The AI Paradox

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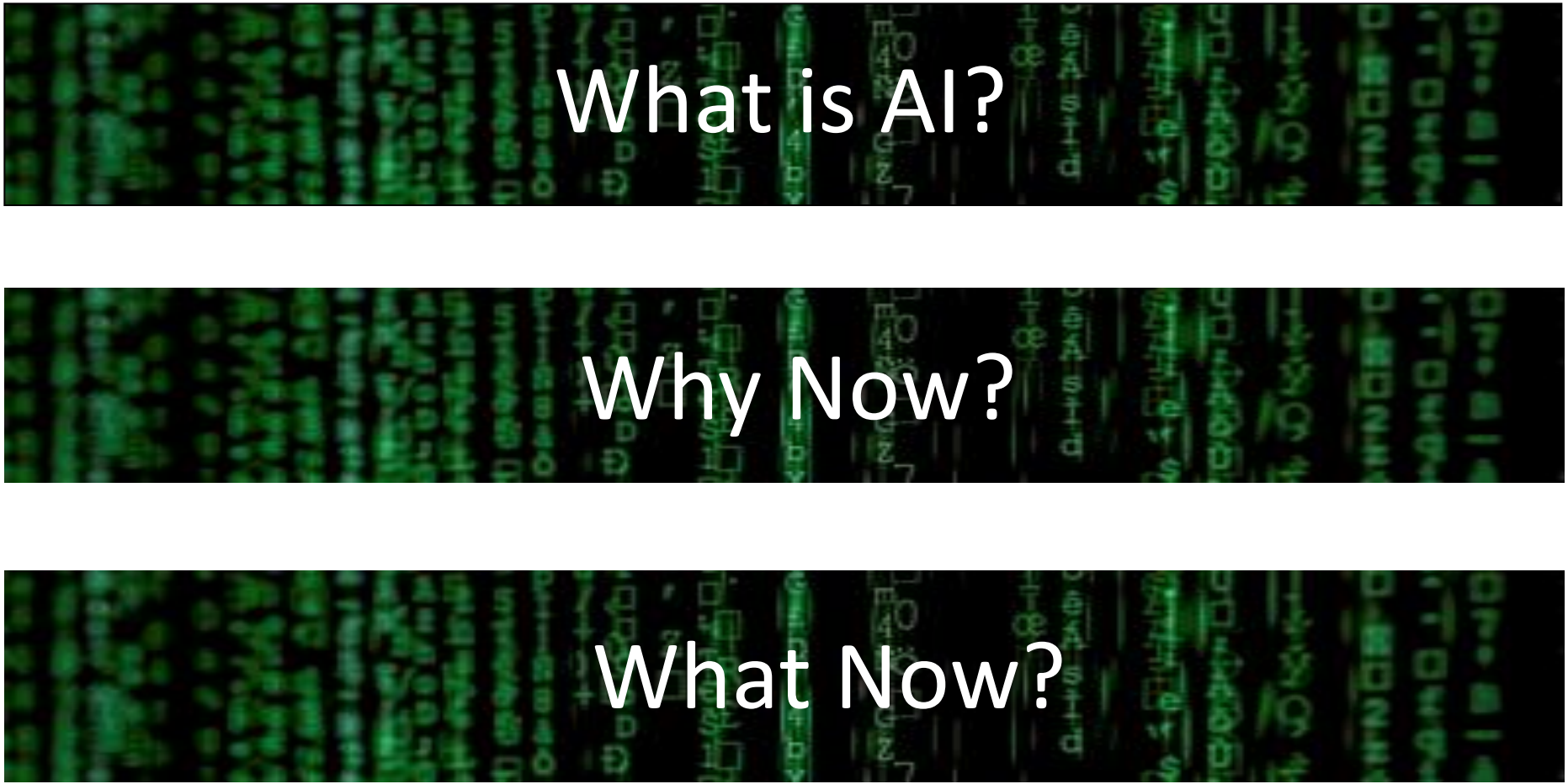
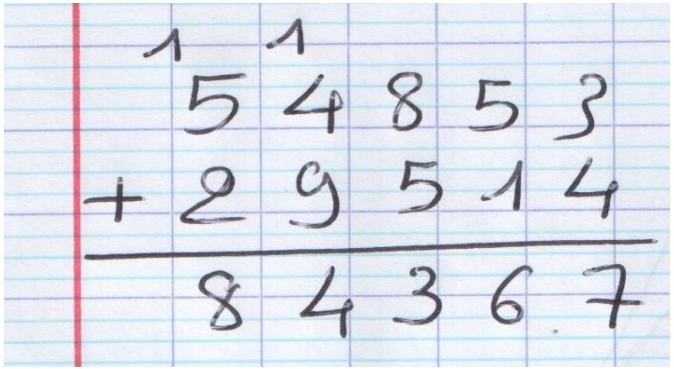
2025


