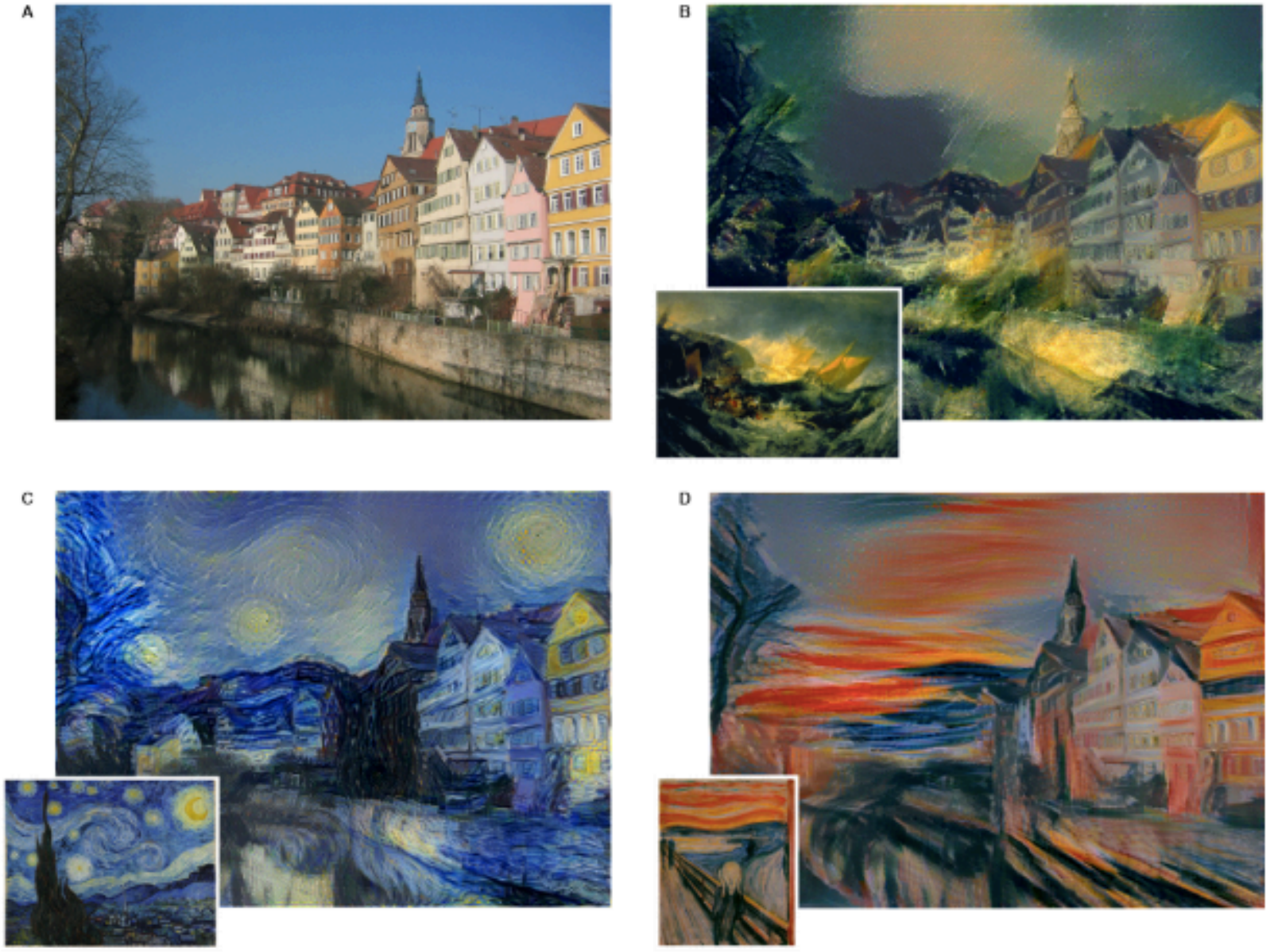
When is AI taking over _my_ job

SASHA ROSENBAUM


A
B
C
D

My name is Sasha Rosenbaum

I work for #Microsoft

I've been #building #things with #technology for the last 13 years

Definitions

Intelligence

The ability to accomplish complex goals

Artificial Intelligence

The ability of a machine to perform tasks commonly associated with human intelligence

