

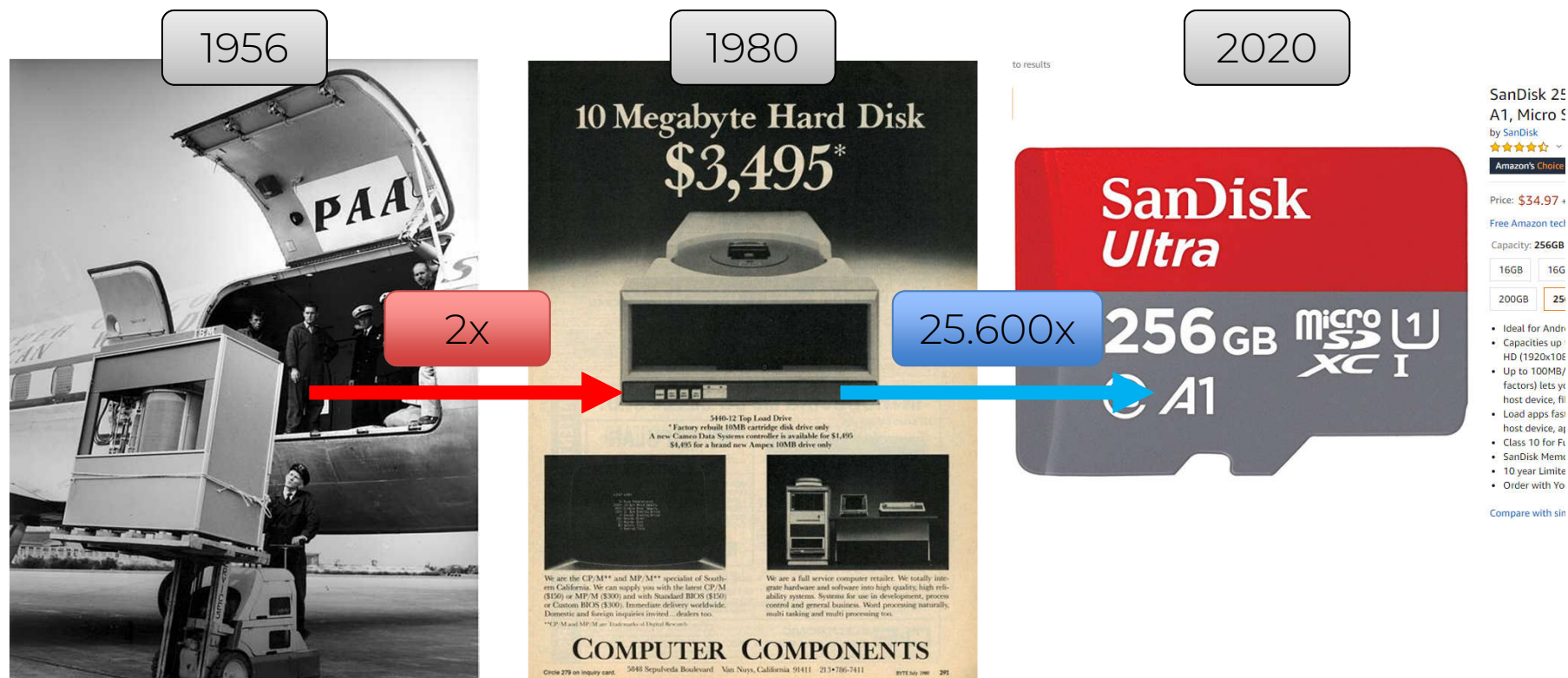
Redes neurais artificias

O que é Aprendizagem Profunda?

