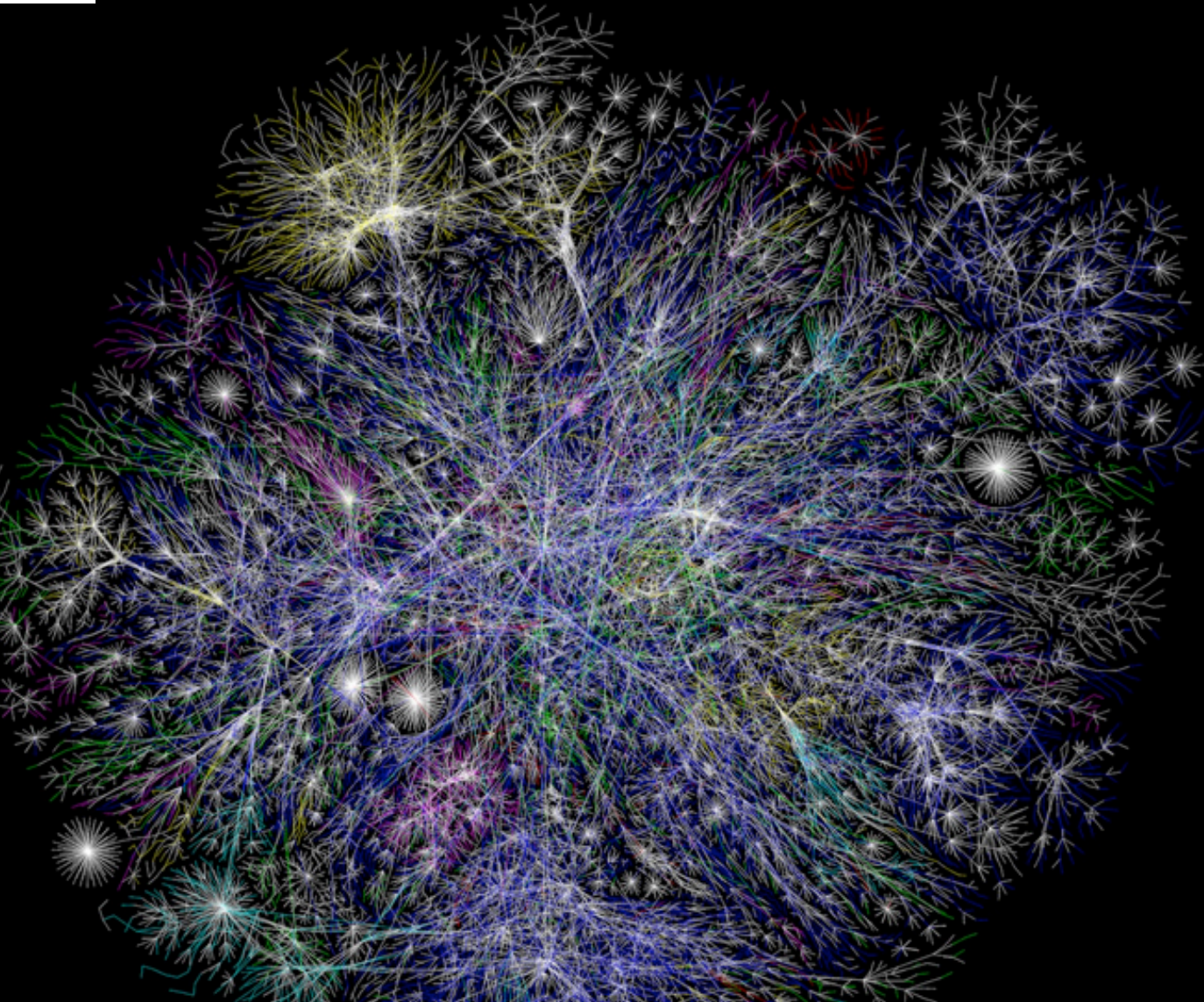
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	maec	(Ei&ISTP Index)2013机械与自动化工程国际会议征文: [alex.smola@gmail.com] - 尊敬的老师, 您好: 机械与	Jan 11
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<input type="checkbox"/> <input type="star"/> <input type="reply"/>	garjeti	Call for Research Papers - GLOBAL ADVANCED RESEARCH JOURNAL OF ENGINEERING, TECHNOLOG	Jan 11
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	Steven Cooke	Congratulations Alex, \$150 awaits you - Alex: IMPORTANT - NOTICE OF WINNINGS Please make sure yo	Jan 11
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	paper18	[2013-1-15截稿] 【2013年机电与控制工程亚太地区学术研讨会APCMCE 2013】 [EI] 【香港】 【不参-不要	Jan 10
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	First-Class Mail Service	Tracking ID (G)BGD35 849 603 4893 4550 - Fed Ex Order: JN-3339-28981768 Order Date: Thursday, 3 Janua	Jan 10
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	garjeti	Call for Research Papers - GLOBAL ADVANCED RESEARCH JOURNAL OF ENGINEERING, TECHNOLOG	Jan 10
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	Candy.Li	中层,不只当老板的代言人	Jan 9
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	Ronan Morgan	Ronan Morgan just sent you a personal message. - LinkedIn Ronan Morgan just sent you a private messag	Jan 9
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	RE/MAX®	2013 Valueable Offer! - Hello Friend, RE/MAX® has issued 2013 valuable property offer in your resident from	Jan 9
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	newsletter	newsletter WWW2013 - Newsletter 6 - See the Portuguese and Spanish version right after the English versio	Jan 9
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	CJCR editor	Chinese Journal of Cancer Research (CJCR) has been indexed by Pubmed and PMC - Click here if this e-mail	Jan 9
<input type="checkbox"/> <input type="star"/> <input type="reply"/>	garjeti (2)	Call for Research Papers - GLOBAL ADVANCED RESEARCH JOURNAL OF ENGINEERING, TECHNOLOG	Jan 9