Machine Learning

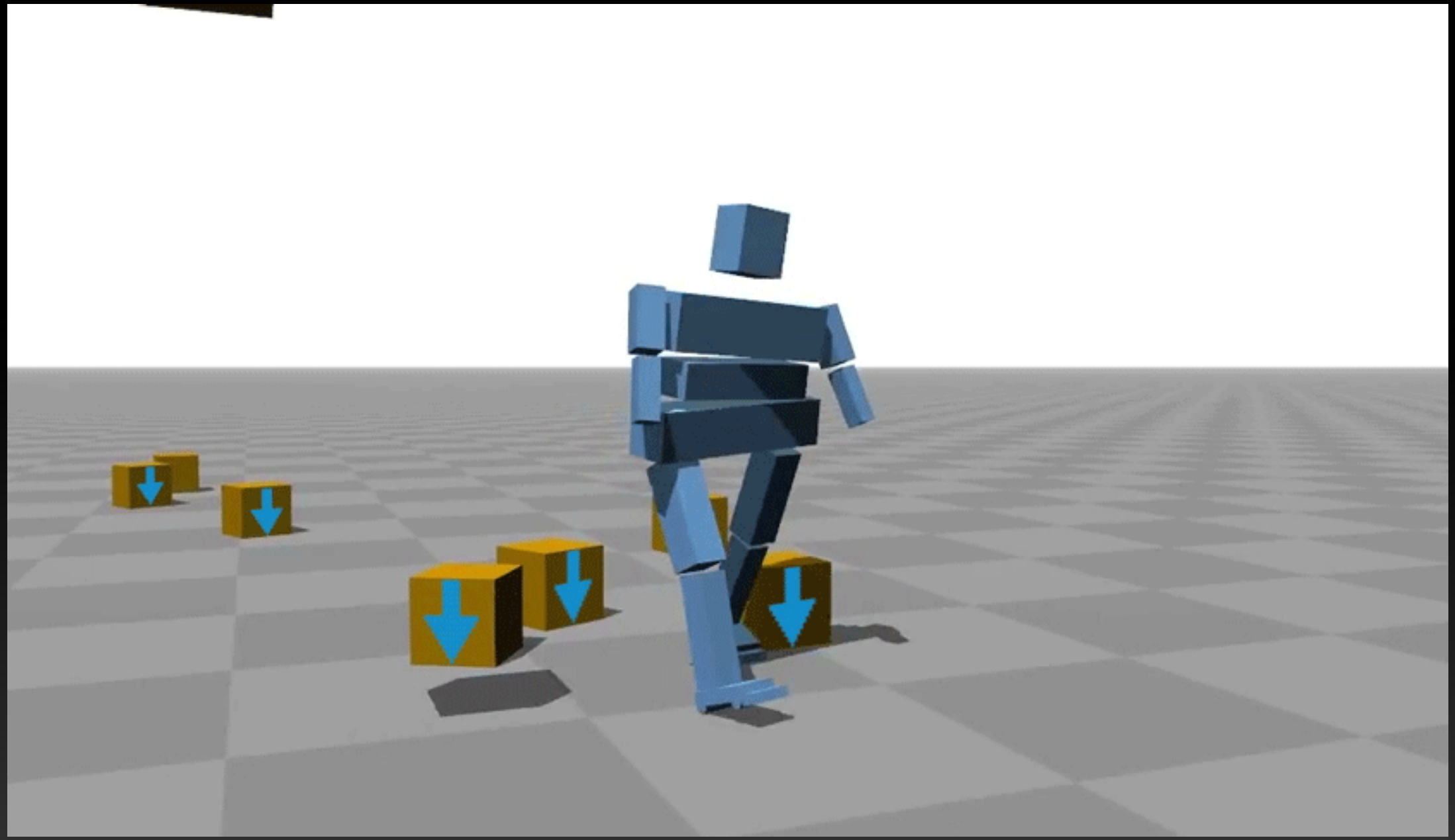
Machine learning (ML) is the science of getting computers to act without being explicitly programmed.

ML is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention.

Stand up

Touch your nose

How exactly did you do that?



Superhuman AGI

Superhuman artificial general intelligence is the ability of a machine to accomplish any goal as well or better than humans