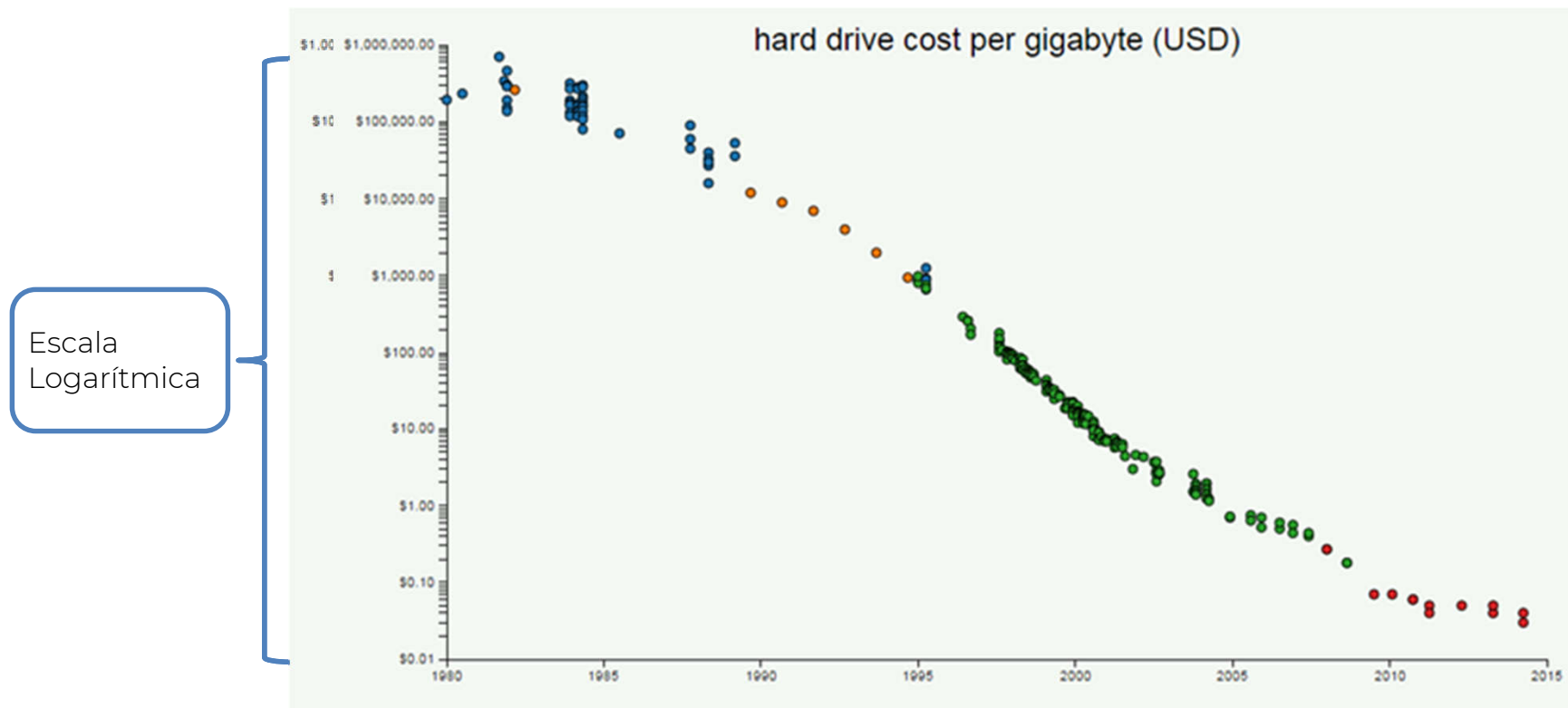
O que é Aprendizagem Profunda?



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Fonte: mkomo.com

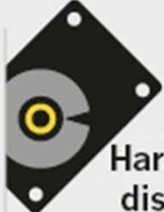



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STORAGE LIMITS

Estimates based on bacterial genetics suggest that digital DNA could one day rival or exceed today's storage technology.

	 Hard disk	 Flash memory	 Bacterial DNA	WEIGHT OF DNA NEEDED TO STORE WORLD'S DATA  ~1 kg
Read-write speed (μ s per bit)	> ~3,000–5,000	> ~100	> <100	
Data retention (years)	> >10	> >10	> >100	
Power usage (watts per gigabyte)	> ~0.04	> ~0.01–0.04	> <10 ⁻¹⁰	
Data density (bits per cm ³)	> ~10 ¹³	> ~10 ¹⁶	> ~10 ¹⁹	

©nature

Fonte: nature.com

O que é Aprendizagem Profunda?

