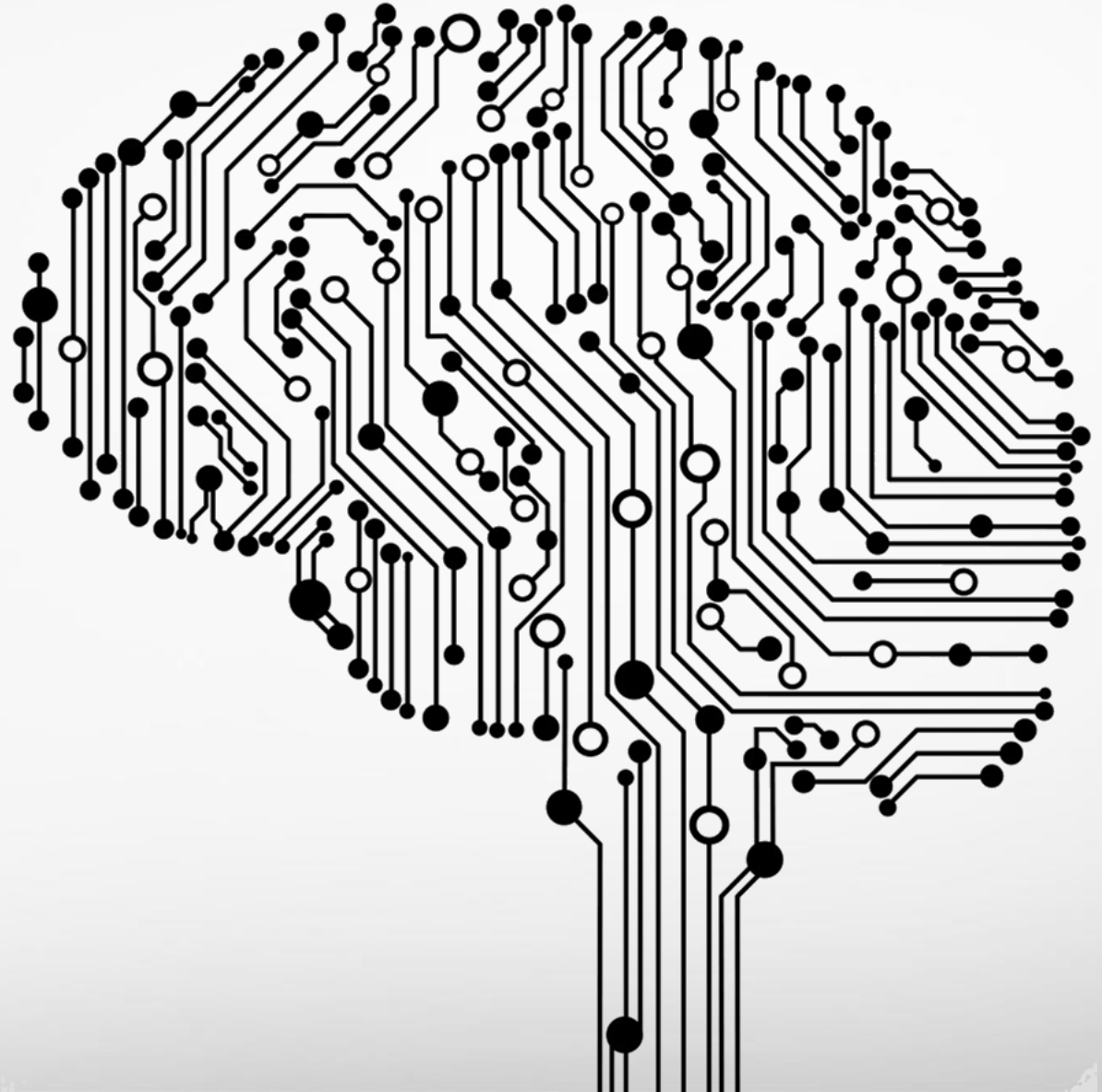


Demystifying Artificial Intelligence

Marc Schöni

 /in/aiguy



Agenda



WHAT IS AI?



WHERE IS AI TODAY?



WHERE WILL AI BE TOMORROW?



HANDS ON AI

WHAT IS AI?

2.5 4x9K bytes



Artificial Intelligence (AI)

Self-learning
computer systems




The diagram consists of two concentric circles. The outer circle is a dark blue color and contains the text 'Artificial Intelligence' and 'Self-learning computer systems'. The inner circle is a lighter blue color and contains the text 'Machine Learning' and 'Algorithms who surface patterns in data which improve as they are exposed to more data'. The inner circle is positioned such that it is entirely contained within the outer circle, illustrating that Machine Learning is a subset of Artificial Intelligence.

