# AI from innovation to implementation

Microsoft

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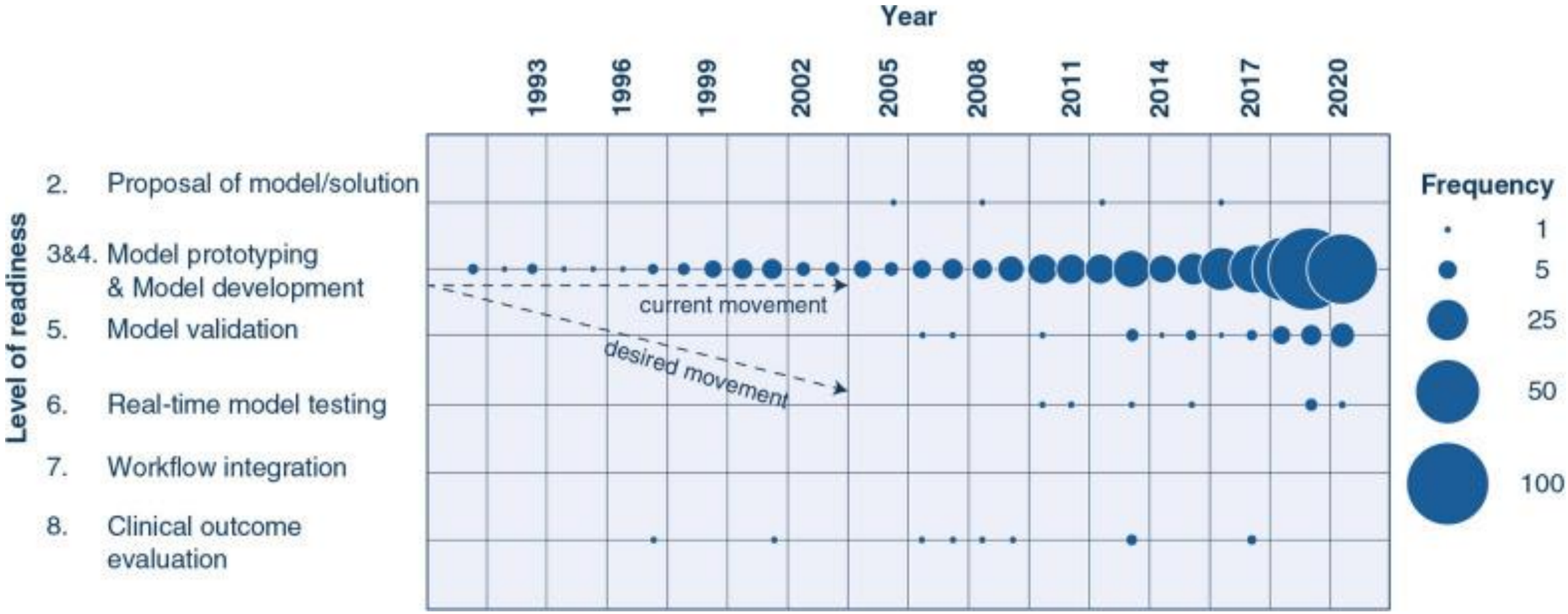
# Moving from bytes to bedside:

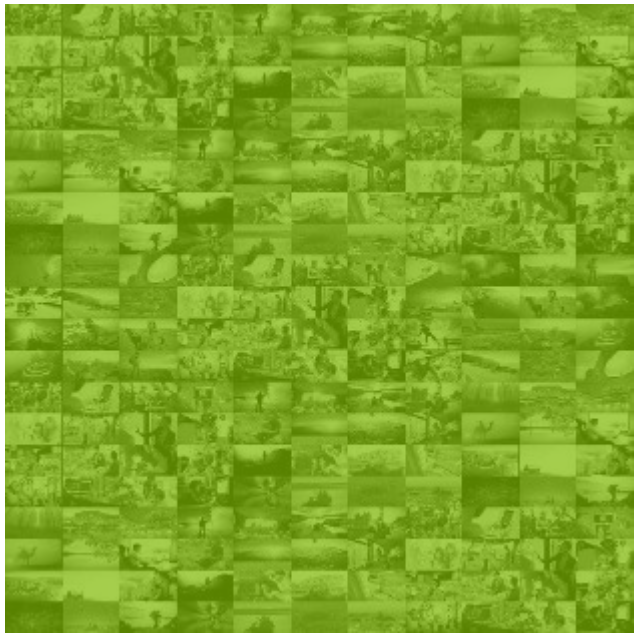
## a systematic review on the use of artificial intelligence in the intensive care unit

