A brief history of artificial intelligence and what it can teach us

2nd Workshop on Correctness and Reproducibility for Earth System Software

Anissa Zacharias | November 7, 2025

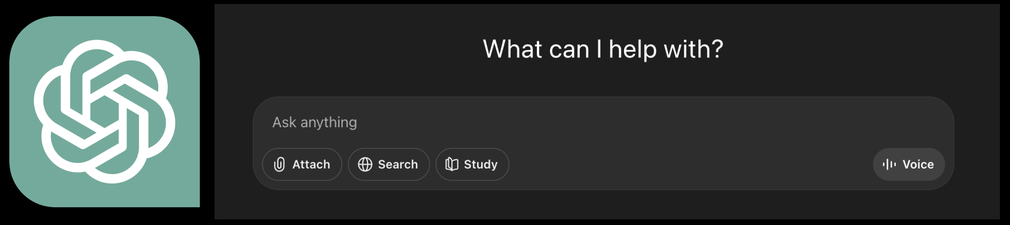
What this talk is not

- Comprehensive
- Exhaustive
- Un-opinionated
- Going to be concerned with anything else a philosophy professor would get excited about

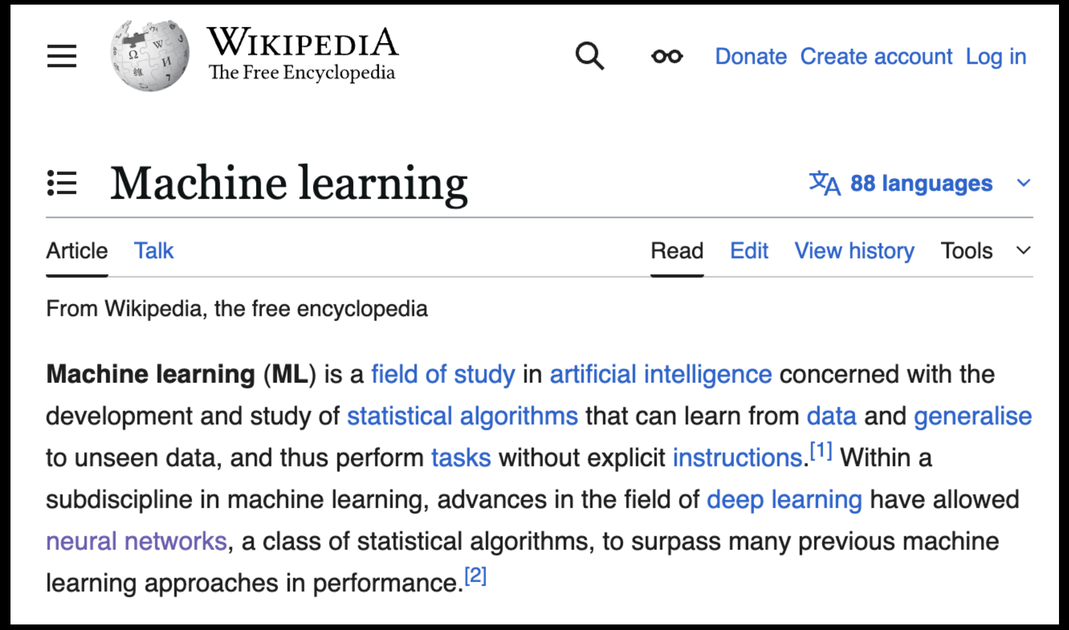
What we’re talking about when we talk about AI