Opinions

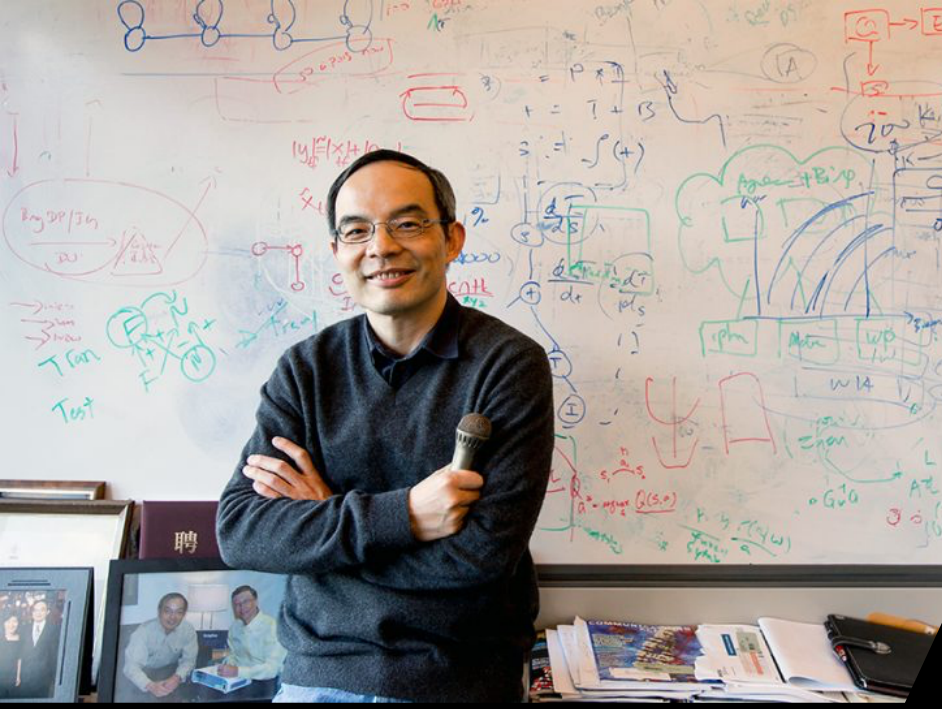
Superhuman AGI is not possible

Superhuman AGI will be achieved within the next couple of decades

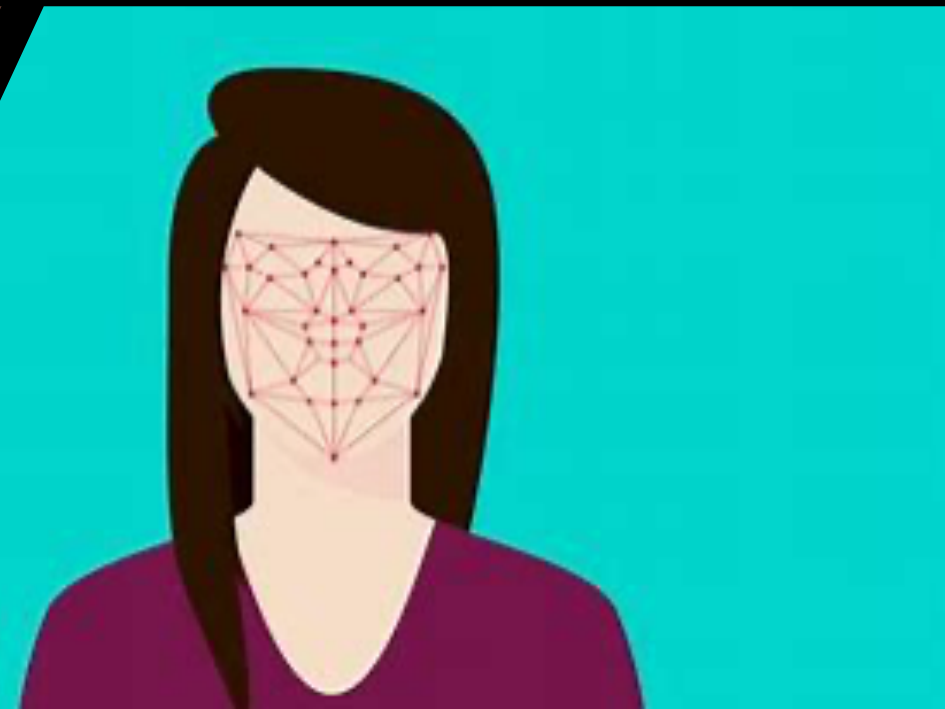
We only need to worry about conscious machines