What is AI?
Why Now?
What Now?

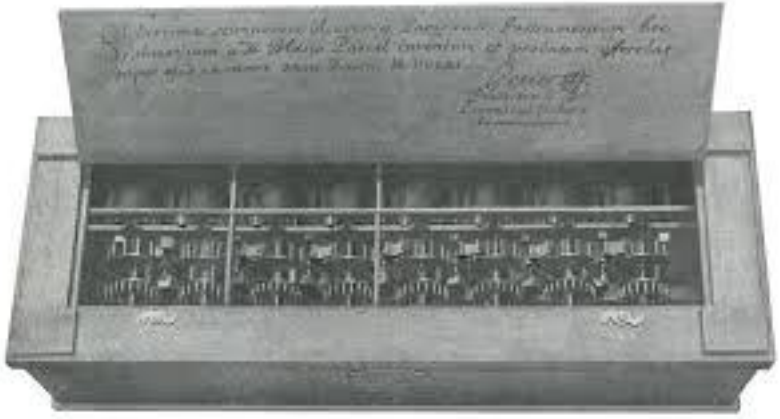
What is AI?



Algorithmi

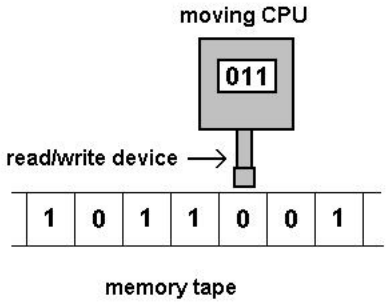
AI is the ability of a ***human*** to solve a problem that only ***mathematicians*** thought they could solve

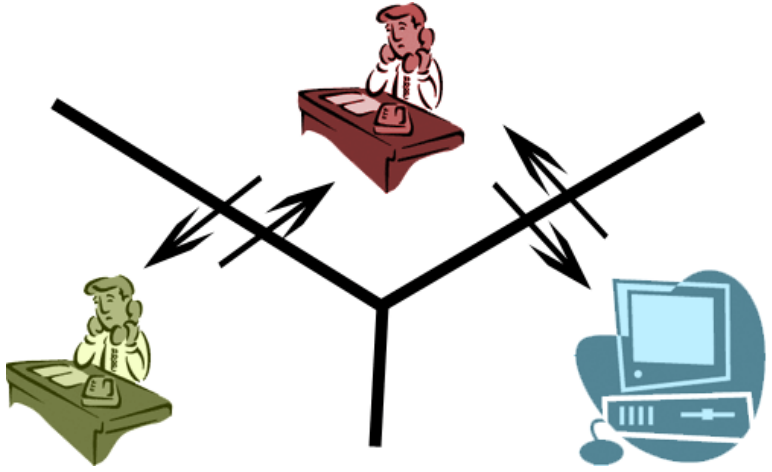
What is AI?



AI is the ability of a ***machine*** to solve a problem that only humans thought they could solve

The Universal Machine





AI is the ability of an ***algorithm*** to solve a problem that only humans thought they could solve

AI is a Prowess of Algorithms

Deep Blue: 1997

Jeopardy: 2011

Rembrand: 2016

Go: 2017


What is AI?