PyTorch

TensorFlow

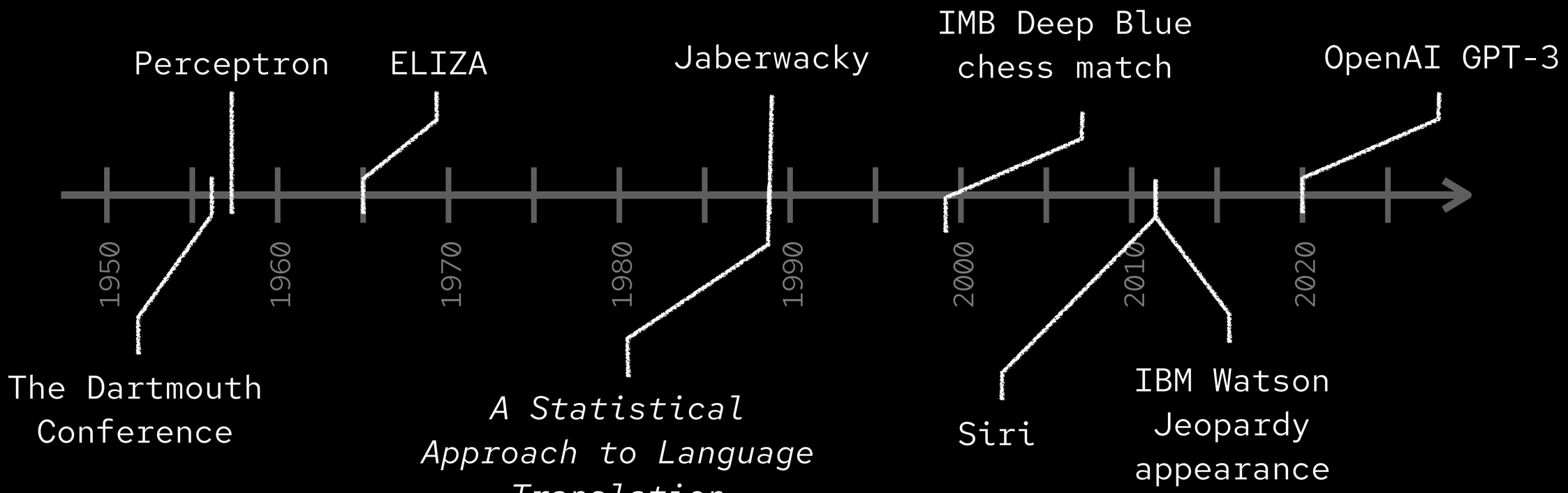


deepseek



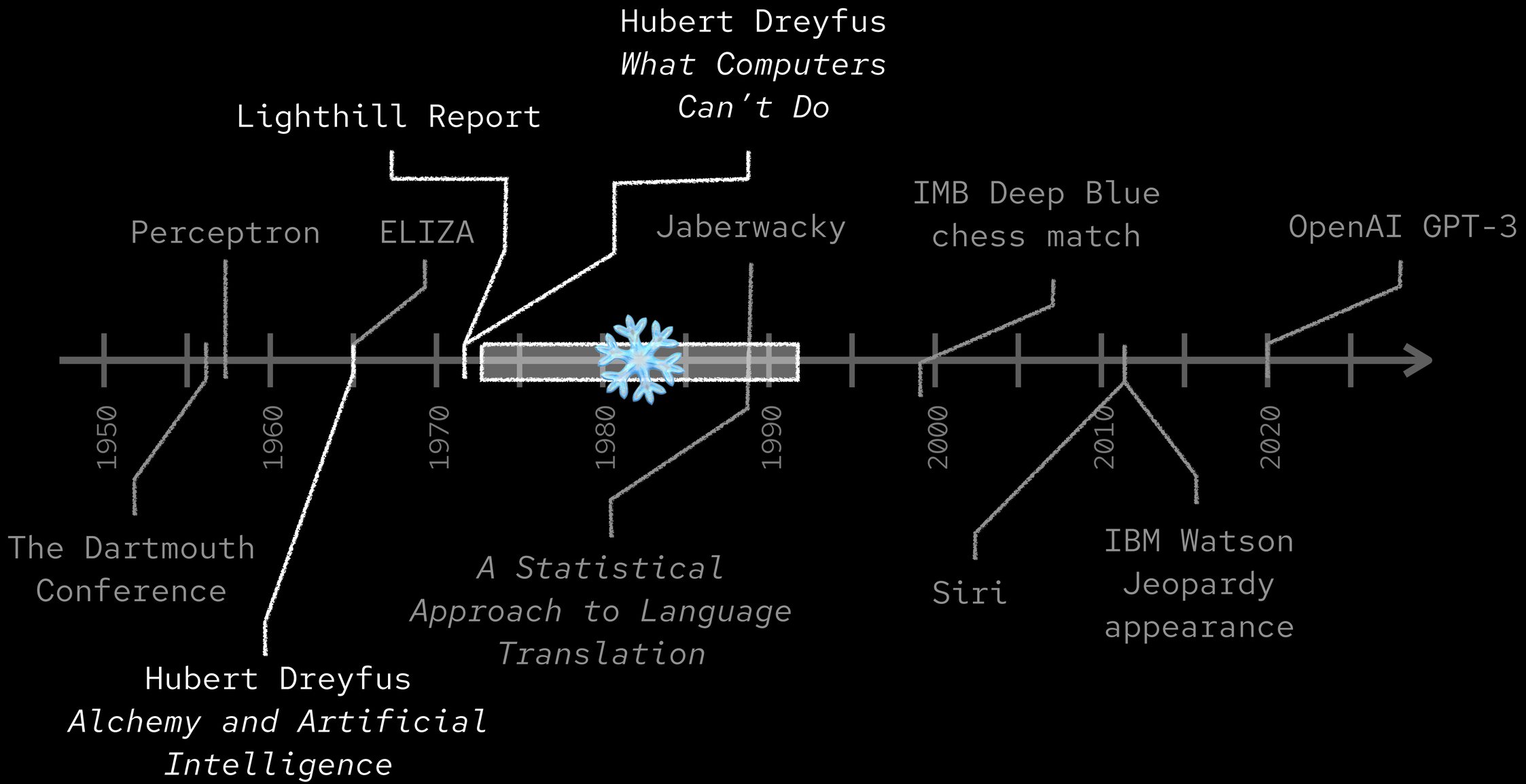
History of AI as a field

A non-exhaustive timeline



History of AI

significant criticism from the start



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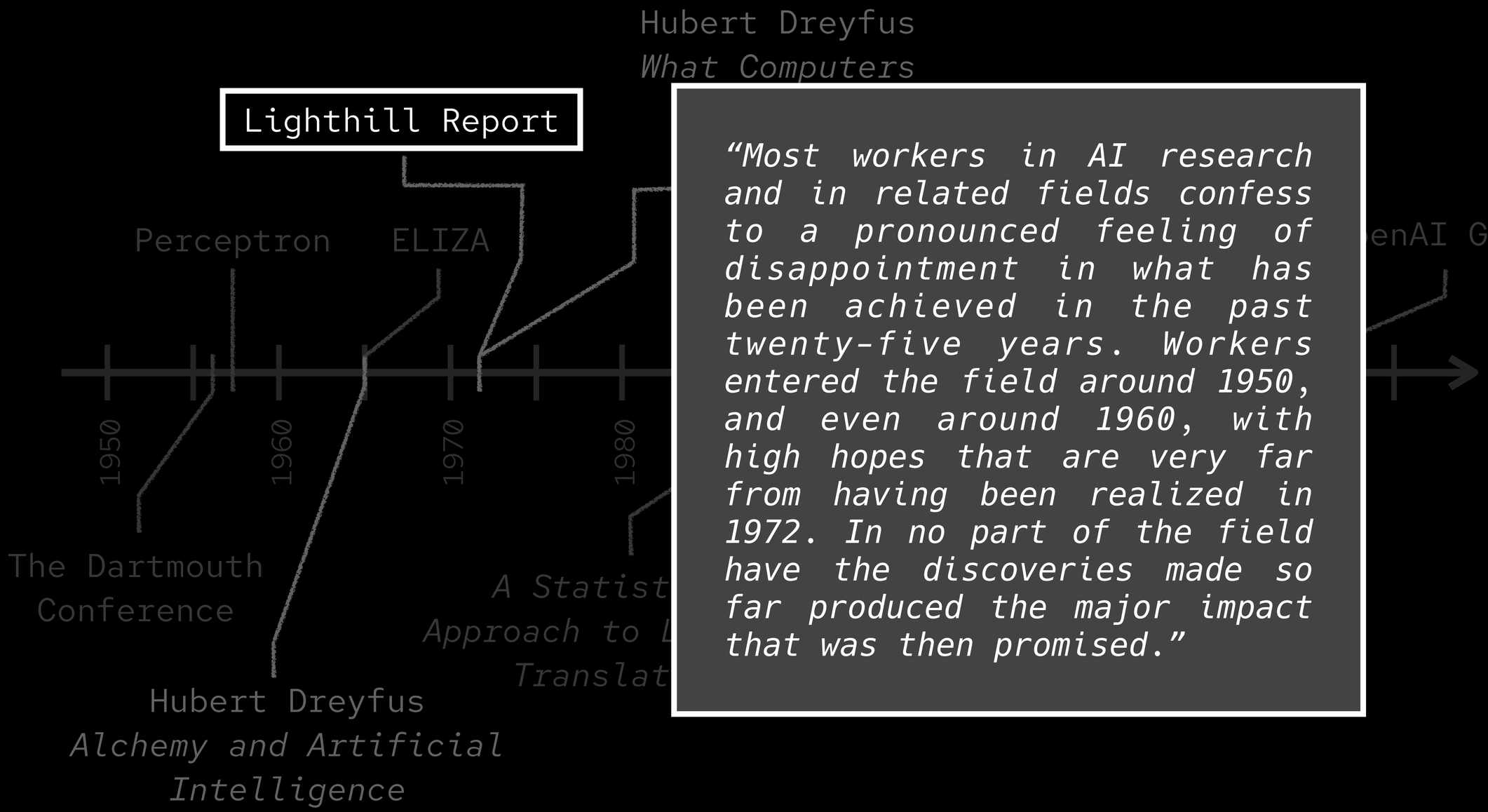


"Most workers in AI research and in related fields confess to a pronounced feeling of disappointment in what has been achieved in the past twenty-five years. Workers entered the field around 1950, and even around 1960, with high hopes that are very far from having been realized in 1972. In no part of the field have the discoveries made so far produced the major impact that was then promised."