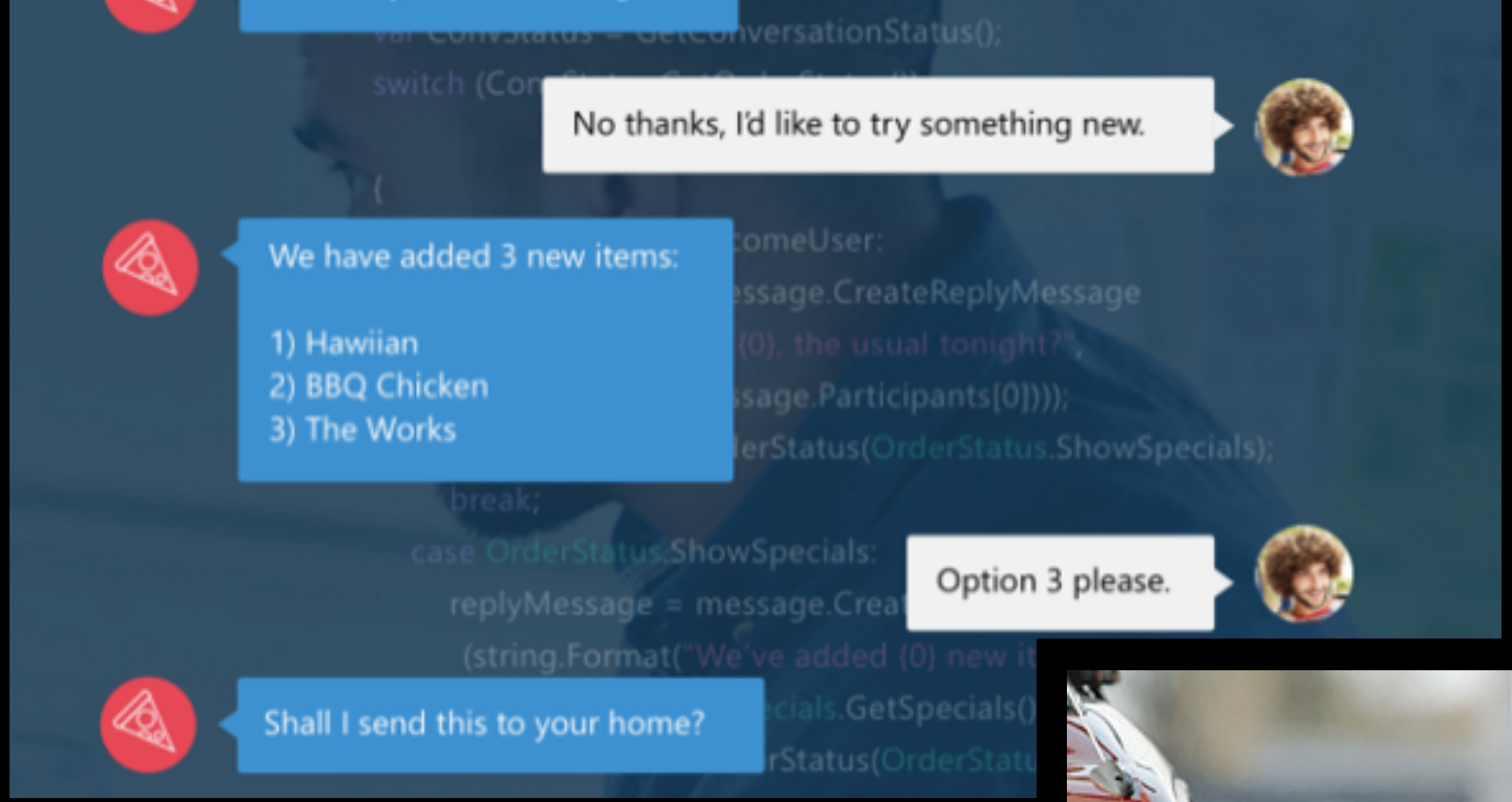
Goal ≠ Purpose

Does Artificial *Intelligence* have to be *that smart*?




Garry Kasparov
vs




No thanks, I'd like to try something new.
We have added 3 new items:
1) Hawiian
2) BBQ Chicken
3) The Works
Option 3 please.
Shall I send this to your home?