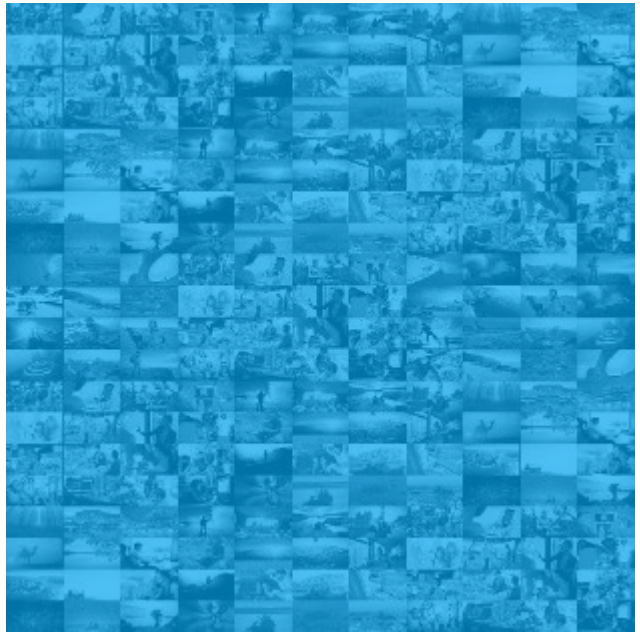



*Van de Sande et all, Intensive Care Medicine, 2021*

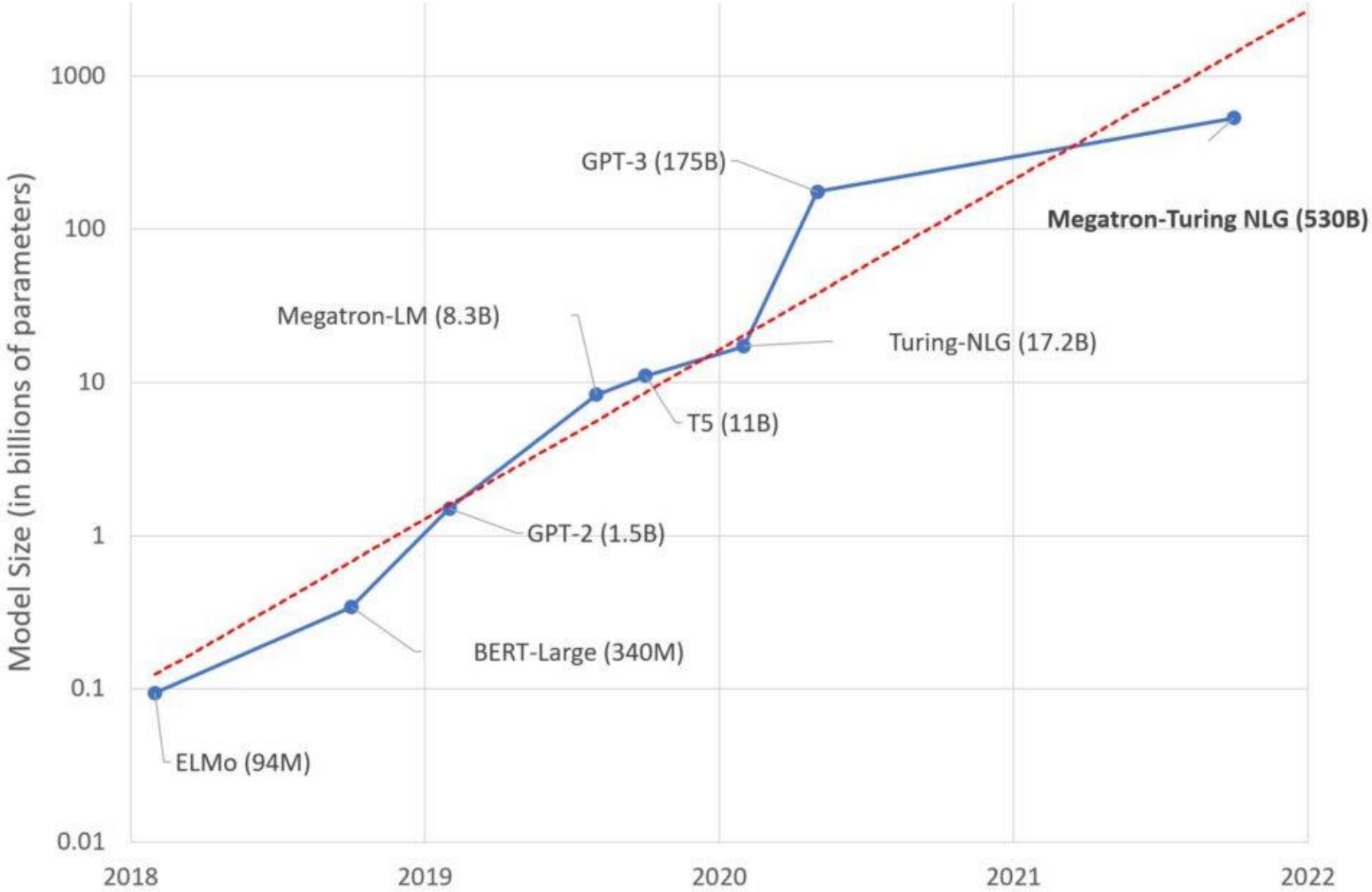
# Microsoft

Empower every person and every organization on the planet to achieve more





# GPT

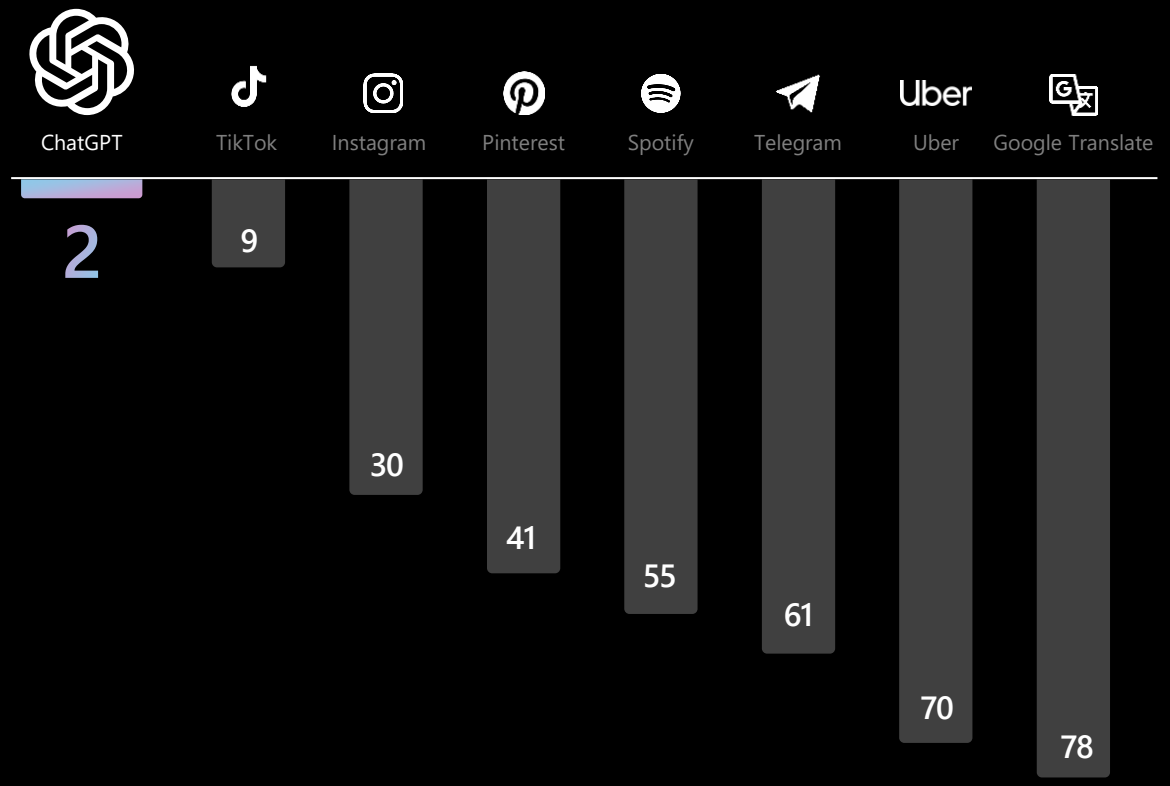



[Using DeepSpeed and Megatron to Train Megatron-Turing