



INNOVATING WITH DATA & AI IN LIFE SCIENCES

Chitrang Dave
AI and Advanced Analytics



WILL AI BE USEFUL IN HEALTHCARE?

AGENDA

The background of the slide is a photograph of a multi-story urban building. The building has a mix of grey stone and bright red brick facades. A black metal fire escape is attached to the red brick side of the building, with several balconies. Arched windows are visible on both sections of the building. A utility pole with wires is in the foreground. A large red shape overlaps the top left corner of the image, containing the word 'AGENDA' in white.

Introduction

Where do we stand?

Why should you care?

Opportunities with data & AI

Final tips & takeaways

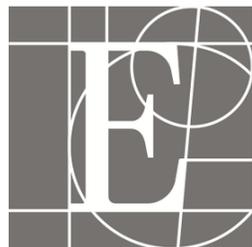
INTRODUCTION

Data, Analytics, AI

Software & Technology

18 years in MedTech

8+ years in consulting



Edwards



WEATHERHEAD
SCHOOL OF MANAGEMENT

CASE WESTERN RESERVE
UNIVERSITY



Chitrang Davé

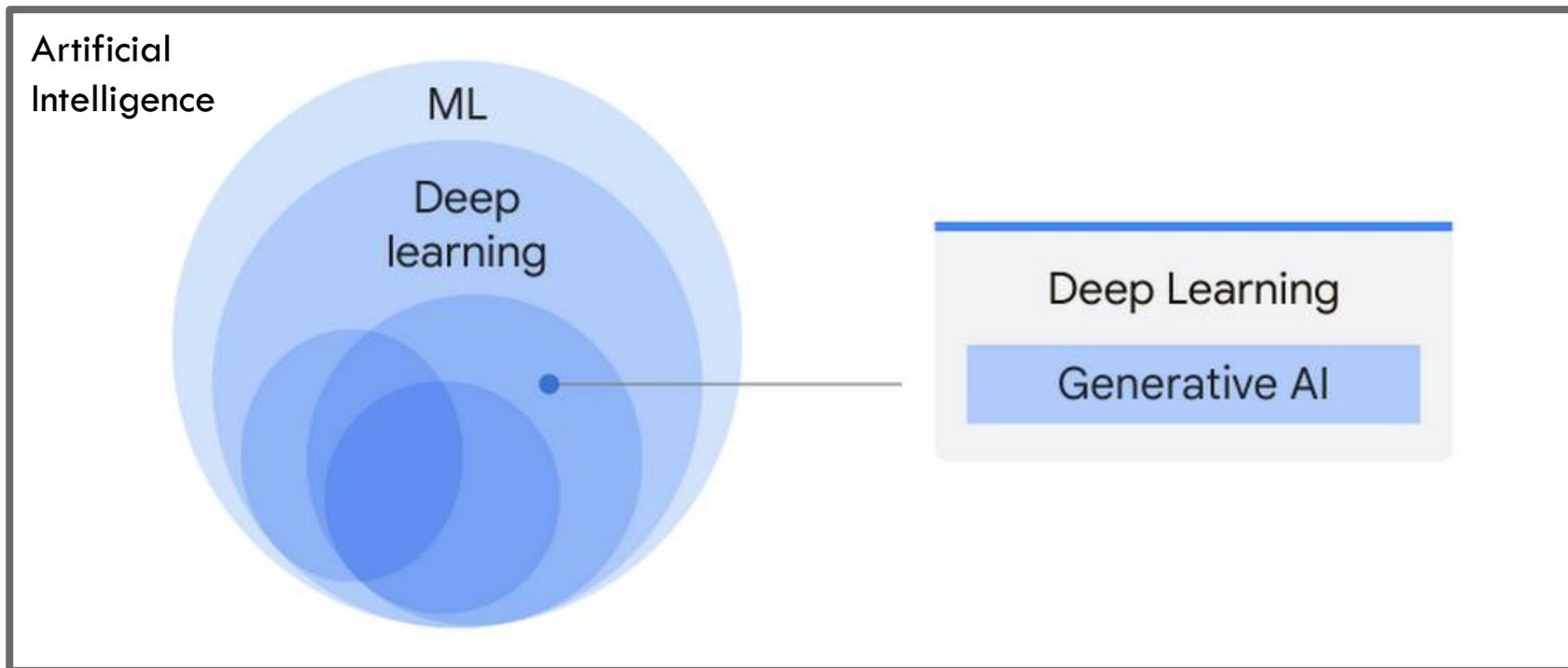
Data + Analytics + AI + Technology in
Healthcare & Life Sciences | Chief Dat...