Why Now?

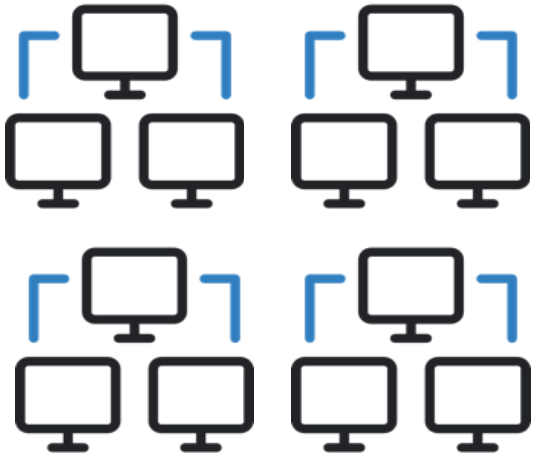

What Now?

Why Now?

Algorithms can:

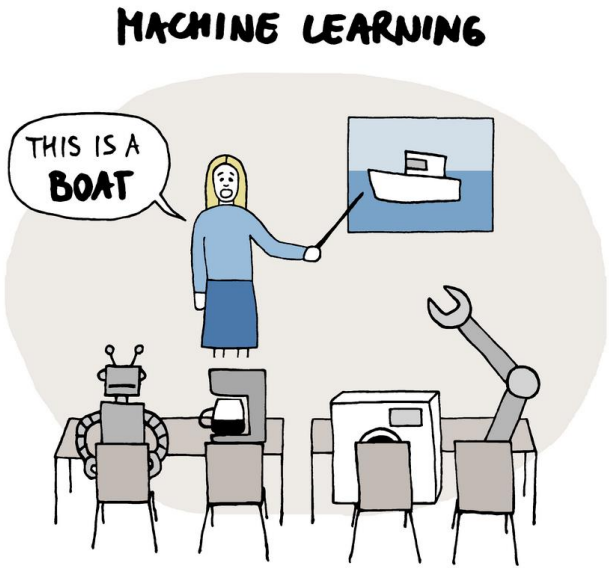
- (a) network
- (b) learn
- (c) create

Algorithms that Network



Parallel and distributed

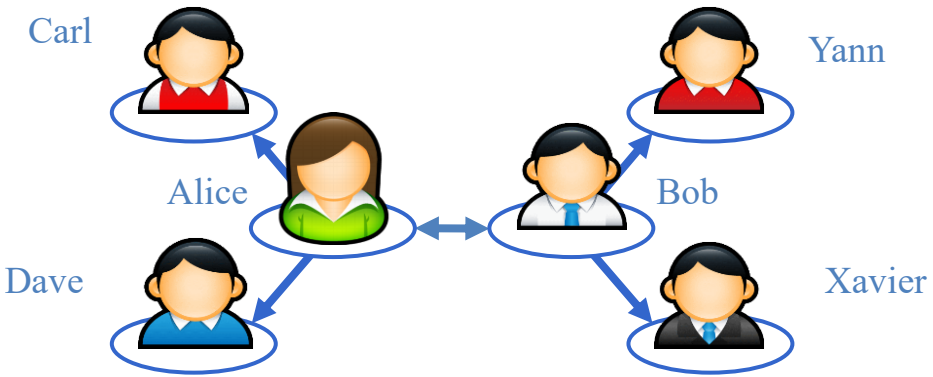
Algorithms that Learn



From data and mistakes

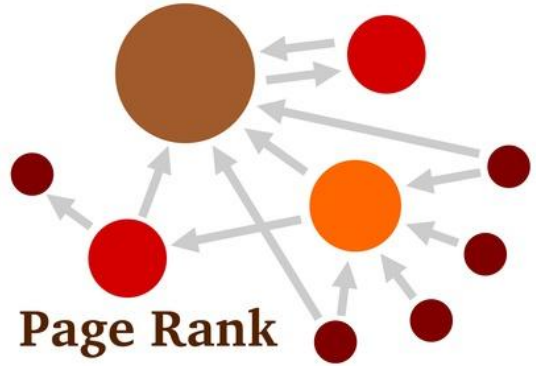
Collaborative Filtering

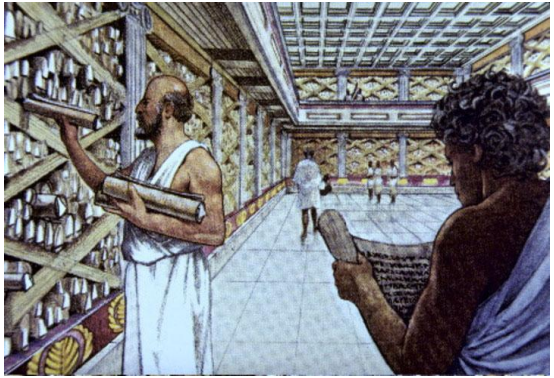
Each user has a profile



Learning from neighborgs

Algorithms that Create






What is AI?


Why Now?


What Now?

FROM CIRCUS ANIMALS TO PETS

The AI Paradox