S1
骰宝
6
08/04/2016 14:54:00 (GMT+8)
Online Casino
Malaysia
直播
+66 94 869 0966


magic
leap

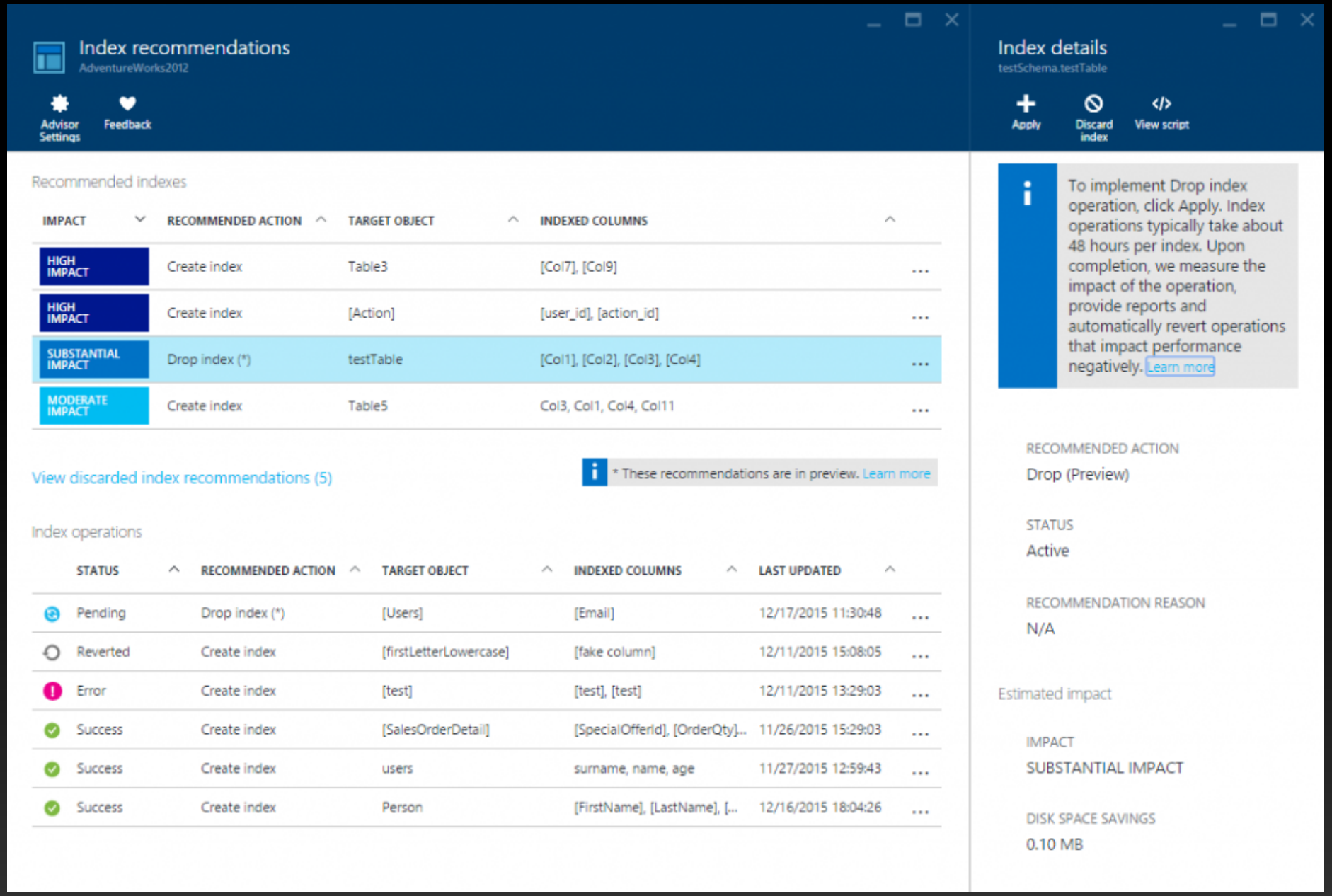
So, whom can these “narrow” intelligence systems replace?

Occupation	Likelihood of computerization
Clerks	86-99%
Cashiers	83-97%
Cooks	81-94%
Taxi drivers	89%
Bakers	89%
Waiters	94%
Accountants	94%
Paralegals	94%

Occupation (United States)	Number of Employees
Office and administrative support occupations	23,081,200
Sales and related occupations	15,747,800
Food preparation and serving related occupations	13,206,100
Transportation and material moving occupations	10,274,200
Management occupations	9,533,100
Education, training, and library occupations	9,426,500
Production occupations	9,356,900
Healthcare practitioners and technical occupations	8,751,500
Business and financial operations occupations	8,066,800
Construction and extraction occupations	6,812,500
Personal care and service occupations	6,419,700
Installation, maintenance, and repair occupations	5,905,400
Building and grounds cleaning and maintenance occupations	5,654,100
Computer and mathematical occupations	4,419,000

But wait, I am a “knowledge” worker, surely it isn’t easy to replace me?


DEEPCODE
From Code to Predictions


Index recommendations
AdventureWorks2012
Advisor Settings
Feedback
Recommended indexes
IMPACT
RECOMMENDED ACTION
TARGET OBJECT
INDEXED COLUMNS
HIGH IMPACT
Create index
Table3
[Col7], [Col9]
HIGH IMPACT
Create index
[Action]
[user_id], [action_id]
SUBSTANTIAL IMPACT
Drop index (*)
testTable
[Col1], [Col2], [Col3], [Col4]
MODERATE IMPACT
Create index
Table5
Col3, Col1, Col4, Col11
View discarded index recommendations (5)
* These recommendations are in preview. Learn more
Index operations
STATUS
RECOMMENDED ACTION
TARGET OBJECT
INDEXED COLUMNS
LAST UPDATED
Pending
Drop index (*)
[Users]
[Email]
12/17/2015 11:30:48
Reverted
Create index
[firstLetterLowercase]
[fake column]
12/11/2015 15:08:05
Error
Create index
[test]
[test], [test]
12/11/2015 13:29:03
Success
Create index
[SalesOrderDetail]
[SpecialOfferId], [OrderQty]...
11/26/2015 15:29:03
Success
Create index
users
surname, name, age
11/27/2015 12:59:43
Success
Create index
Person
[FirstName], [LastName], [...
12/16/2015 18:04:26
Index details
testSchema.testTable
Apply
Discard index
View script
To implement Drop index operation, click Apply. Index operations typically take about 48 hours per index. Upon completion, we measure the impact of the operation, provide reports and automatically revert operations that impact performance negatively. Learn more
RECOMMENDED ACTION
Drop (Preview)
STATUS
Active
RECOMMENDATION REASON
N/A
Estimated impact
IMPACT
SUBSTANTIAL IMPACT
DISK SPACE SAVINGS
0.10 MB