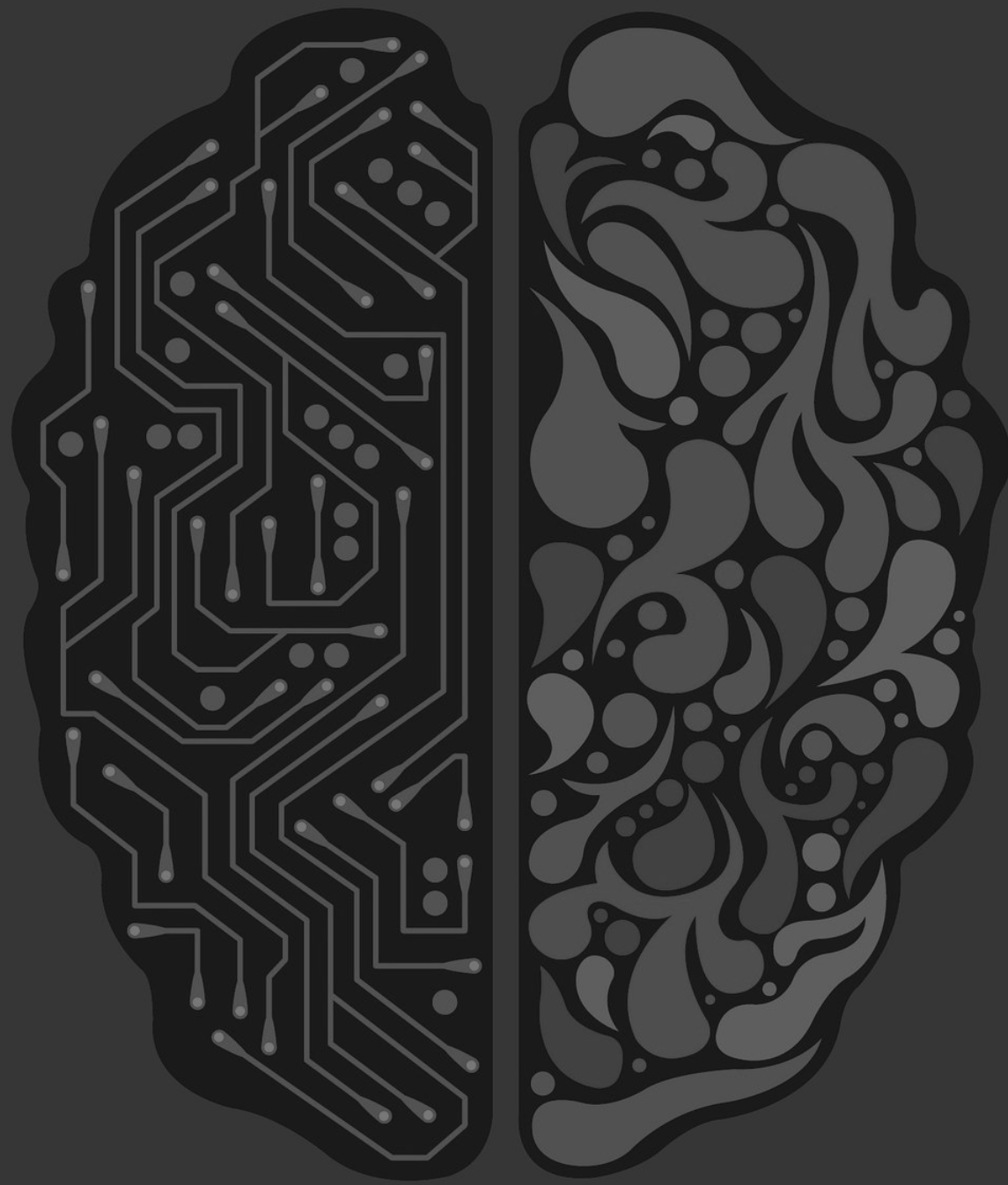