1 The accelerating pace of change ...



2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

COMPUTER RANKINGS

By calculations per second per \$1,000

Analytical engine
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems

Colossus
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II

UNIVAC I
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.

Apple II
At a price of \$1,298, the compact machine was one of the first massively popular personal computers

Power Mac G4
The first personal computer to deliver more than 1 billion floating-point operations per second



3 ... will lead to the Singularity

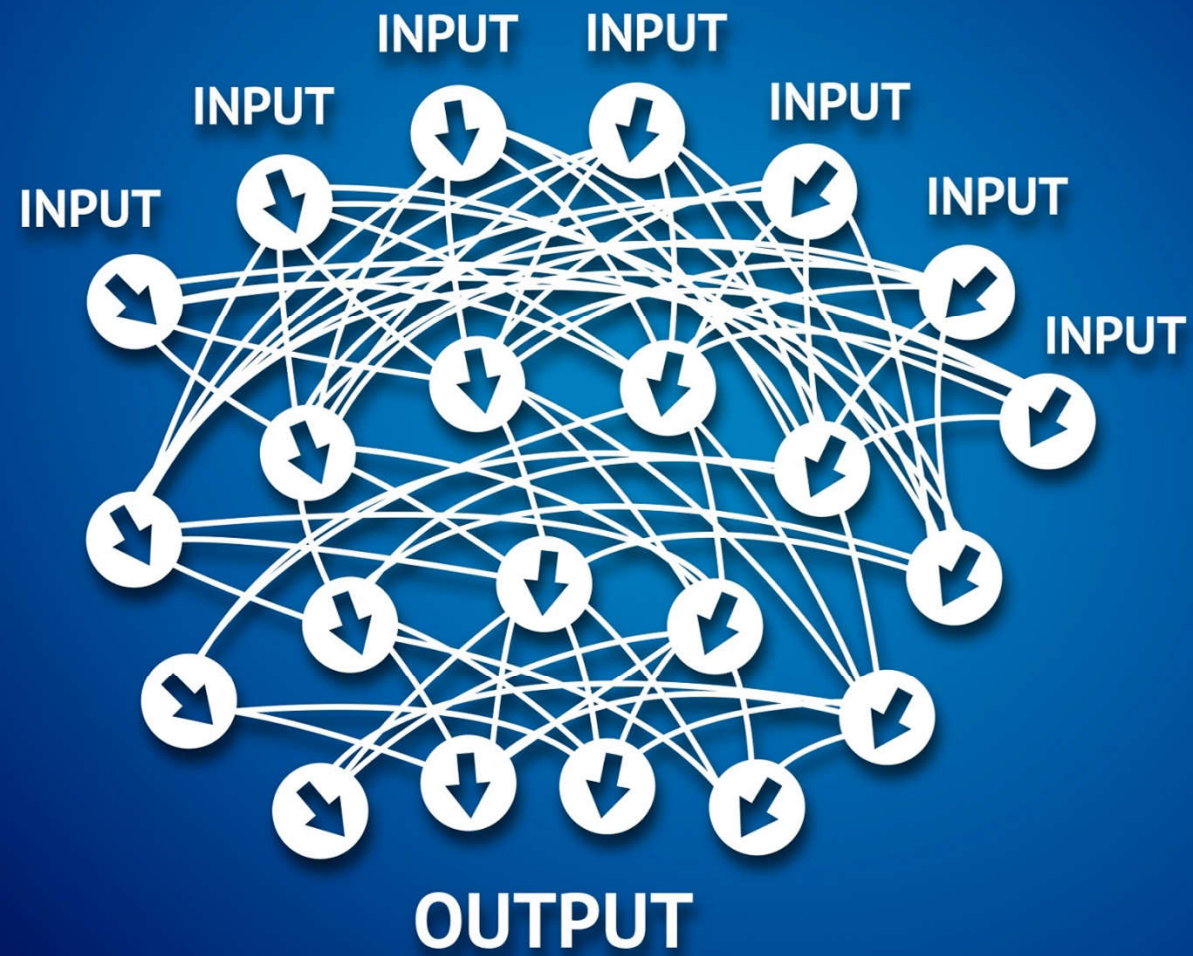
2045
Surpasses brainpower equivalent to that of all human brains combined