**WHERE DO WE STAND?
DATA & AI IN LIFE SCIENCES**

FROM AI TO GENAI



MODELS ARE IMPROVING...

Major Large Language Models (LLMs)

ranked by capabilities, sized by billion parameters used for training

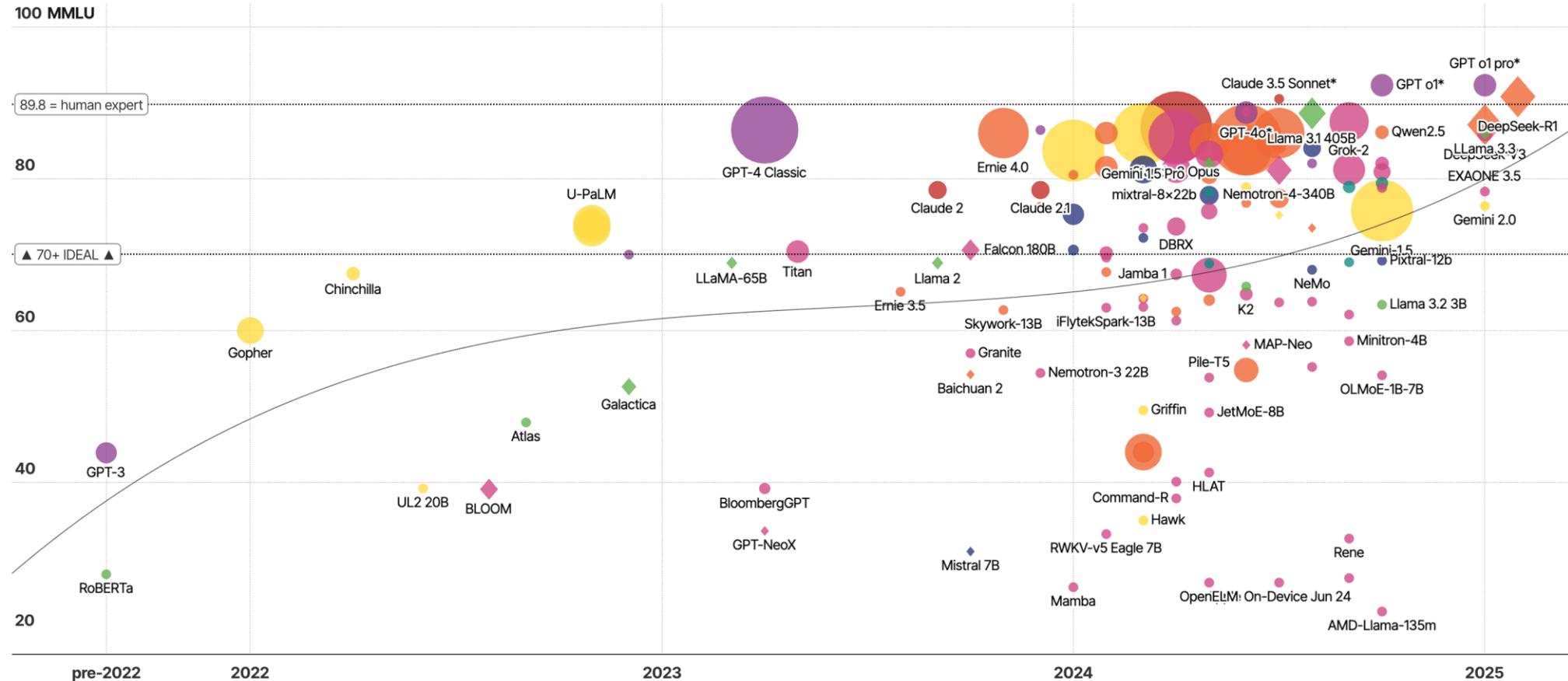