UIzard


Microsoft
This New AI Writes Code For People Who Don't Know Coding

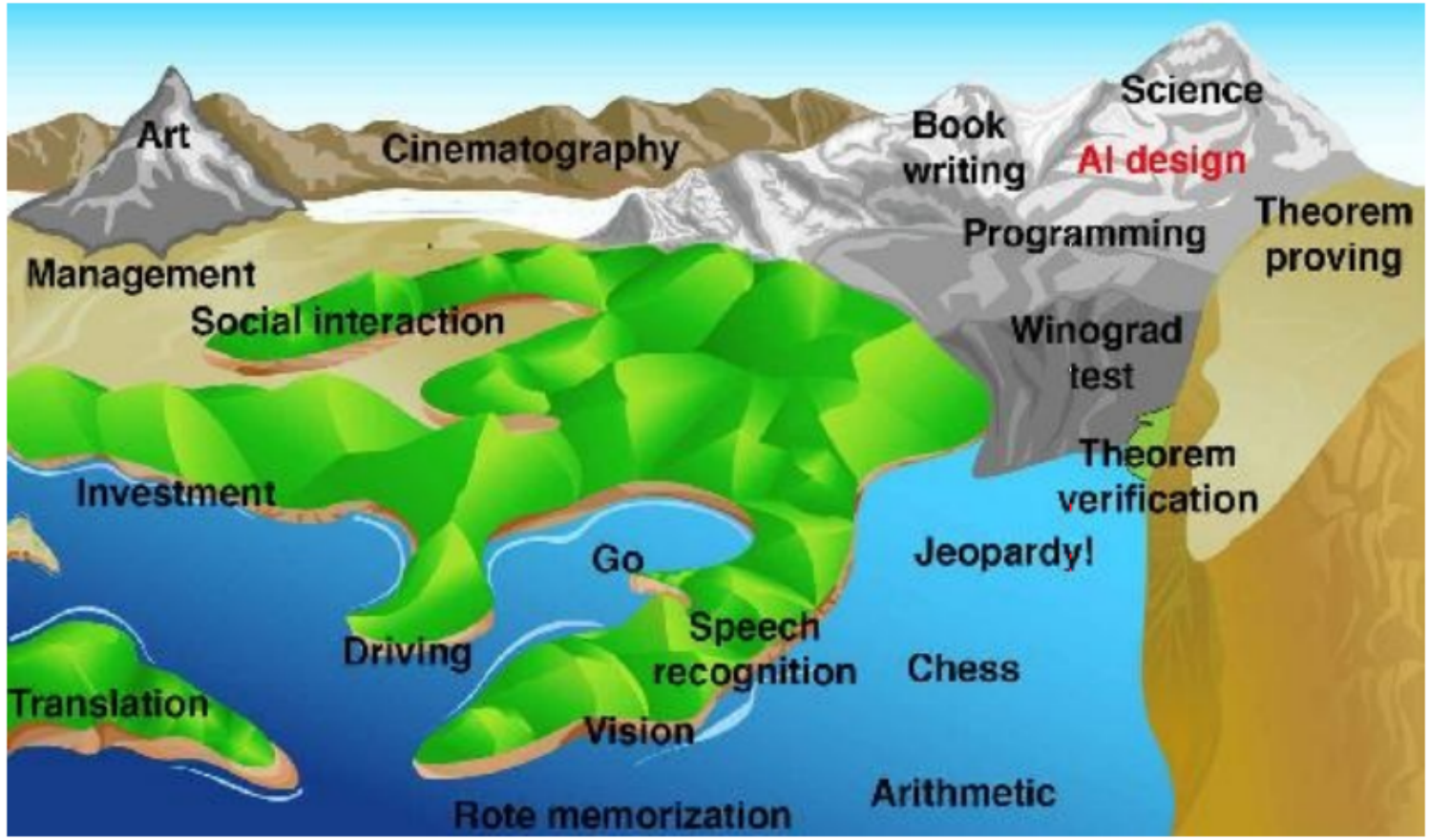


Figure 2.2: Illustration of Hans Moravec's "landscape of human competence," where elevation represents difficulty for computers, and the rising sea level represents what computers are able to do.

Imagine a landscape of human competence, having lowlands with labels like arithmetic and rote memorization, foothills like theorem proving and chess playing, and high mountain peaks labeled locomotion, hand-eye coordination and social interaction. Advancing computer performance is like water slowly flooding the landscape. A half century ago it began to drown the lowlands, driving out human calculators and record clerks, but leaving most of us dry. Now the flood has reached the foothills, and our outposts there are contemplating retreat. We feel safe on our peaks, but, at the present rate, those too will be submerged within another half century.