1./2. industrial
revolution:
Generate /
convert / process
energy

L. S. Lowry (1887-1976)



1./2. industrial
revolution:
Generate /
convert / process

energy

digital revolution /
“big data” /
cybernetics:

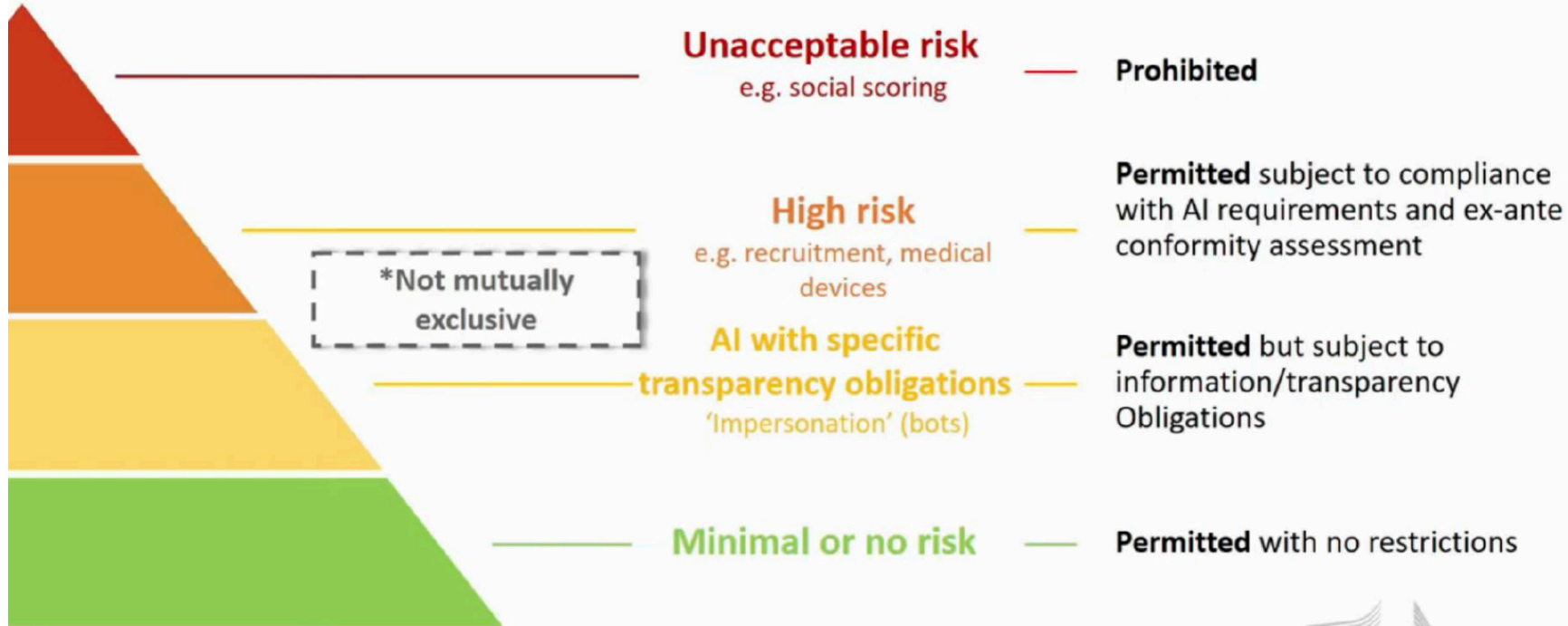
Generate /
convert / process

information

Matt Britt, Wikipedia CCA

9.5

A risk-based approach to regulation