CLICK LEGEND ITEMS TO FILTER

anthropic chinese google meta microsoft mistral openAI other

Parameters (Bn) open access

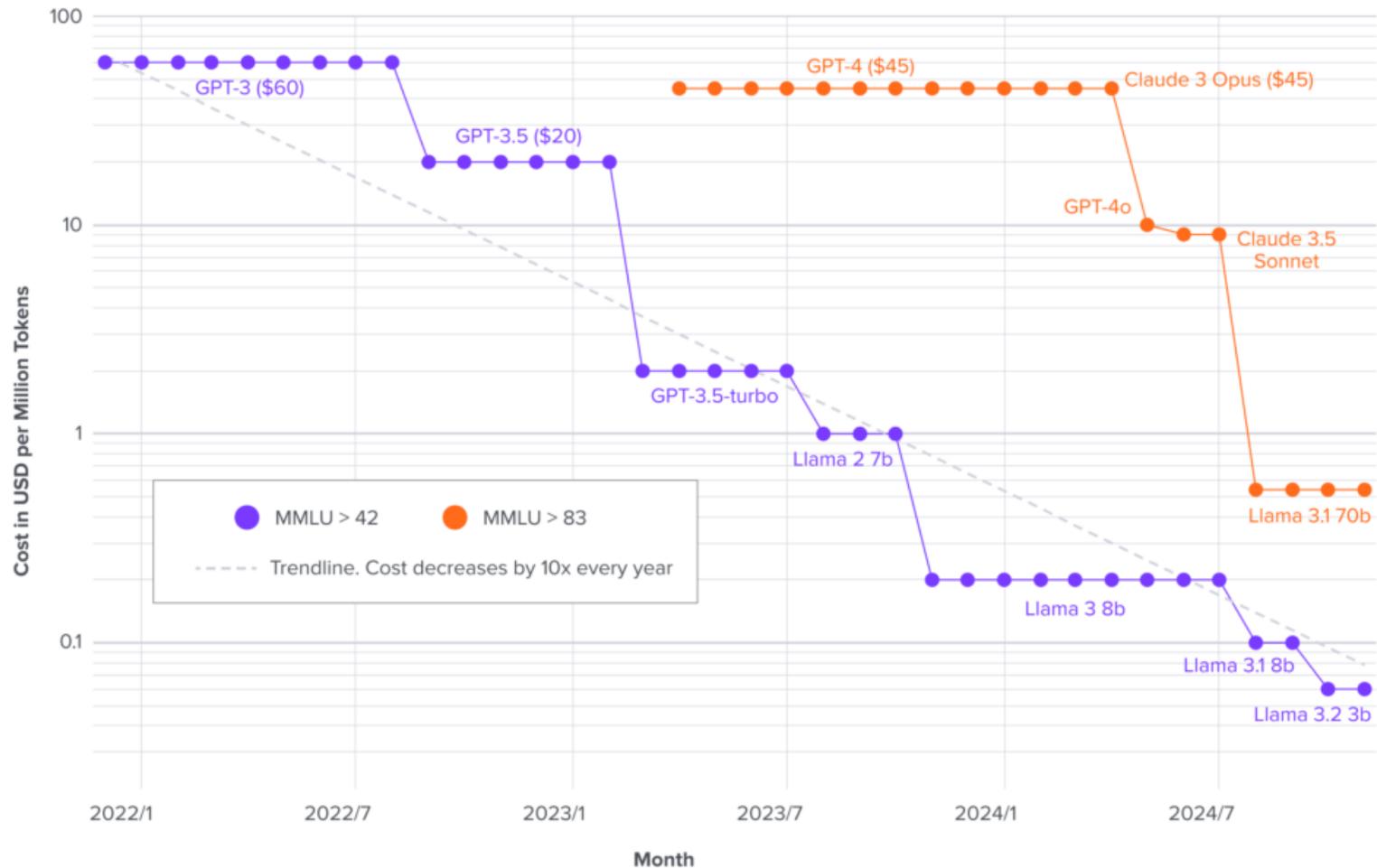
search...

show only: all



... AND COSTS ARE FALLING!