Surpasses brainpower of human in 2023

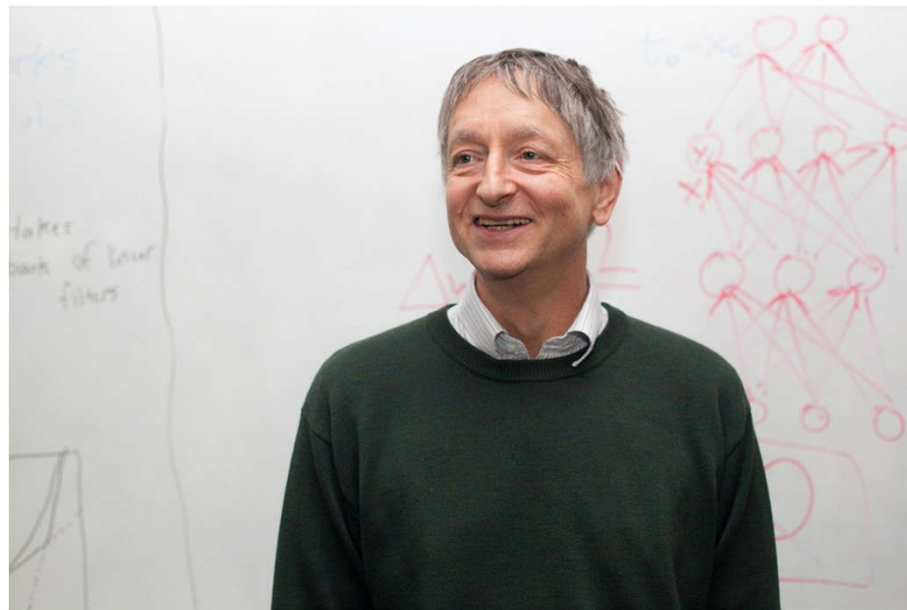


Surpasses brainpower of mouse in 2015

Fonte: Revista Time

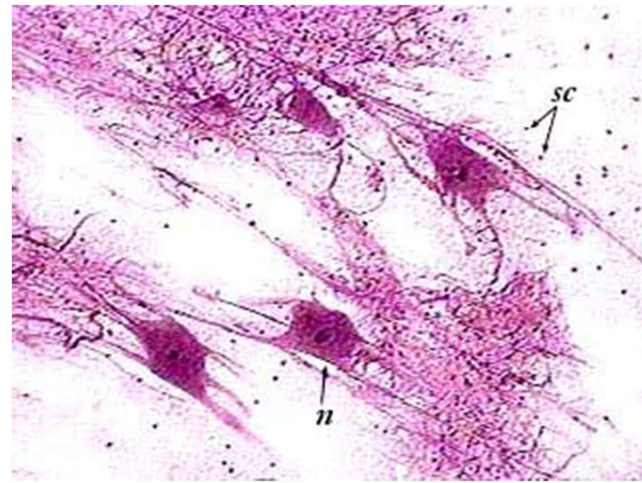
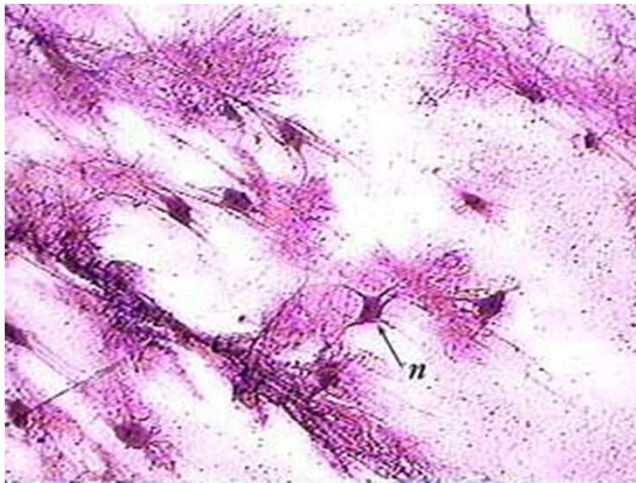