History of AI

significant criticism from the start

Hubert Dreyfus
What Computers Can't Do

Lighthill Report

Percep

GPT-3

1950

The Dartmouth
Conference

Approach to Language
Translation

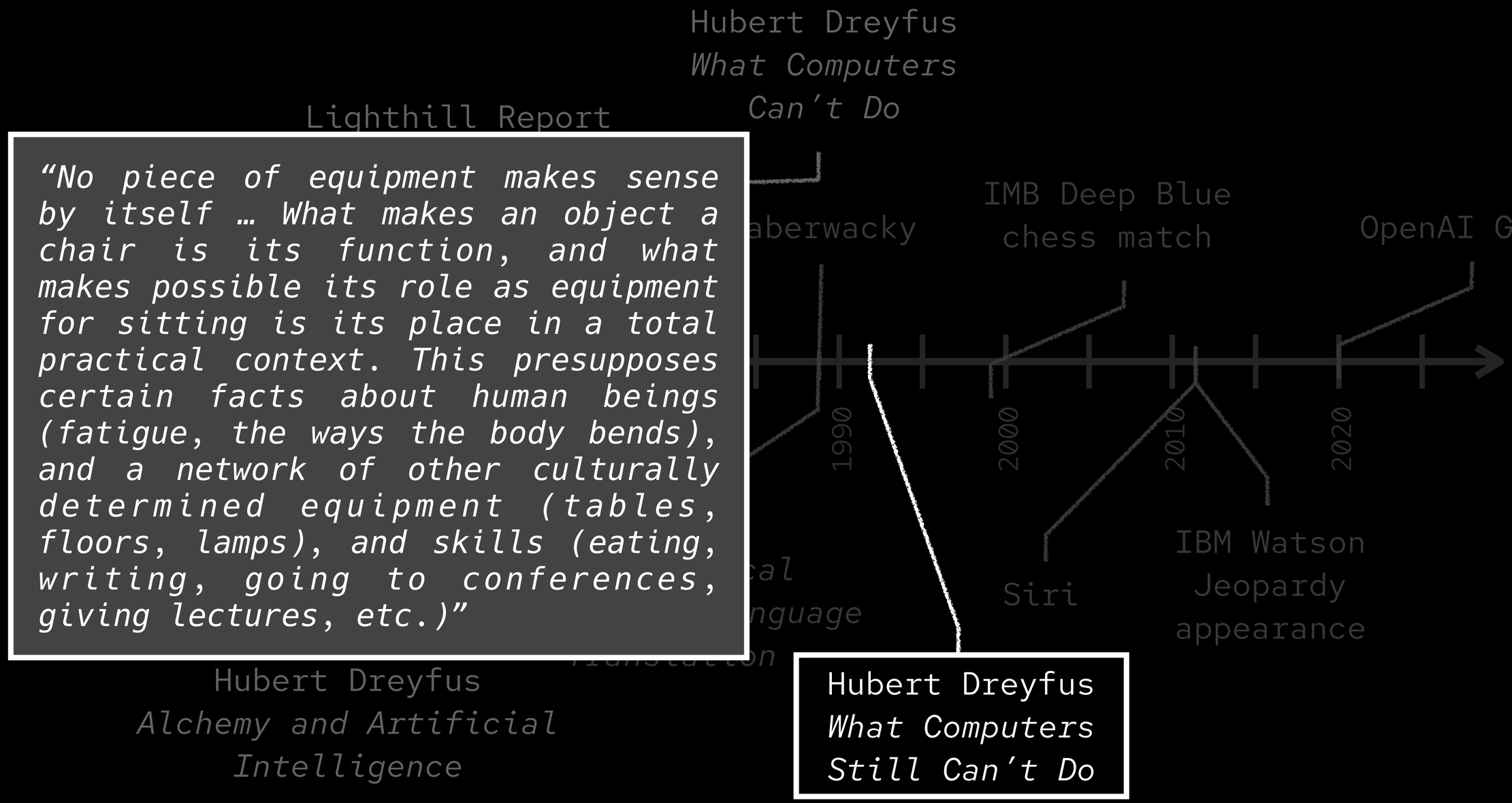
appearance

> *"It is the point of Dreyfus's book that human and artificial intelligence are in fact quite different—in particular, that human intelligence is unique. Not only that, but a great mis- understanding accounts for public confusion about thinking machines, a misunderstanding perpetrated by the unrealistic claims researchers in AI have been making, claims that thinking machines are already here, or at any rate, just around the corner."*
>
> — Pamela McCorduck, *Machines Who Think*