Cost of the Cheapest LLM with a Minimum MMLU Score (Log Scale)



LLM BENCHMARK – AS OF 2/11/2025

Model	Organization	Global Average	Reasoning Average	Coding Average	Mathematics Average	Data Analysis Average	Language Average	IF Average
o3-mini-2025-01-31-high	OpenAI	75.88	89.58	82.74	77.29	70.64	50.68	84.36
o1-2024-12-17-high	OpenAI	75.67	91.58	69.69	80.32	65.47	65.39	81.55
deepseek-r1	DeepSeek	71.57	83.17	66.74	80.71	69.78	48.53	80.51
o3-mini-2025-01-31-medium	OpenAI	70.01	86.33	65.38	72.37	66.56	46.26	83.16
gemini-2.0-flash-thinking-exp-01-21	Google	66.92	78.17	53.49	75.85	69.37	42.18	82.47
gemini-2.0-pro-exp-02-05	Google	65.13	60.08	63.49	70.97	68.02	44.85	83.38
gemini-exp-1206	Google	64.09	57.00	63.41	72.36	63.16	51.29	77.34
o3-mini-2025-01-31-low	OpenAI	62.45	69.83	61.46	63.06	62.04	38.25	80.06
qwen2.5-max	Alibaba	62.29	51.42	64.41	58.35	67.93	56.28	75.35
gemini-2.0-flash	Google	61.47	55.25	53.92	65.62	67.55	40.69	85.79
deepseek-v3	DeepSeek	60.45	56.75	61.77	60.54	60.94	47.48	75.25
gemini-2.0-flash-exp	Google	59.26	59.08	54.36	60.39	61.67	38.22	81.86
claude-3-5-sonnet-20241022	Anthropic	59.03	56.67	67.13	52.28	55.03	53.76	69.30
chatgpt-4o-latest-2025-01-29	OpenAI	57.79	57.92	60.56	48.02	66.00	49.14	65.07