NLG 530B, the World's Largest and Most Powerful Generative Language Model - Microsoft Research]

Sam
Altman

Satya
Nadella

# We experience an unprecedented speed of AI adoption




Maanden om 100 miljoen gebruikers te bereiken

Bron: UBS / Yahoo Finance

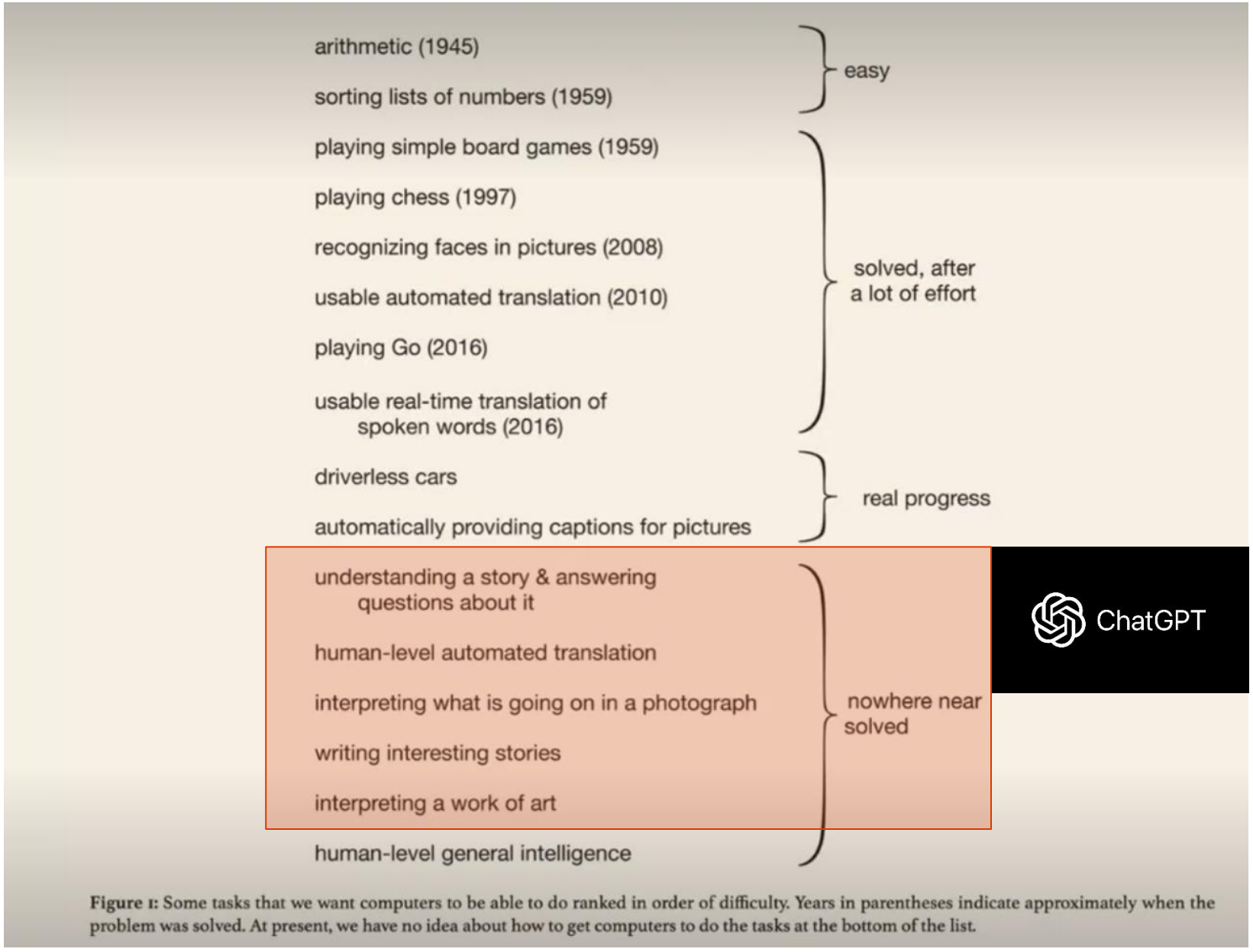
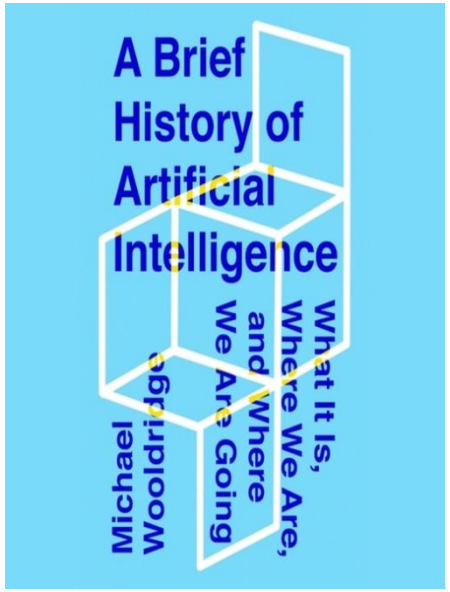