AI In the media: Internet, finance, healthcare, logistics, law, education,manufacturing, consulting …

AI in the real world: 80% of new AI projects fail

The AI Paradox

AI is faster and makes fewer mistakes than humans

But AI makes faster and bigger mistakes

What Now?

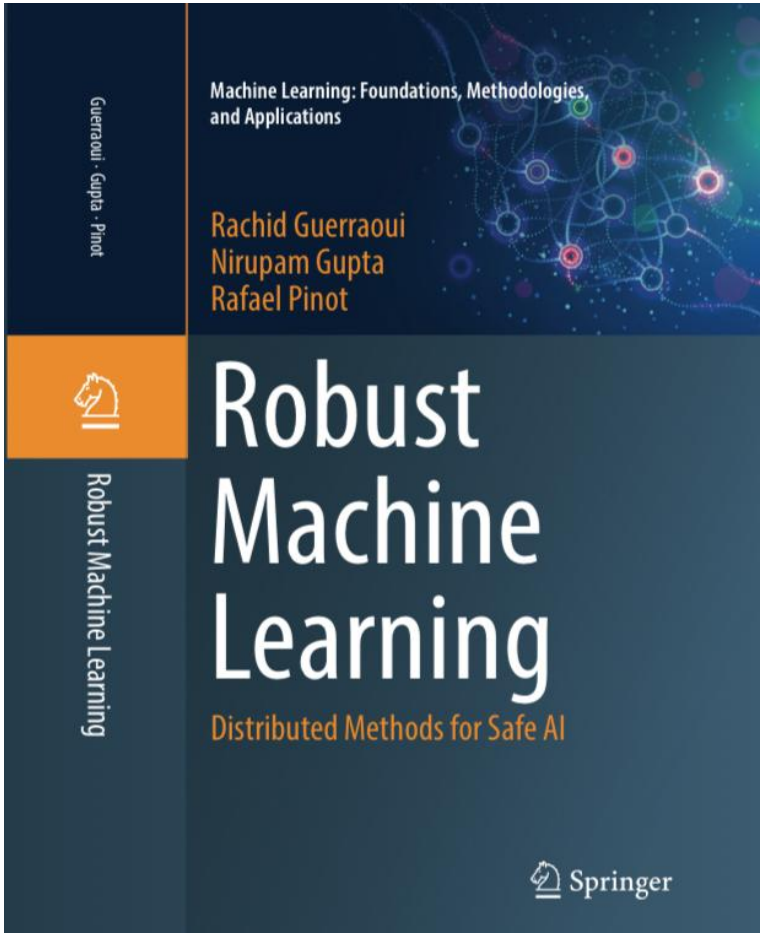
Try but beware

Can AI Verify AI?

Theorem (Turing36): algorithms cannot solve all problems (halting, printing, satisfactoriness…)

Efficiency + Privacy + Robustness

Theorem (AGS23): private, robust and efficient machine learning is hard



Anyway

Safe / Secure / Scalable