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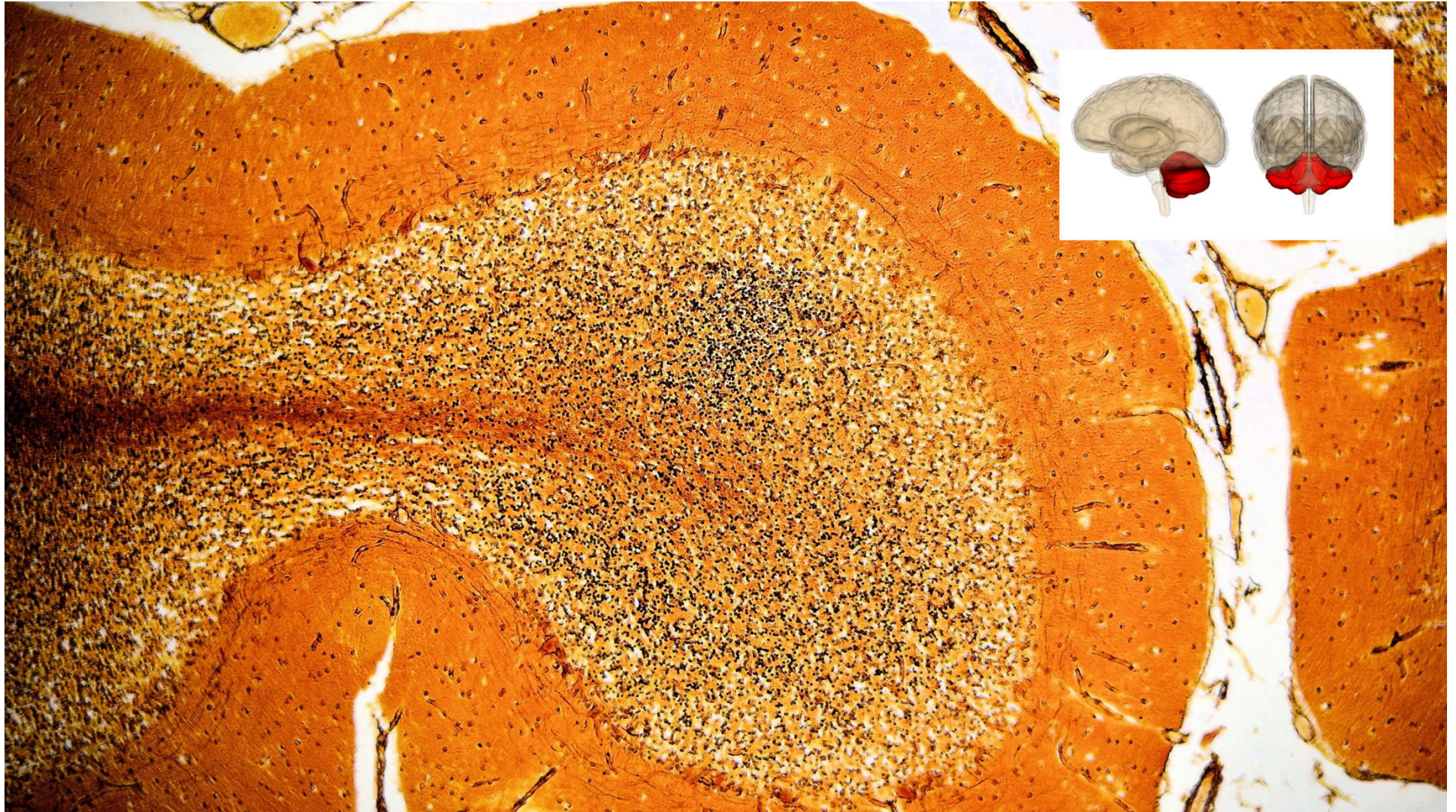