Hubert Dreyfus
Alchemy and Artificial Intelligence

History of AI

significant criticism from the start



History of AI

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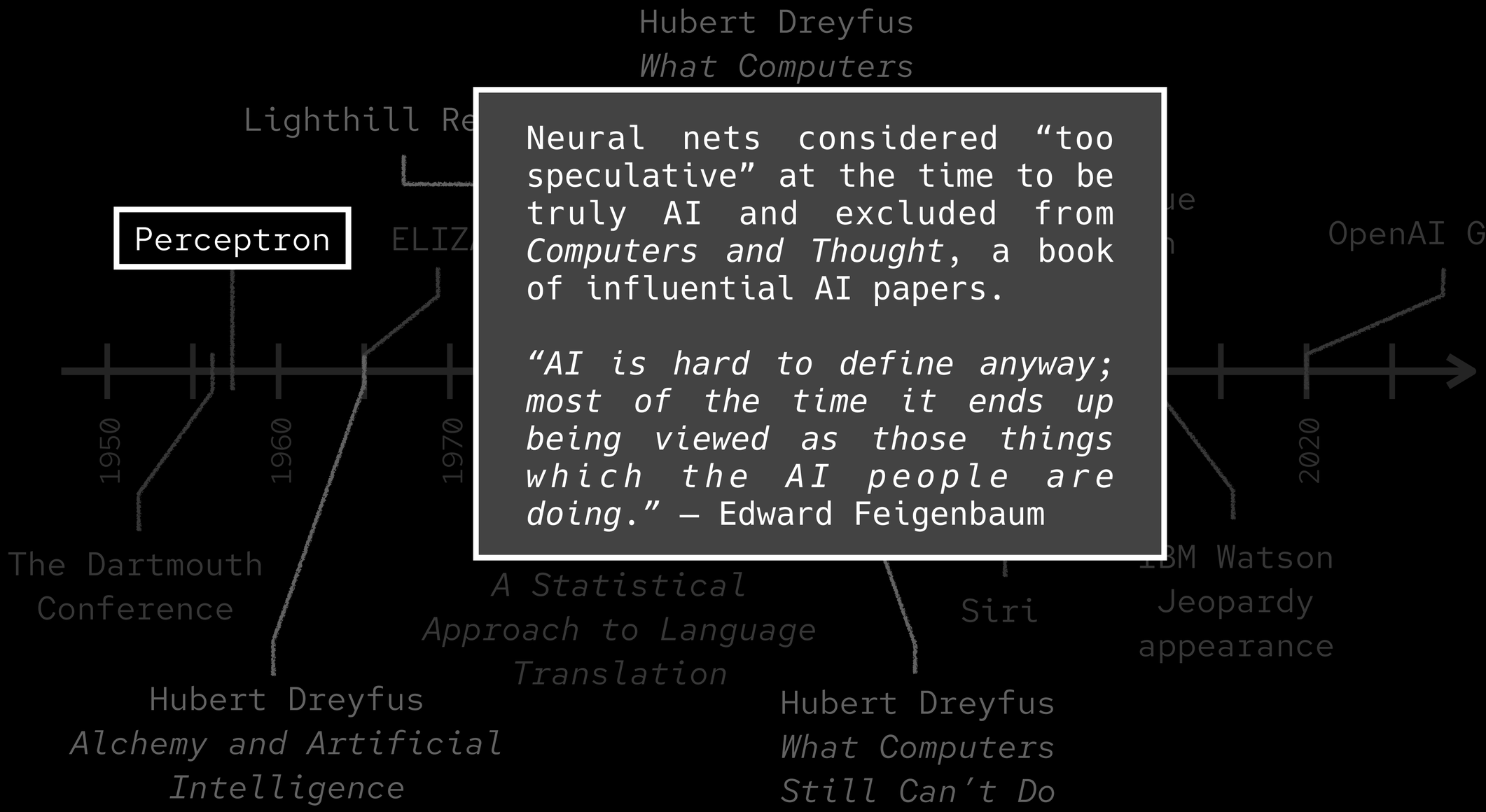


Neural nets considered "too speculative" at the time to be truly AI and excluded from *Computers and Thought*, a book of influential AI papers.