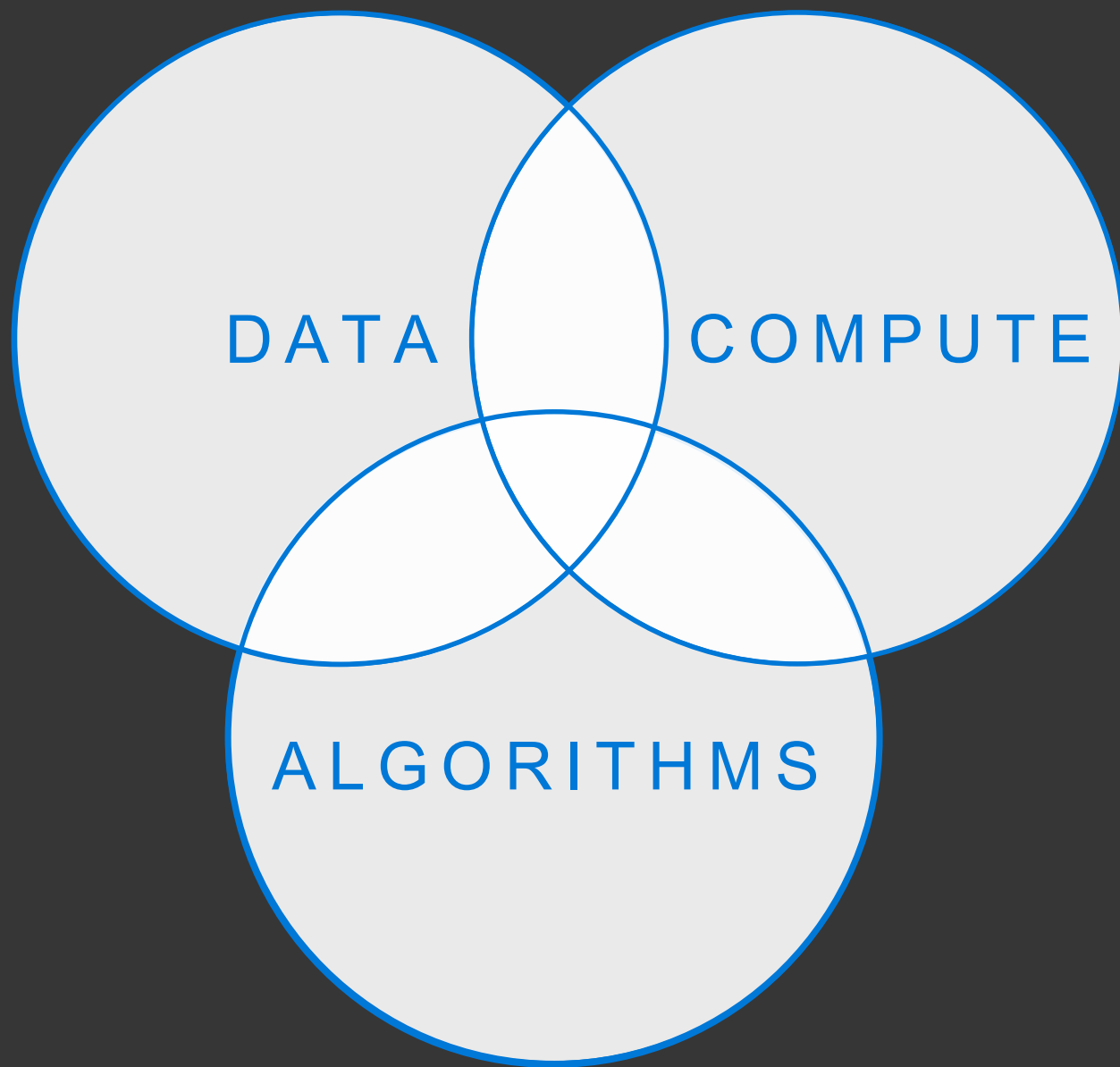
Artificial Intelligence