OPPORTUNITIES WITH DATA & AI

In Healthcare & Life Sciences

CLINICAL TRAILS



Patient
Identification



Study Design



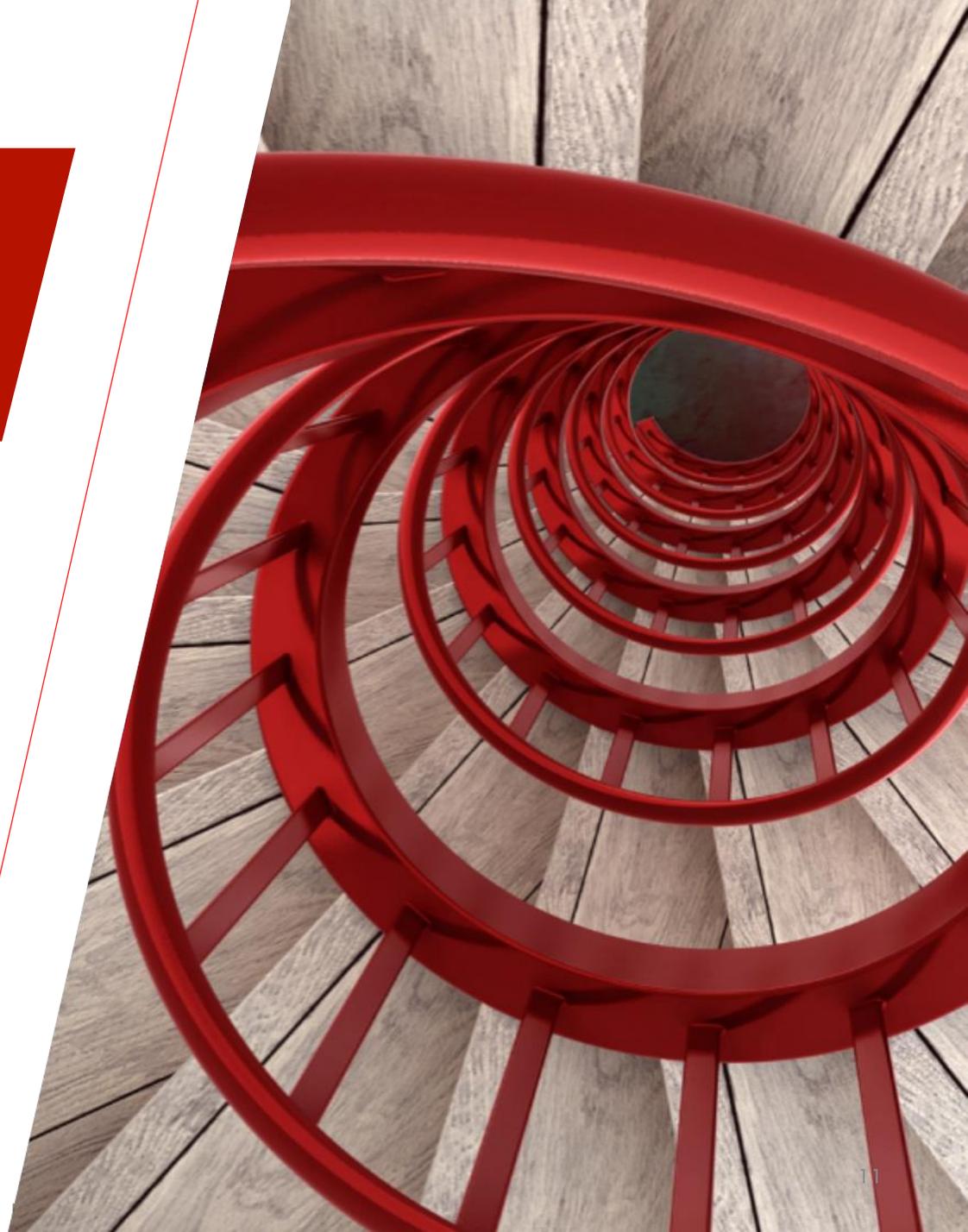
Enrollment
support



Trial
Management



Patient
support



RESEARCH & DEVELOPMENT



Drug
Discovery



Literature
Research



Data
Analysis



Synthetic
Data



Modeling



Physician
input



Imaging



COMMERCIALIZATION



Manufacturing
Efficiency



Supply
Management



Content
Management



Physician Identification
and Support



FINAL TIPS & TAKEAWAYS

INVEST IN HIGH QUALITY DATA

LET AI TO HELP YOU SCALE

EXPERIMENT & ITERATE

GET BETTER AT PROMPTING



WILL AI BE USEFUL IN HEALTHCARE?



**HOW CAN WE USE AI EFFECTIVELY IN
HEALTHCARE?**

THANK YOU



Chitrang Davé

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Healthcare & Life Sciences | Chief Dat...



RESROUCES

nvidia – Health and Life Sciences: <https://www.nvidia.com/en-us/industries/healthcare-life-sciences/>

Slalom: <https://www.slalom.com/us/en/industries/life-sciences>

Snowflake: <https://www.snowflake.com/en/solutions/industries/healthcare-and-life-sciences/>

Databricks: <https://www.databricks.com/solutions/industries/healthcare-and-life-sciences>

Google: <https://cloud.google.com/solutions/healthcare-life-sciences>

LiveBench: <https://livebench.ai>

Rise of GenAI: <https://informationisbeautiful.net/visualizations/the-rise-of-generative-ai-large-language-models-llms-like-chatgpt>