"AI is hard to define anyway; most of the time it ends up being viewed as those things which the AI people are doing." – Edward Feigenbaum

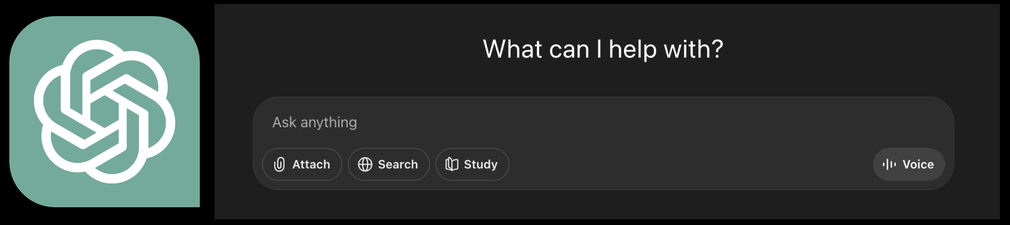
Considerations for the AI of today

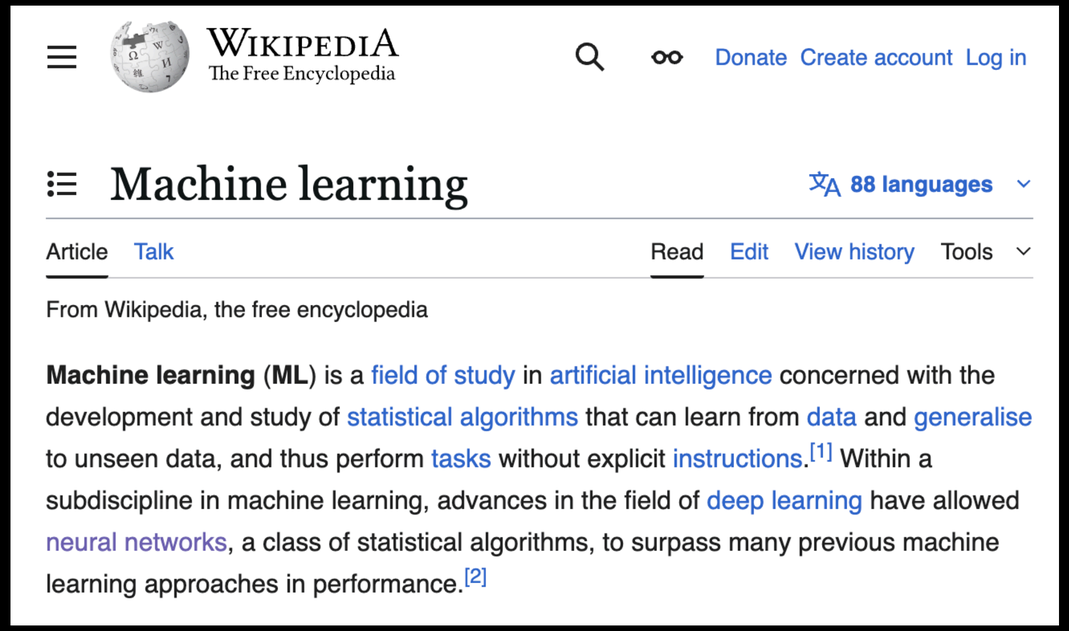
Considerations for the AI of today

What we mean when we talk about AI

PyTorch

TensorFlow





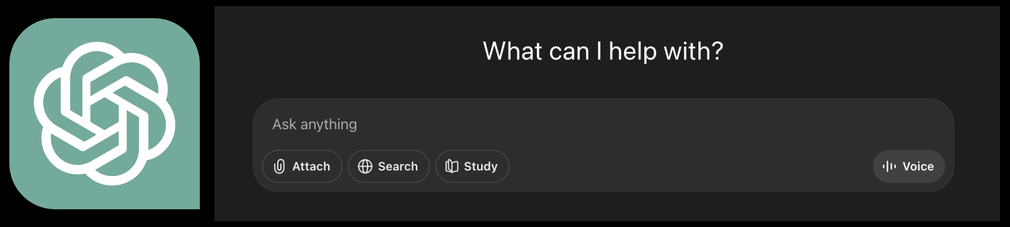
deepseek

products, generative AI, LLMs

Considerations for the AI of today