Self-learning computer systems

Machine Learning

Algorithms who surface patterns
in data which improve as they
are exposed to more data

- 
- A timeline of Artificial Intelligence milestones is overlaid on a background image of an ancient Egyptian wall painting. The painting depicts two large male figures in traditional Egyptian attire, including headdresses and kilts, standing in a room with hieroglyphs. A white diagonal line with circular markers connects the following milestones:
- 1956 Dartmouth Conference – Inception of the term “AI”
 - 1997 Deep Blue beats chess legend Garry Kasparov
 - 2011 Watson wins in Jeopardy
 - 2015 ResNet152 classifies millions of images
 - 2016 Alpha Go beats Go Champion Lee Seedol
 - 2017 Alpha Go Zero beats Alpha Go 100:0



A black and white photograph of the New York City skyline. The Empire State Building is the central focus, standing tall and illuminated. It is surrounded by other skyscrapers and buildings of varying heights. The sky is filled with dramatic, dark clouds. The overall mood is urban and powerful.

The most profound technologies are those
that disappear. They weave themselves into
the fabric of everyday life until they are
indistinguishable from it.

-Mark Weiser

Your Bank



1234 5678 9876 5432

1234

VALID THRU MONTH / YEAR
12/99

MAX MUSTERMANN

What can I help
you with?



WHERE IS AI TODAY?