Geoffrey Hinton

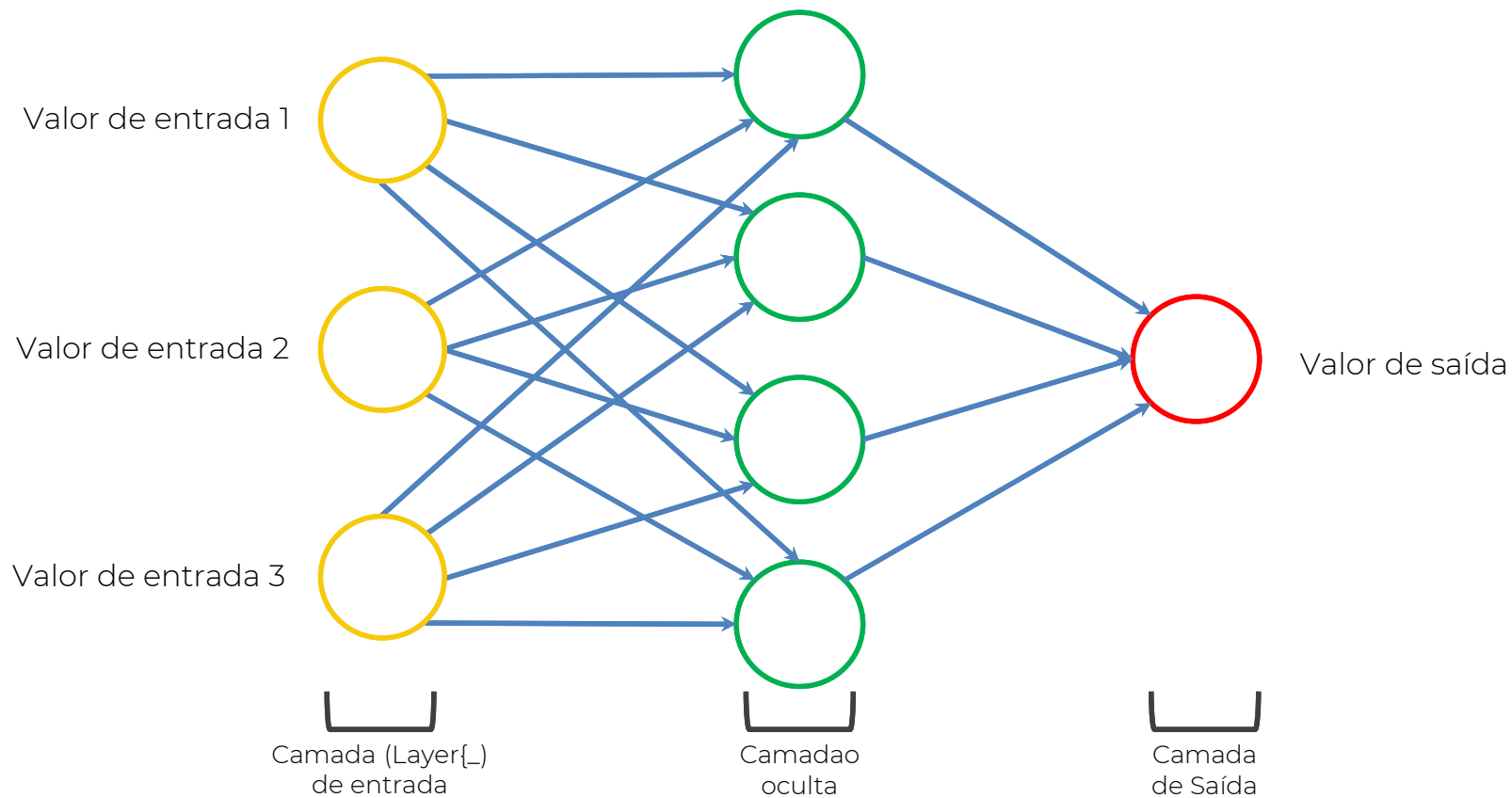
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Fonte da imagem: www.austincc.edu