What we mean when we talk about AI

AGI



deepseek

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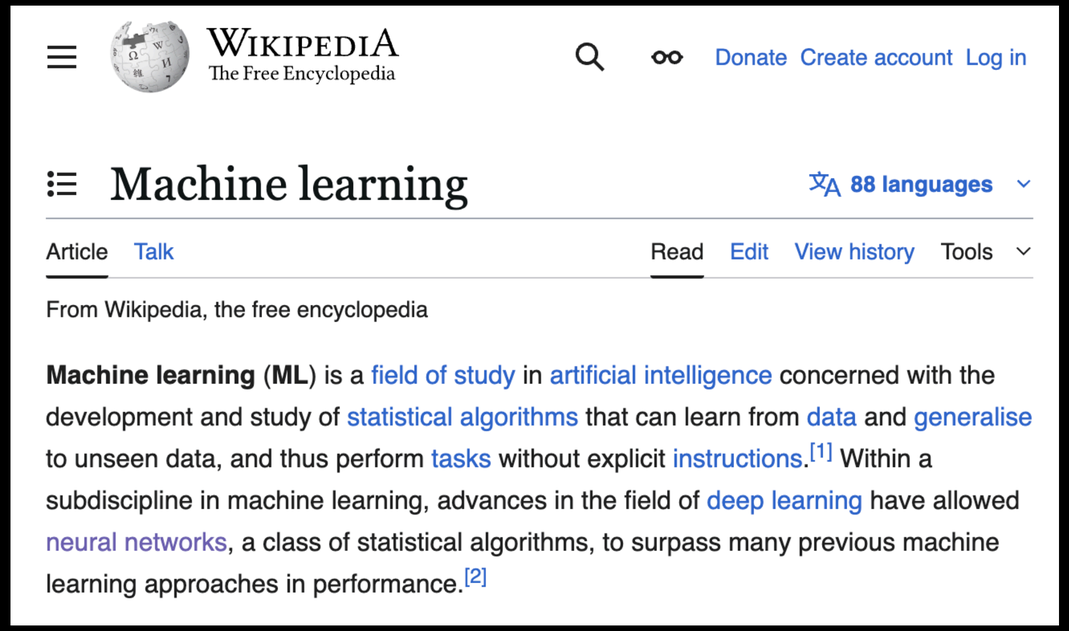


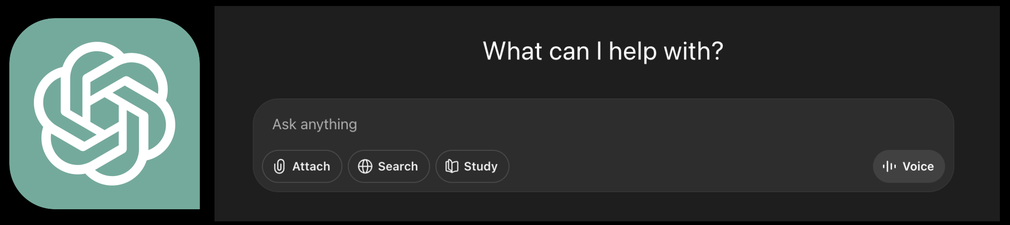
machine learning, speech recognition, classification models, etc

Considerations for the AI of today

What we mean when we talk about AI

AGI

hallucinations
thinking



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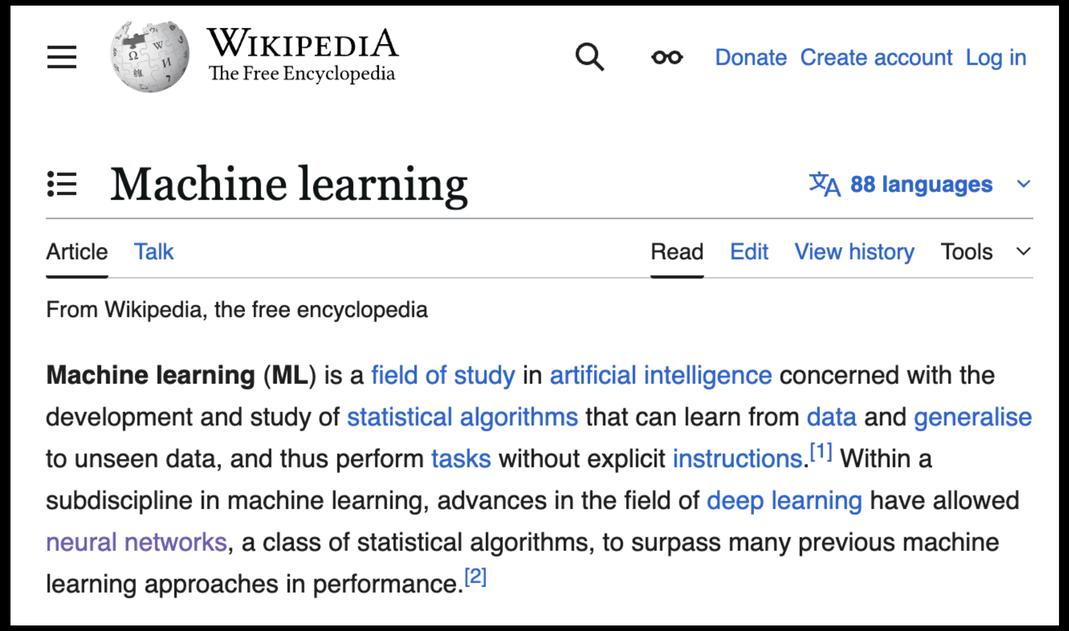