The diagram consists of three concentric circles on a blue background. The outermost circle is dark blue and contains the text 'Artificial Intelligence' and 'Self-learning computer systems'. Inside it is a medium blue circle containing 'Machine Learning' and 'Algorithms who surface patterns in data which improve as they are exposed to more data'. The innermost circle is light blue and contains 'Deep Learning' and 'Subset of machine learning in which multi-layered neural networks learn from vast amounts of data'.

Artificial Intelligence

Self-learning computer systems

Machine Learning

Algorithms who surface patterns in data which improve as they are exposed to more data

Deep Learning

Subset of machine learning in which multi-layered neural networks learn from vast amounts of data

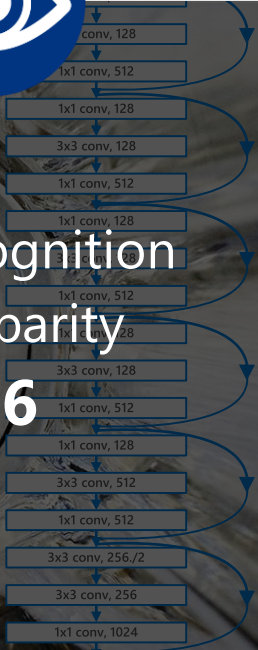
Recent AI Advancements

96%

RESNET vision test
152 layers



Object recognition
Human parity
2016



5.1%

Switchboard speech
recognition test



Speech recognition
Human parity
2017



88.493%

SQuAD reading
comprehension test



Machine reading
comprehension
Human parity
Jan 2018

69.9%

MT
research system



Machine translation
Human parity
March 2018



Vision



[Link](#)



[Link](#)

Demo

Computer Vision

<https://azure.microsoft.com/en-us/services/cognitive-services/computer-vision/>

Speech recognition



Microsoft Cognitive Services



Future of Order Taking

drivethru.wav

Start Recognition



Demo

PowerPoint Translator

Next gen meeting experience



[Link](#)

