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Reimagining Living

Navigating Life in the Age of Artificial Intelligence

A map for our discussion today

WHY ME

WHAT IS AI, AND WHAT IS IT NOT

WHERE ARE WE GOING

WHAT CAN WE DO



SECTION 1 | SOME CONTEXT FOR A COMPOSER

Why Me? (And what does that mean?)





This is not my background, at all.

All of my training is in acoustic music composition

In 2017 I started learning to design for virtual environments for music composition

This led to me creating several VR/MR apps, expanding from music into designing medical simulations, athletic training apps, and private industry projects

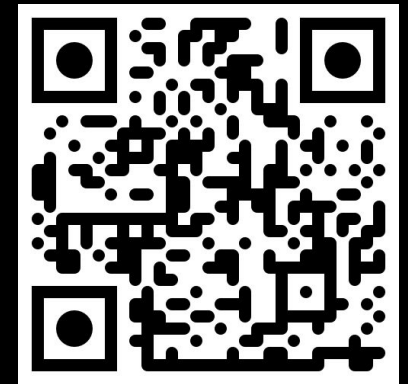
Fundamentally: this is all art and design

AI technology has been closely tied to XR (VR/AR/MR/Spatial Computing) and I have followed it as closely as I could

Currently serving as the Director of Emerging Technologies, Instruction and Research at Illinois State University