- Hans Moravec

Rate of progress

Rate of adoption

Easter morning 1900: 5th Ave, New York City. Spot the automobile.

Source: US National Archives.

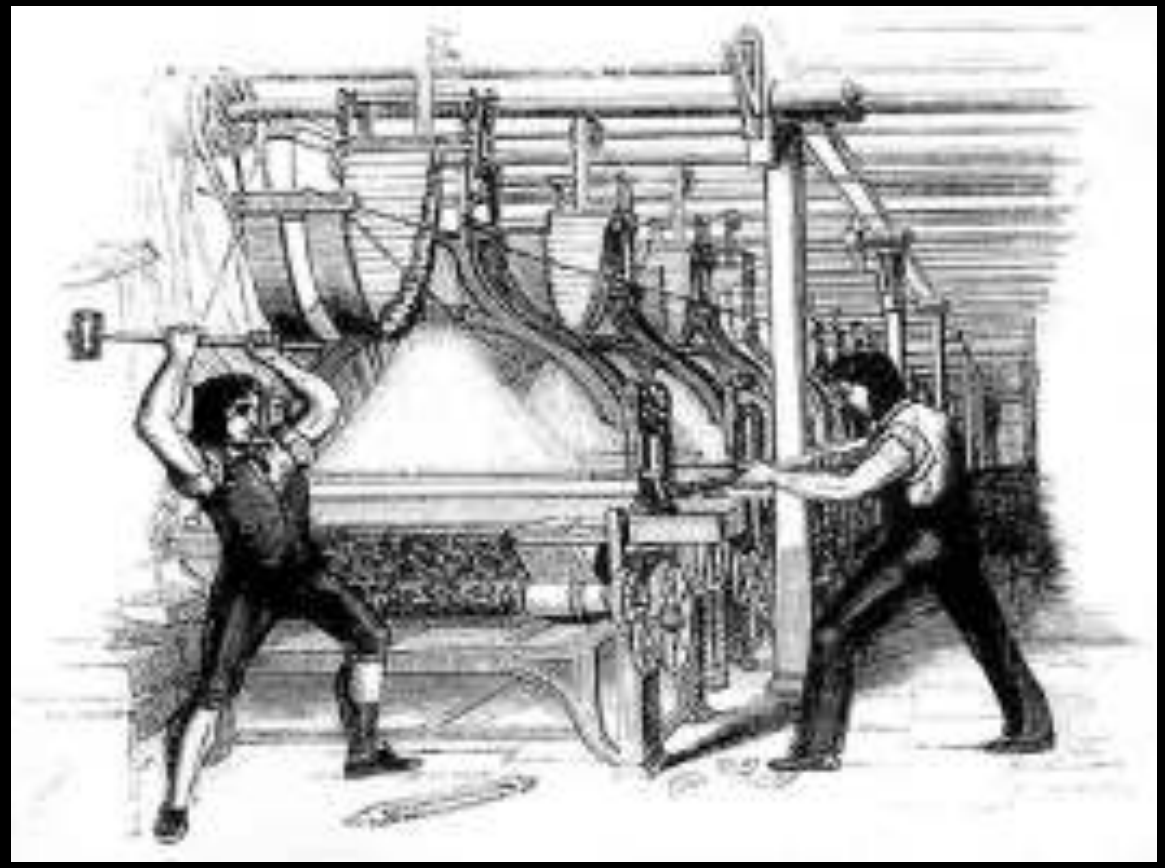
Easter morning 1913: 5th Ave, New York City. Spot the horse.

Source: George Grantham Bain Collection.

So, what do we do now?!?