**Figure 1:** Some tasks that we want computers to be able to do ranked in order of difficulty. Years in parentheses indicate approximately when the problem was solved. At present, we have no idea about how to get computers to do the tasks at the bottom of the list.

## Professor Michael Wooldridge

Position
**Director of Foundational AI Research**

Partner Institution
**University of Oxford**

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# General AI

GPT 3.5

GPT 4

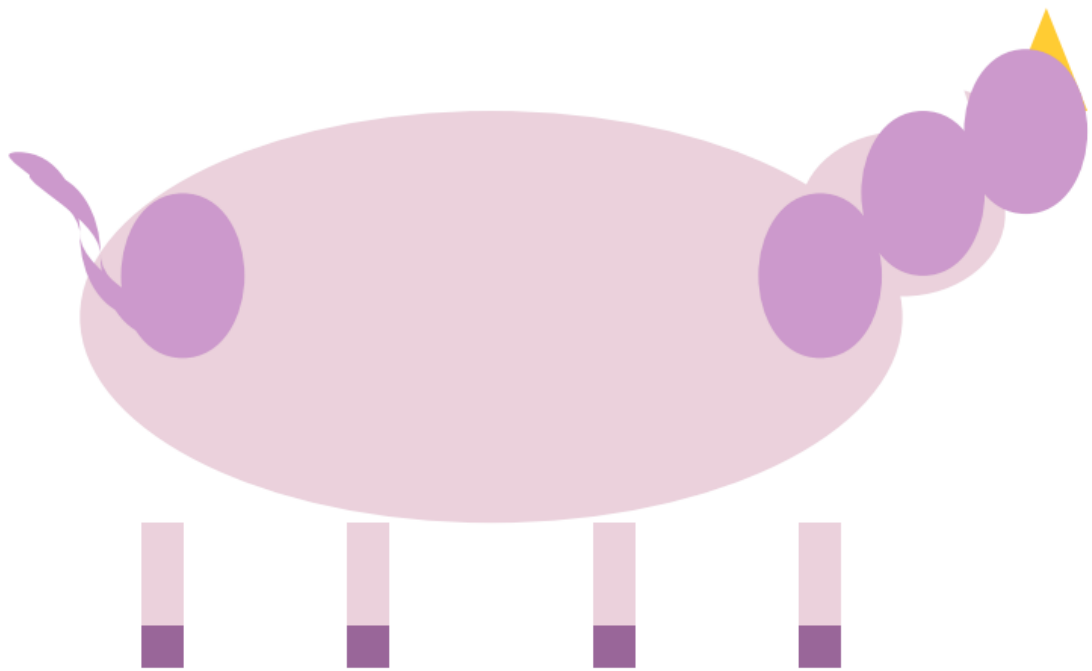
# Sparks of Artificial General Intelligence: Early experiments with GPT-4

Sébastien Bubeck Varun Chandrasekaran Ronen Eldan Johannes Gehrke
Eric Horvitz Ece Kamar Peter Lee Yin Tat Lee Yuanzhi Li Scott Lundberg
Harsha Nori Hamid Palangi Marco Tulio Ribeiro Yi Zhang