Machine comprehension





Demo

JFK Files

<http://aka.ms/jfkfiles-demo>

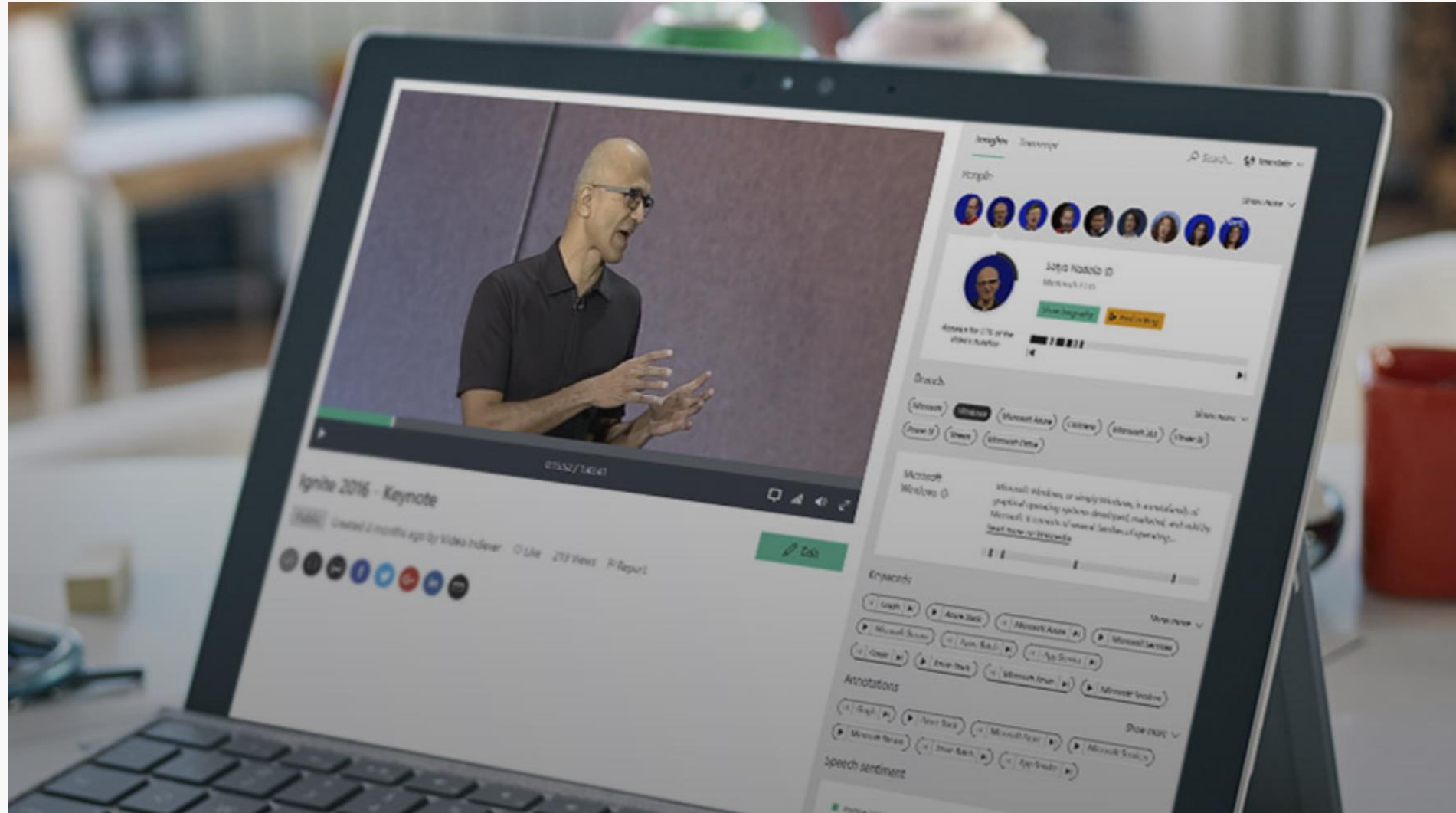


Demo

Insurance Bot

<https://cisbot-prod.azurewebsites.net>

Vision





Demo

Video Indexer

<http://vi.microsoft.com>

Start small!



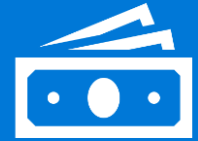
60'000
Letters to
prospects



300
Prospects
interested



2 days
Implementation
effort



40'000 Fr.
Net savings in
postage alone

Other applications of AI





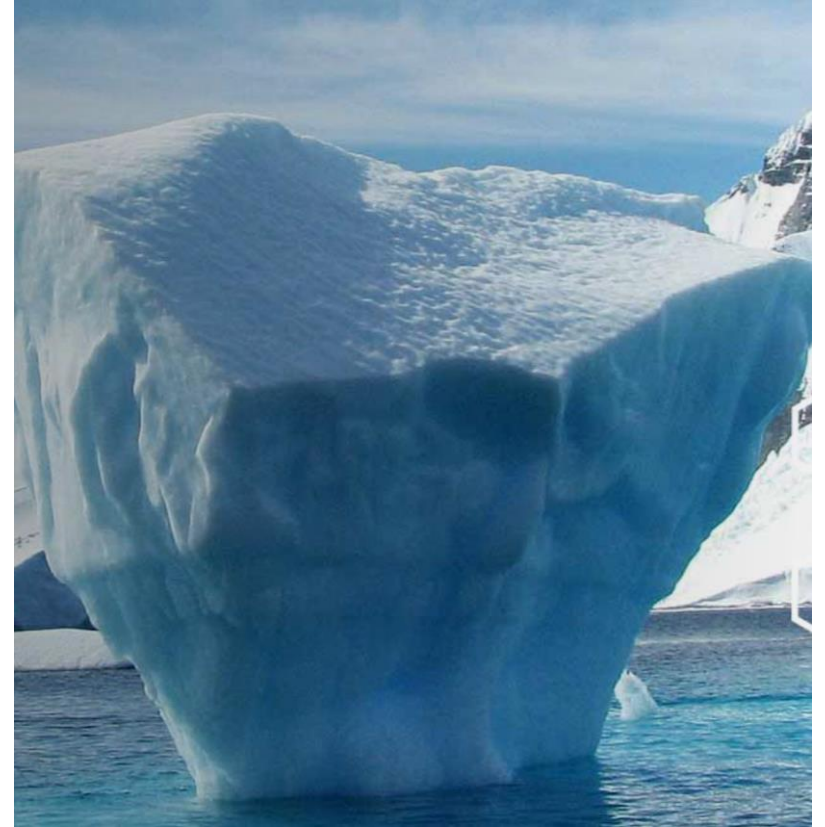
Microsoft AI programs



[AI for accessibility](#)



[AI for good](#)



[AI for earth](#)