Game Changer: AI & Wine

Robots and drones in the vineyard

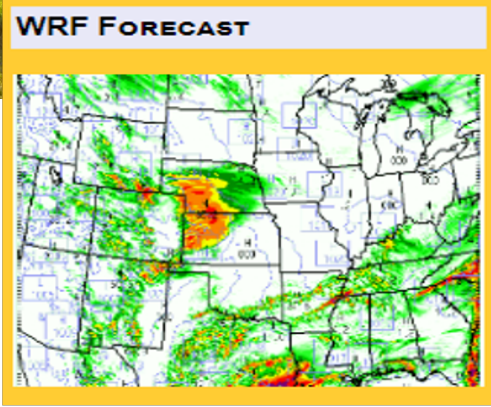
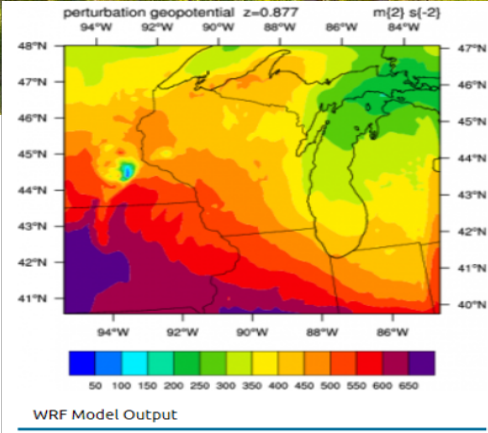
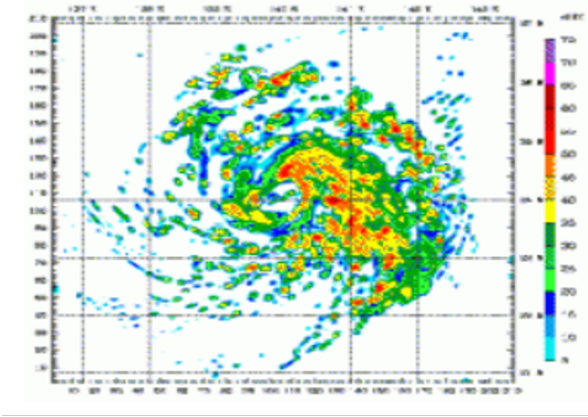


Rover Vision by Tule Technologies

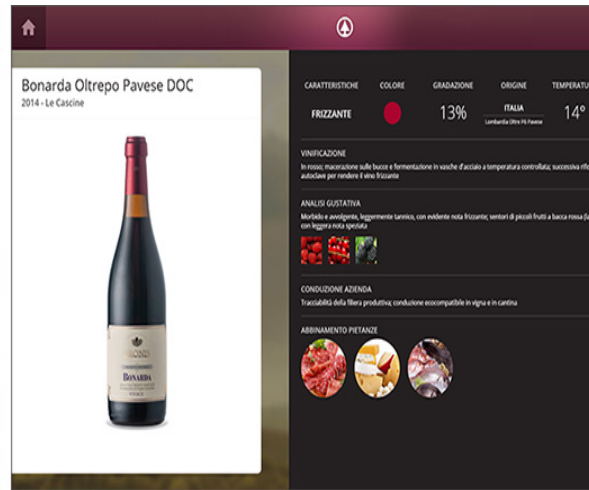
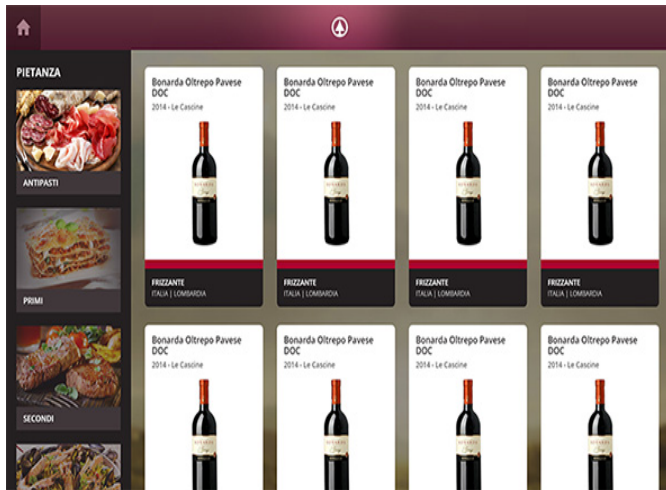
Monitoring of vineyard for pests, disease, water stress, ...