Microsoft Research

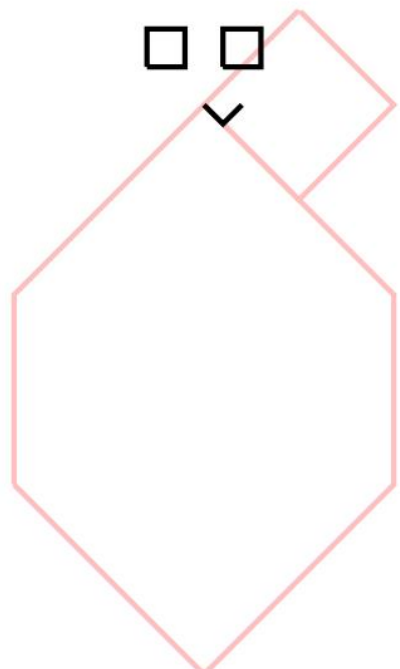
**Prompt:** Draw a unicorn in TiKZ.

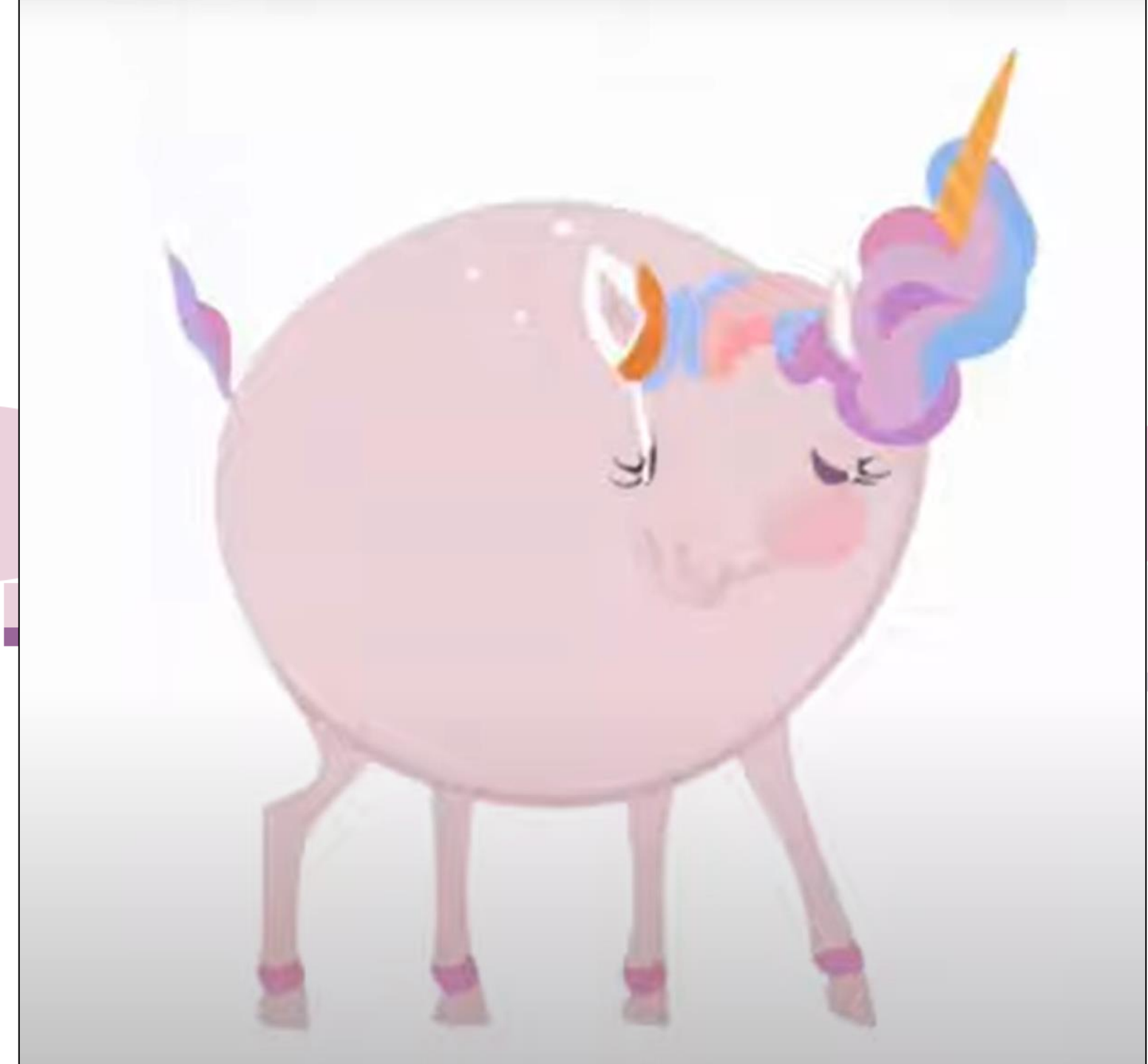
**GPT-4:** [Produces LaTeX compiling to following picture.]