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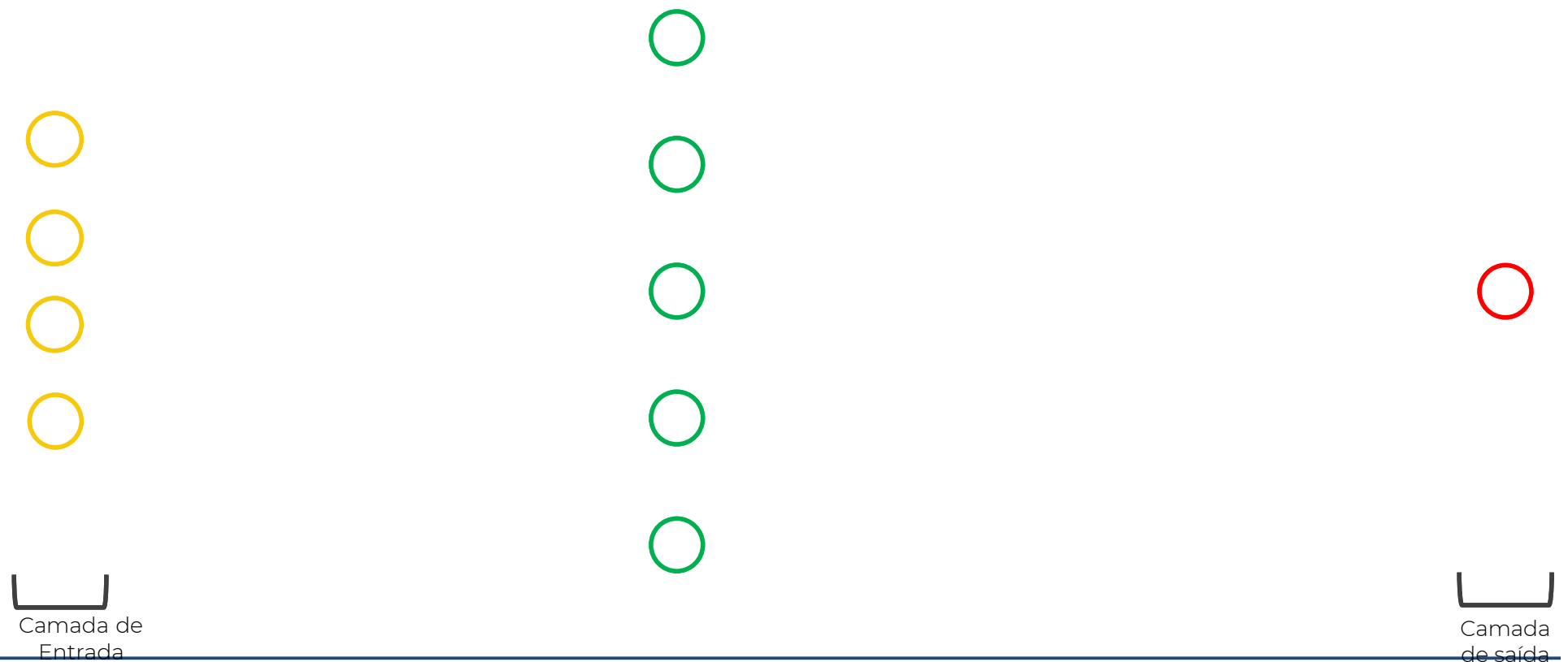


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Layer ou camada

Rodrigo Amaral; 26/02/2020

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