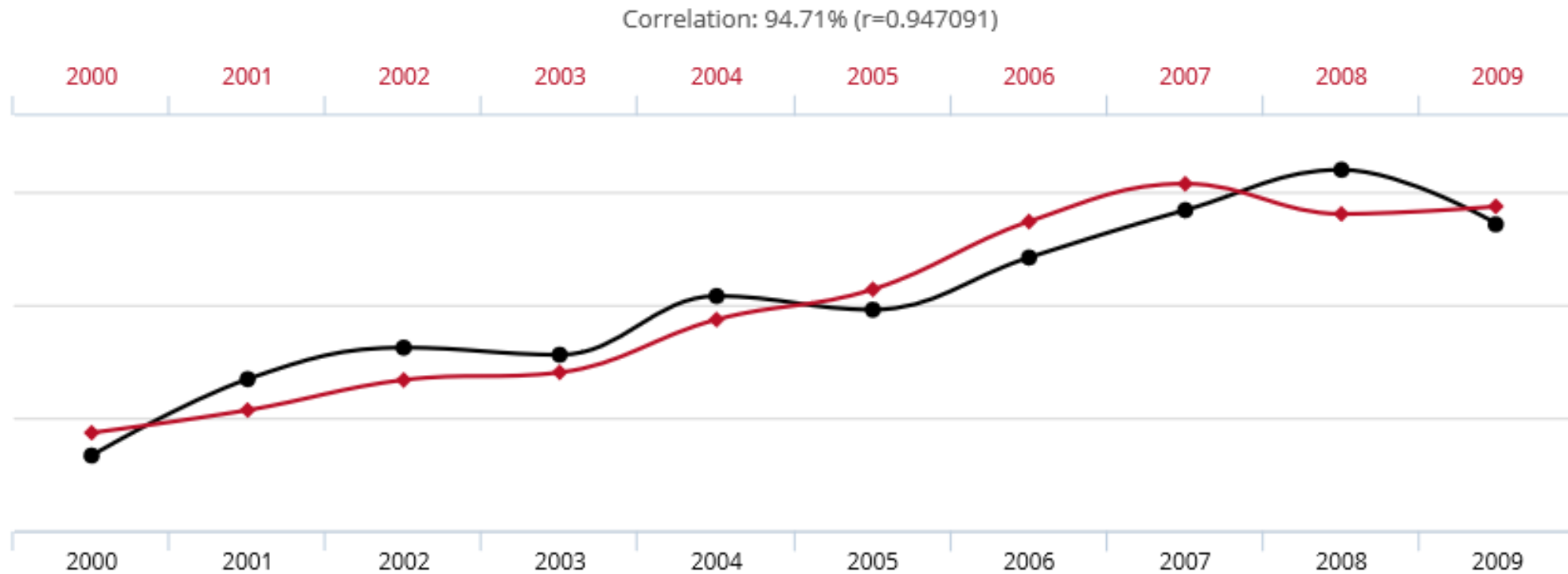


WHERE WILL AI BE TOMORROW?

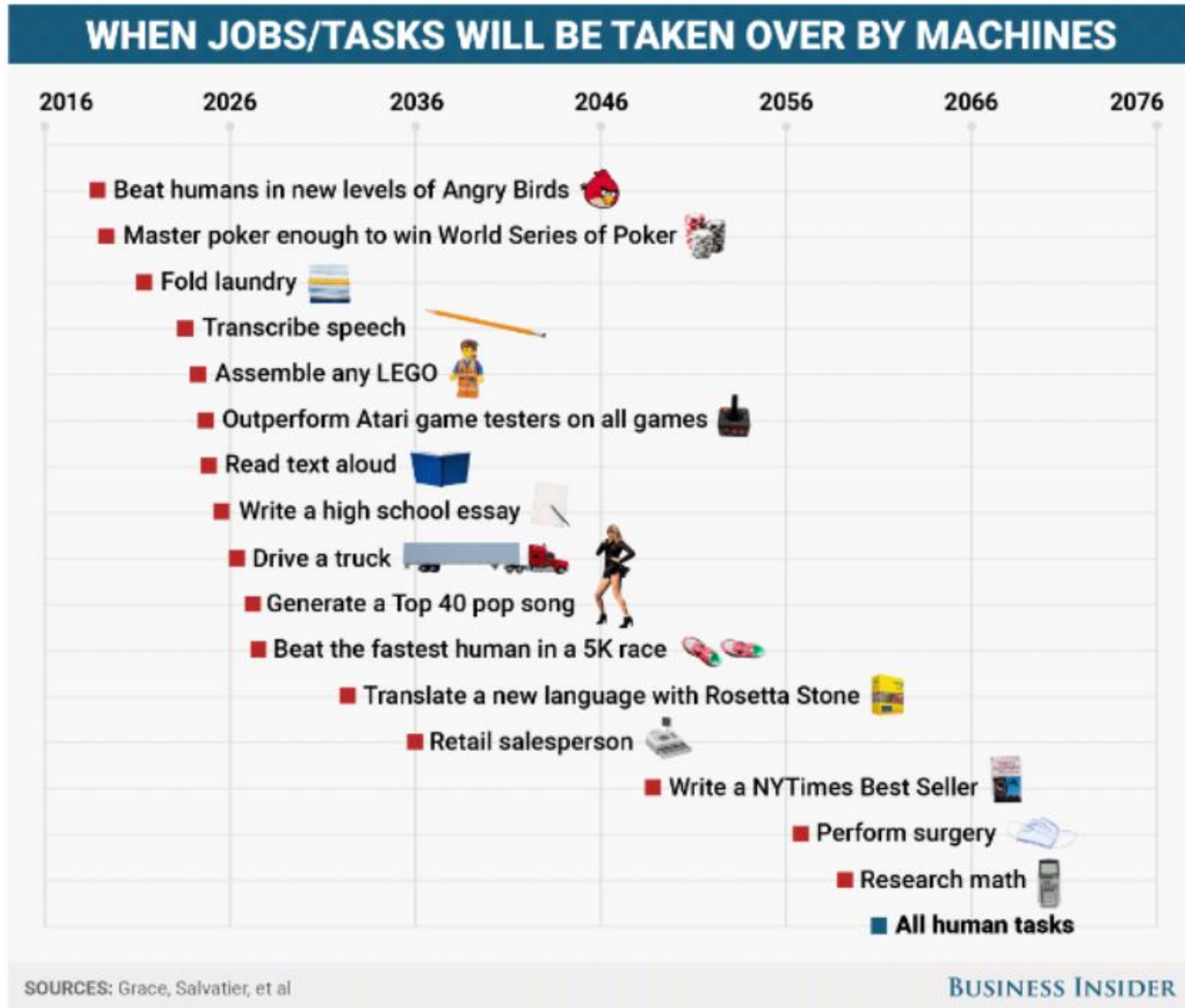
The image features a stylized human brain silhouette. The interior of the brain is filled with a green circuit board pattern, complete with gold-colored traces and circular components. Overlaid on this pattern are thick, black, branching lines that represent neural pathways or connections. The text "So, will this AI pass the Turing test?" is written in a white, sans-serif font across the center of the brain.