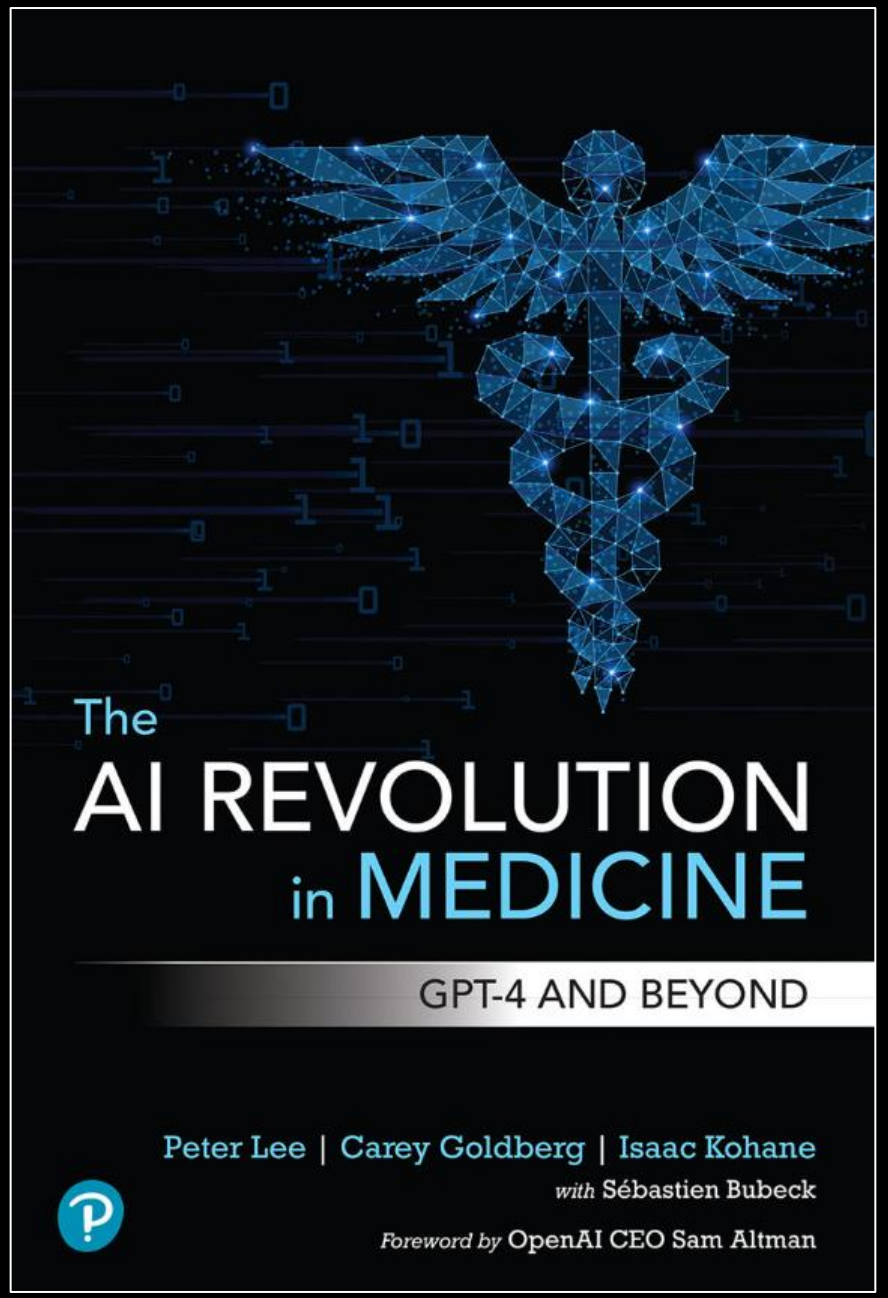
**Prompt:** Draw a unicorn in TiKZ.

**ChatGPT:** [Produces LaTeX compiling to following picture.]





# What does this mean for healthcare?


The
AI REVOLUTION
in MEDICINE
GPT-4 AND BEYOND
Peter Lee | Carey Goldberg | Isaac Kohane
with Sébastien Bubeck
Foreword by OpenAI CEO Sam Altman

# We need a Co Pilot

## The hours 23 physician specialties spend on paperwork, administration

Andrew Cass - Wednesday, April 19th, 2023

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Physical medicine and rehabilitation physicians spend 19 hours per week on paperwork and administrative tasks, according to *Medscape's* "Physician Compensation Report" for 2023.

Overall, physicians spend 15.5 hours per week on paperwork and administration, according to the report. Of that, nine hours are on EHR documentation.

Here are how many hours 23 specialties on paperwork and administrative per week:

1. Physical medicine and rehabilitation: 19 hours

T-2. Critical care: 18 hours

T-2. Internal medicine: 18 hours

T-2. Nephrology: 18 hours

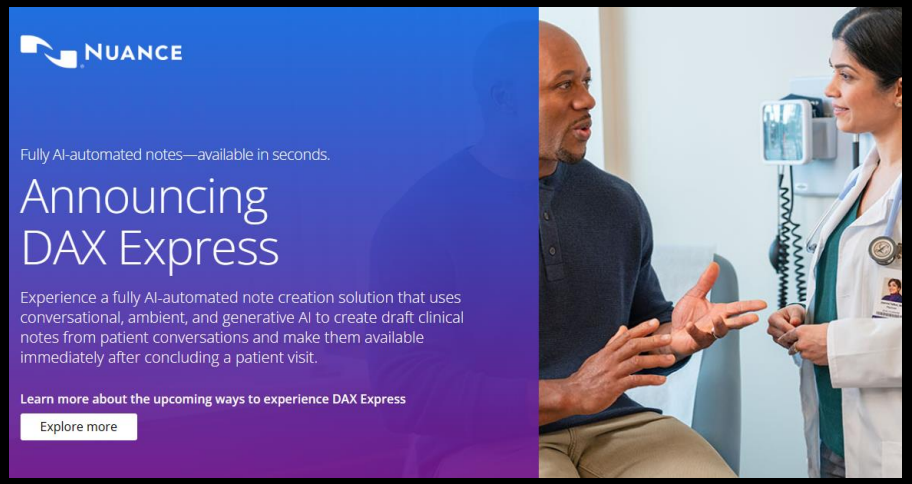
T-2. Neurology: 18 hours

T-2. Oncology: 18 hours

7. Family medicine: 17 hours

T-8. Cardiology: 16 hours

T-8. Psychiatry: 16 hours




**Automatic biomedical report generation**

**Summarizing medical and genomic data for tumor boards**

**Translating reports of external patients into actionable data**

**Tracking progress in clinical trials**

**Automatic summarization in virtual medical meetings**

Mayo Clinic to deploy and test Microsoft generative AI tools

Microsoft and Epic expand strategic collaboration with integration of Azure OpenAI Service