DONT
PANIC

The world will change in ways we do not anticipate

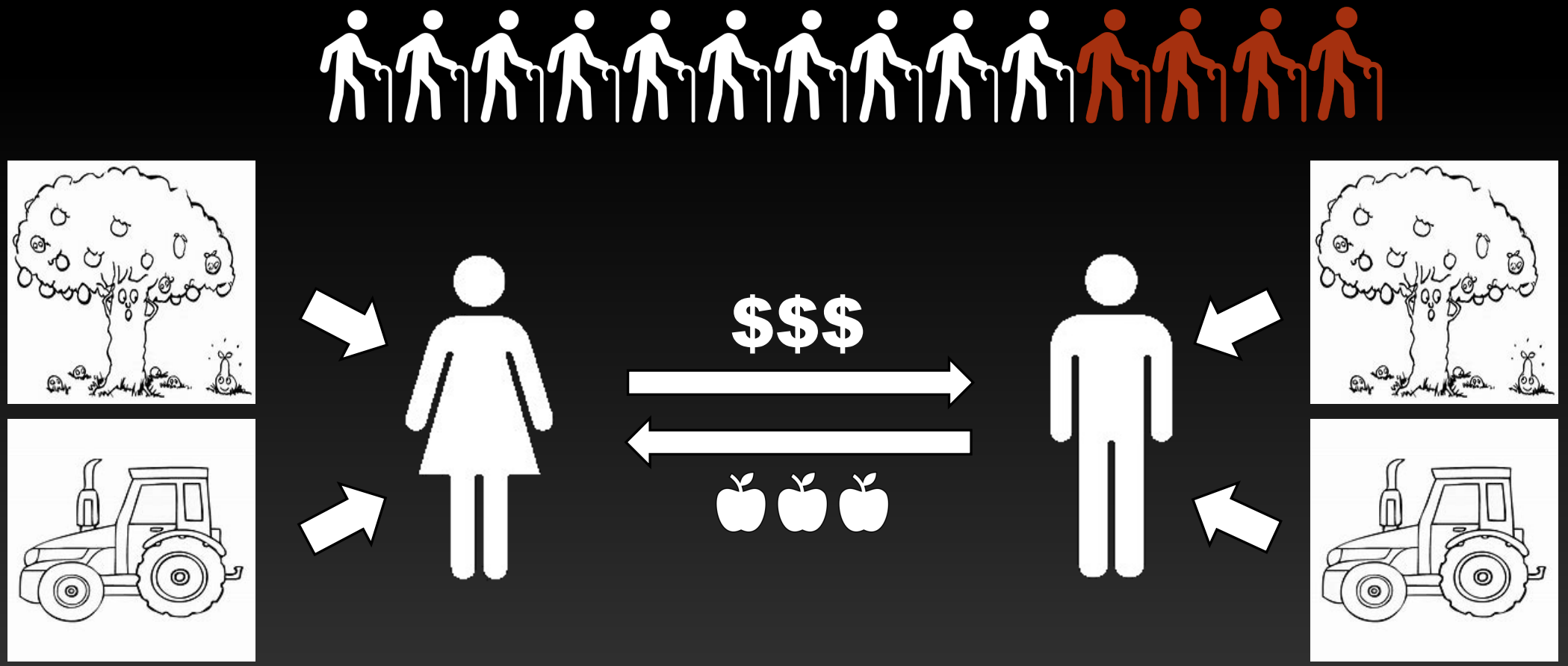


Luddites

English workers in 1811–16, who destroyed machinery, especially in cotton and woolen mills, that they believed was threatening their jobs.

Selfishly speaking, resisting progress is a bad idea

Pensions Problem



Which jobs will linger?

- Perception and manipulation
- Creative intelligence
- Social intelligence

Occupation	Likelihood of computerization
Therapists	0.3-34%
Engineers	0.4-96%
Scientists	0.4-67%
Teachers	0.7-26%
Chefs	1%
Lawyers	3%
Event planners	4%
Software Developers	4-13%

AI Ethics

Bias is a property of information

We must build AI responsibly

Facial recognition software is increasingly being used in law enforcement – and is another potential source of both race and gender bias. In February this year Joy Buolamwini at the Massachusetts Institute of Technology found that of the latest gender-recognition AIs, from IBM Microsoft and Chinese co Megvii, could correctly identify a person's gender from a photograph 99 cen dro

A 2015 study showed that in a Google images search for "CEO", just 11 per cent of the people it displayed were women, even though 27 per cent of the chief executives in the US are female. A months later, a separate study led by Anupam Datta at negie Mellon University in Pittsburgh found that Google's much

• **Emergent bias:** Somewhat like interactive bias, emergent bias involves what happens via interaction over time. For instance, all of us on Facebook know we don't always see the updates our friends post. That's because Facebook has an algorithm that decides which posts we are most likely to *want* to see. Unfortunately, that often means there are a lot of things we never even know about — just because Facebook's math equation decided against it.

Alread design the air the Hu could l

nple came to light in 2016, when Microsoft released its AI nto Twitter. Engineers programmed the bot to learn human nteracting with other Twitter users. After just 16 hours, down because its tweets had become a stream of sexist, pro-

researchers applied a simulation of PredPol's algo offences in Oakland, California, it repeatedly sent neighbourhoods with a high proportion of people minorities, regardless of the true crime rate in those areas.

m widely used in the US to guide sentencing by predicting minal reoffending. In perhaps the most notorious case of AI prejudice, in May 2016 the US news organisation *ProPublica* reported that COMPAS is racially biased. According to the analysis, the system predicts that black defendants pose a higher risk of recidivism than they do, and the reverse for white defendants. Equivant, the company that developed the software, disputes that.

Build AI responsibly!

Thank You!

@DivineOps

Resources

Tegmark, M. Life 3.0 - Being human in the age of artificial intelligence.

Frey, C.B. & Osborn, M. A. The Future Of Employment: How Susceptible Are Jobs To Computerisation? Oxford University

Kurzweil, R. The Singularity is near. When humans transcend biology.