Work automation & data generation

AI and climate change



The rise of the virtual sommelier



dot-farm.net
shop.somm.ai
cecilia.ai



And more....

AI shop assistant

AI-powered wine critics and judges

AI and new consumption patterns



Imogen Blake
@ImogenGBlake

This was a bit of fun. I was the first to test out Lidl's new AI-powered wine expert chatbot - it was scarily good too
dailym.ai/2Ft86uk
5:48 AM - Jan 31, 2018

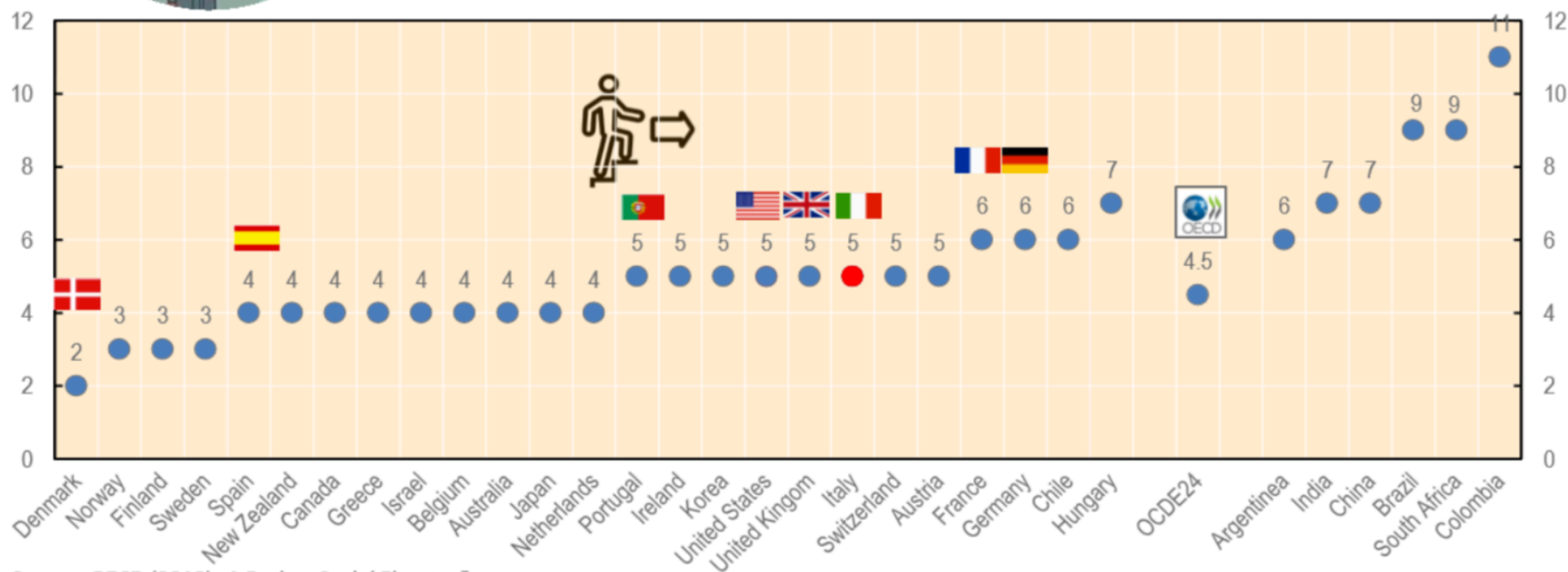
Lidl launches a wine expert CHATBOT on Facebook Messenger
Lidl's new winebot can give shoppers advice, facts and recommendations instantly. It can also respond to emojis and pair dailymail.co.uk

8 See Imogen Blake's other Tweets

Game Changer



Figura 1: Numero di generazioni necessarie per raggiungere il reddito medio nazionale se si proviene da una famiglia appartenente al 10% più povero



Source: OECD (2018), *A Broken Social Elevator?*

Note: Estimates are illustrative and based on earnings elasticities between fathers and sons and the current level of household incomes of the bottom decile and the mean, assuming constant elasticities..