machine learning, speech recognition, classification models, etc

Considerations for the AI of today

Acknowledging limitations

Considerations for the AI of today

Acknowledging limitations

LLMs are not reproducible or verifiable

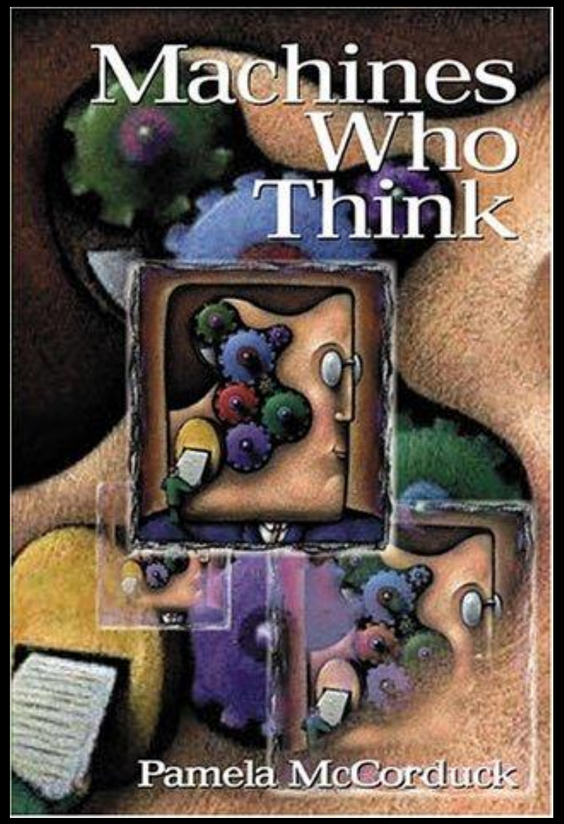
Considerations for the AI of today

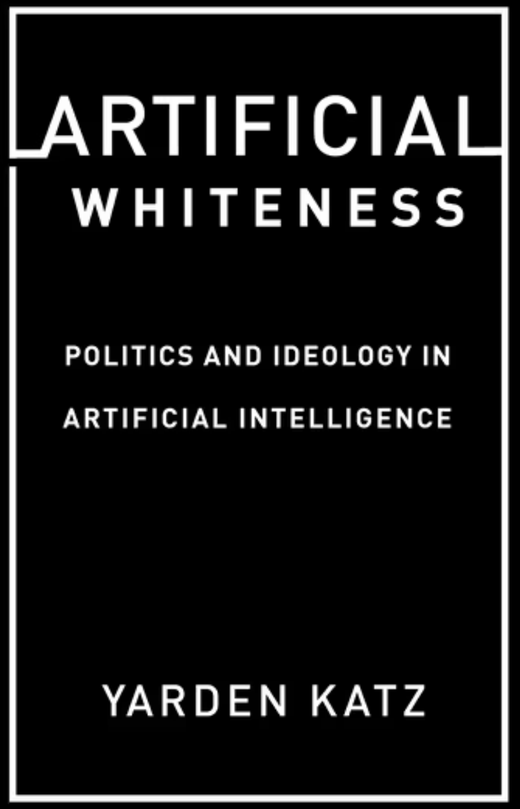
Objectivity Bias

Considerations for the AI of today

Inevitability

Sources and Supplemental Reading





- IBM - The History of AI
- Lighthill Report
- Dreyfus - *Alchemy and Artificial Intelligence*
- Dreyfus - *What Computers Can't Do*

github.com/anissa111/history-of-ai