So, will this AI pass the Turing test?

The problem with correlations



When will AI beat us?

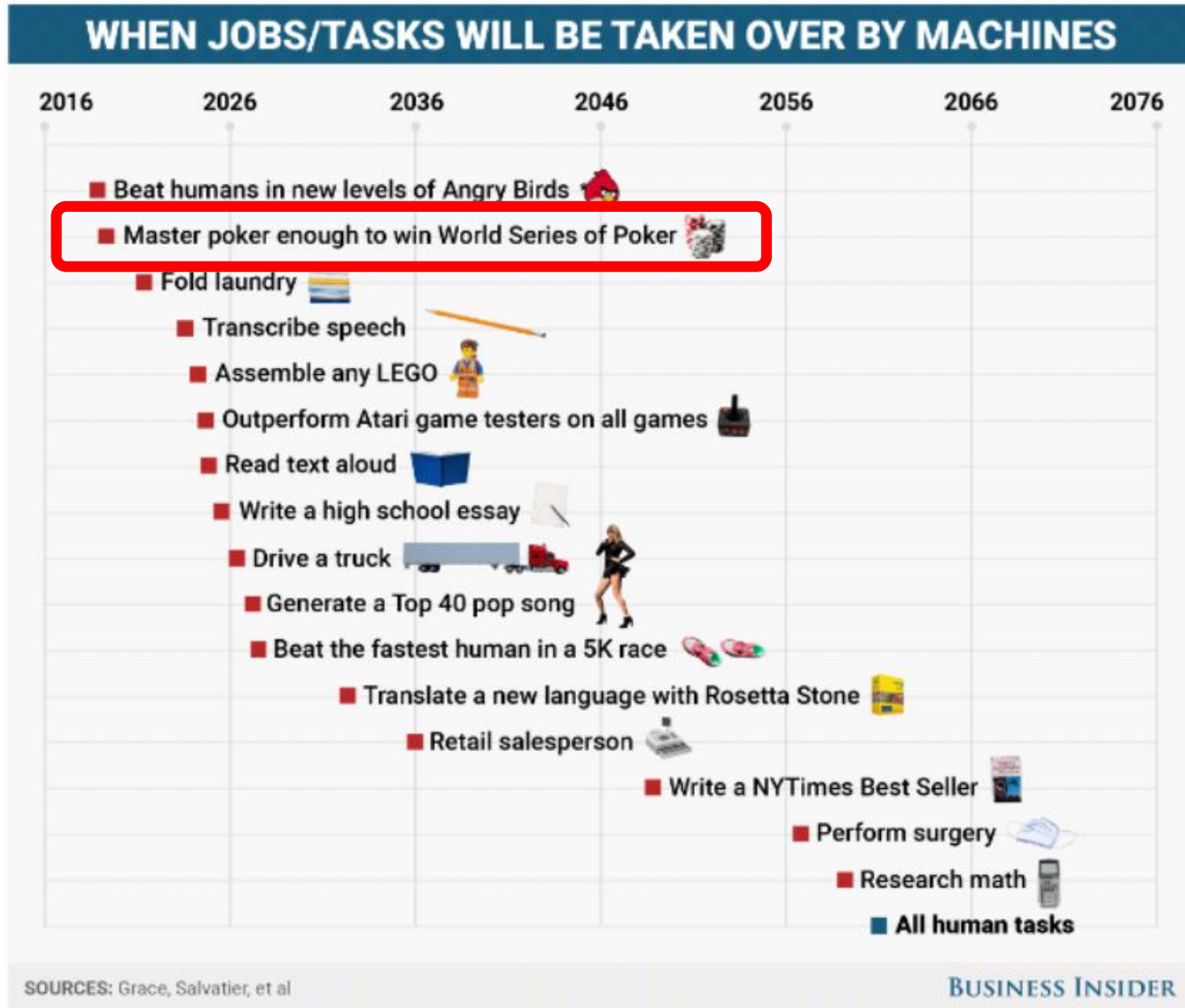


Study conducted by Oxford and Yale Universities

Consulted 300+ AI researchers and merged their opinions

[Article](#)
[Research paper](#)

Signs of acceleration



Played 120'000 hands of No Limit Hold'em against top 4 pros

AI system beat pros by highly significant margin

10^{160} possibilities – benchmark for imperfect information AI systems



"The future we will invent is a choice we make, not something that just happens"



Microsoft AI Principles

Fair | Accountable | Transparent | Ethical

- 1 AI must maximize efficiencies without destroying the dignity of people
- 2 AI must guard against bias
- 3 AI needs accountability so humans can undo unintended harm
- 4 AI must be transparent
- 5 AI must be designed for intelligent privacy
- 6 AI must be designed to assist humanity

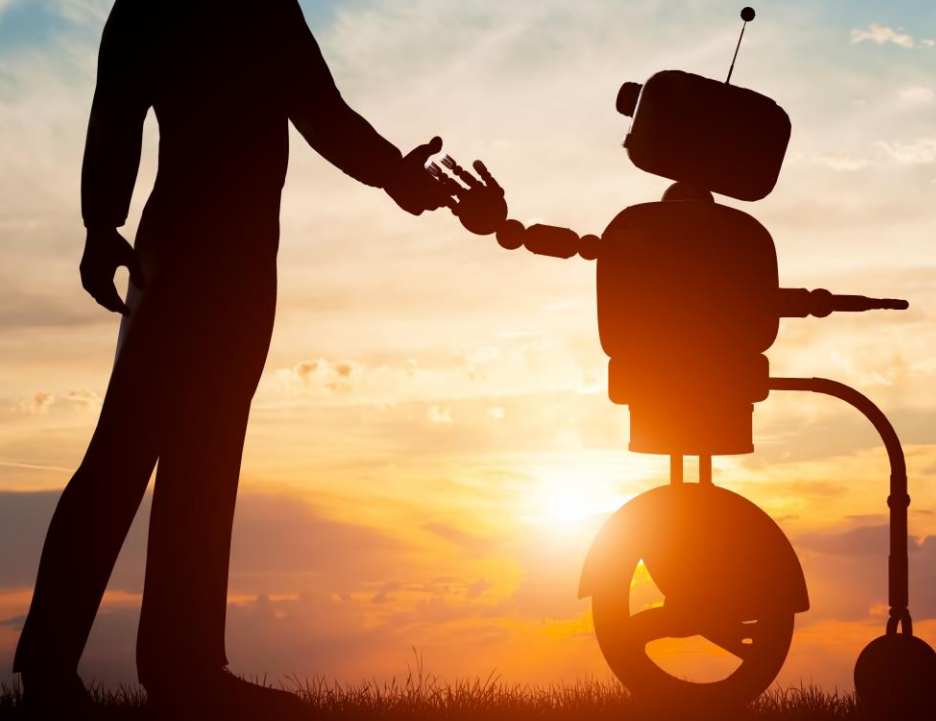
Towards General AI



- NN still too slow for «True AI»: Only 1 bio. neural connections vs. 100 bio. in human brain
- 5-10 yrs to crow or capuchin monkey
- 25 yrs to a neural network comparable to human brain

1N73LL1G3NC3
15 7H3 4B1L17Y
70 4D4P7
70 CH4NG3.

Stephen Hawking





[linkedin.com/in/Alguy](https://www.linkedin.com/in/Alguy)