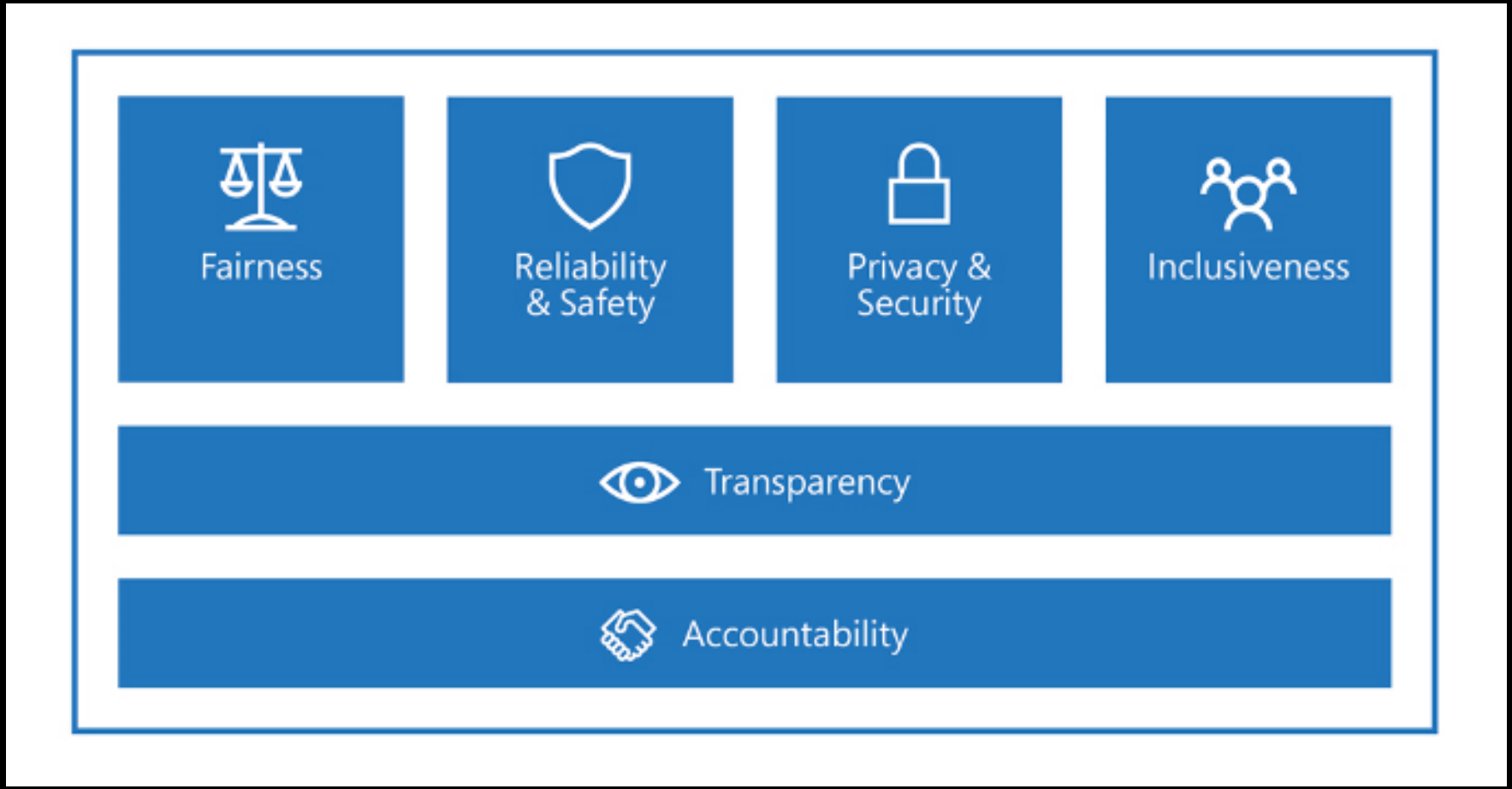
April 17, 2023 | Microsoft News Center

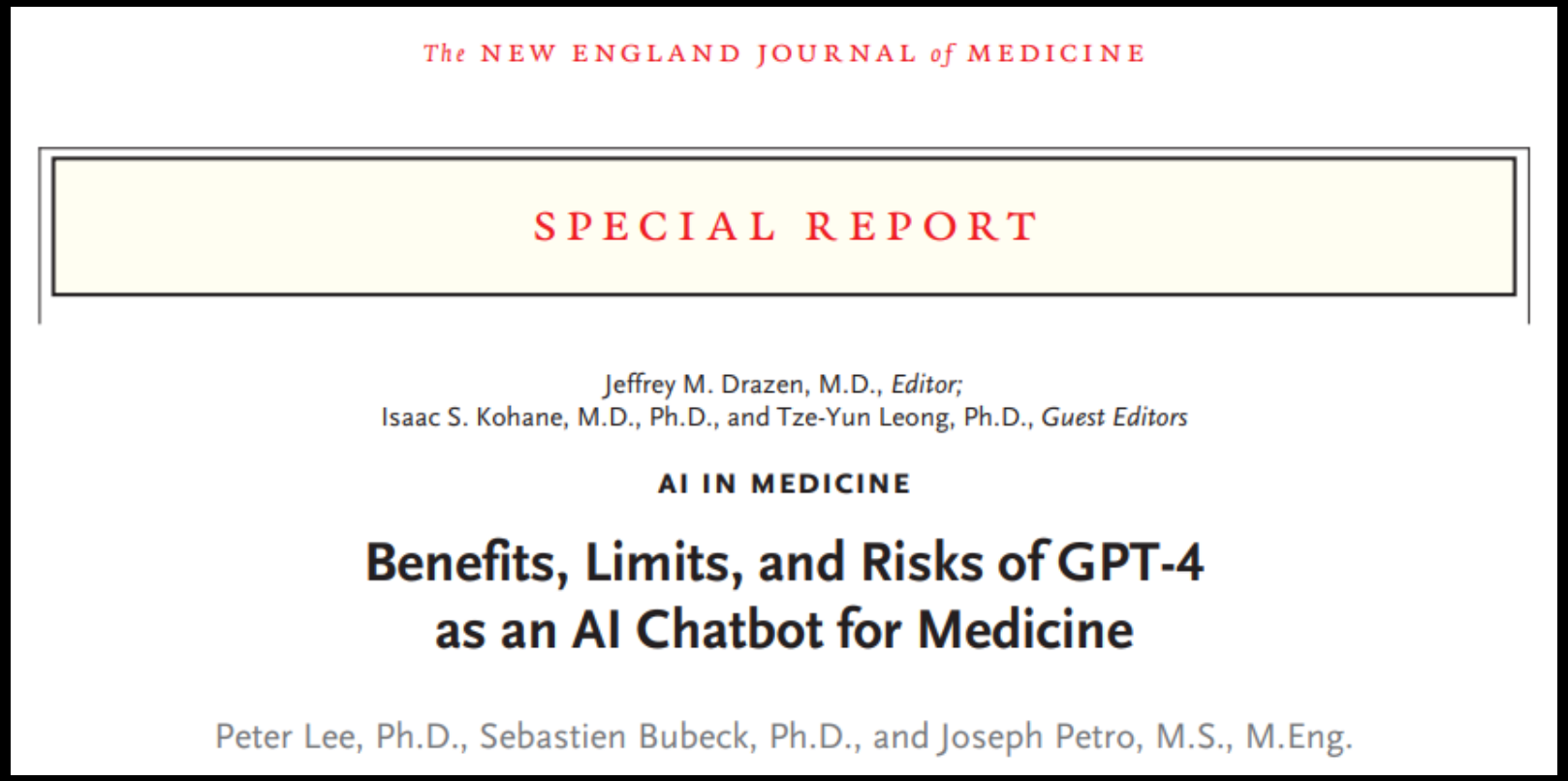
**REDMOND, Wash., and VERONA, Wis. — April 17, 2023** — Microsoft Corp. and Epic on Monday announced they are expanding their long-standing strategic collaboration to develop and integrate generative AI into healthcare by combining the scale and power of Azure OpenAI Service[1] with Epic's industry-leading electronic health record (EHR) software. The collaboration expands the long-standing partnership, which includes enabling organizations to run Epic environments on the Microsoft Azure cloud platform.

This co-innovation is focused on delivering a comprehensive array of generative AI-powered solutions integrated with Epic's EHR to increase productivity, enhance patient care and improve financial integrity of health systems globally. One of the initial solutions is already underway, with UC San Diego Health, UW Health in Madison, Wisconsin, and Stanford Health Care among the first organizations starting to deploy enhancements to automatically draft message responses.

# GPT hallucinates

# Microsoft responsible AI principles





The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL REPORT

Jeffrey M. Drazen, M.D., *Editor;*
Isaac S. Kohane, M.D., Ph.D., and Tze-Yun Leong, Ph.D., *Guest Editors*

AI IN MEDICINE

# Benefits, Limits, and Risks of GPT-4 as an AI Chatbot for Medicine

Peter Lee, Ph.D., Sebastien Bubeck, Ph.D., and Joseph Petro, M.S., M.Eng.

"The question regarding what is considered to be acceptable performance of general AI remains to be answered."

# AI from innovation to implementation

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