But I am still a *composer*

And that is an **important**



roydmagnuson.com

Why that is important

Attack this situation as an **artist**

Learn as a curious **AI non-native**

Synthesize for my colleagues and students

The very nature of this technology is what makes this **possible**

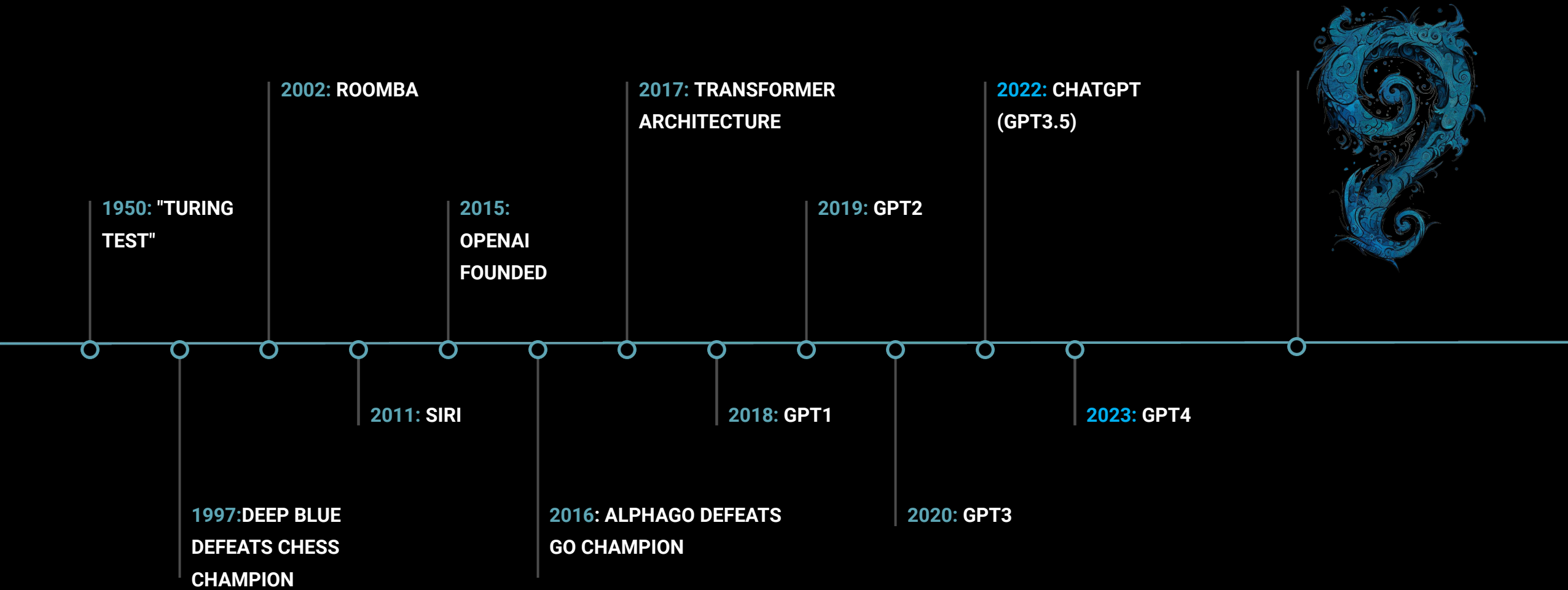


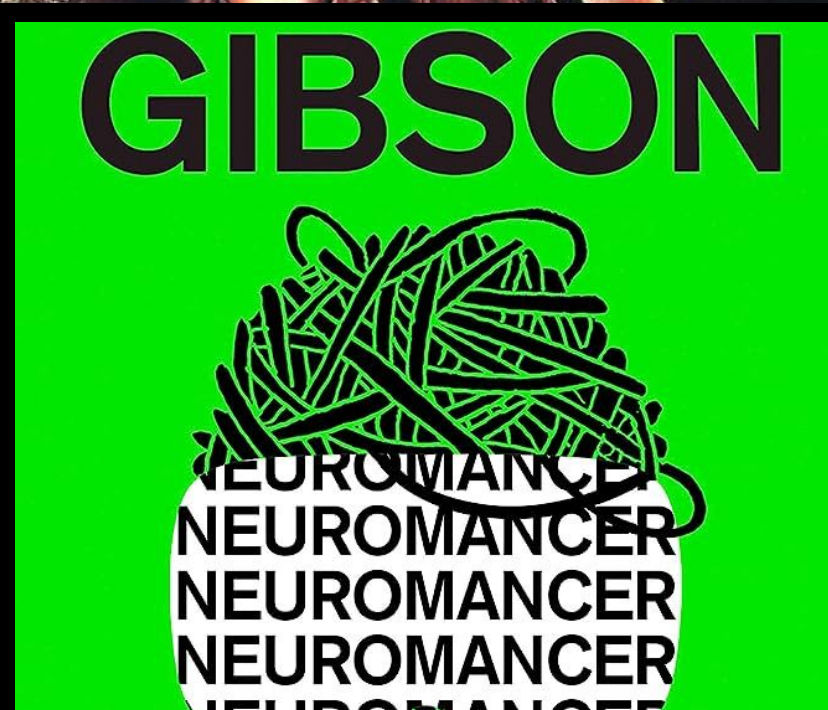
SECTION 2 | A (BRIEF) OVERVIEW OF AI

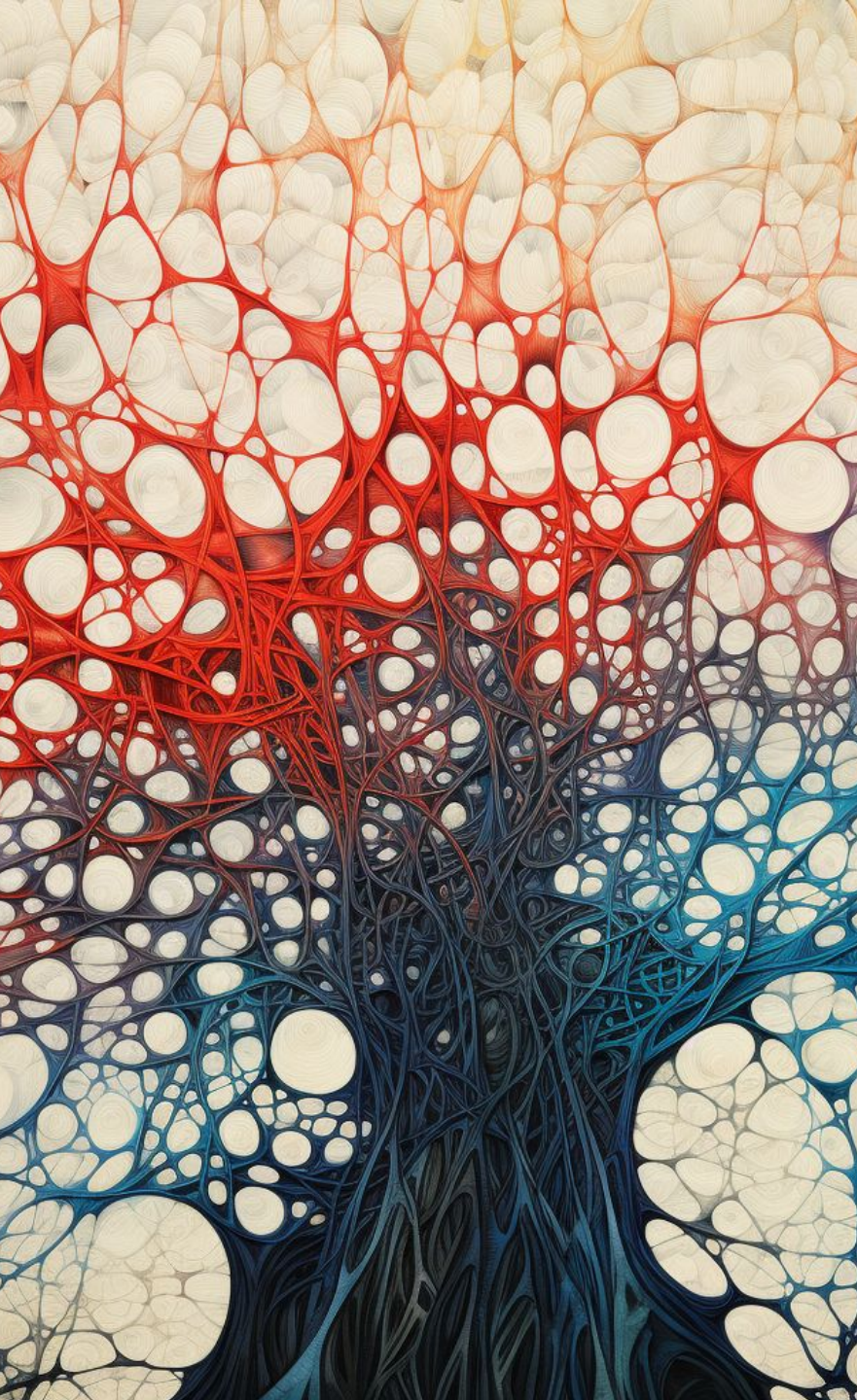
What is AI? (What is it **not**?)



AI is not new







Why is it different this time?

Predictive AI vs Generative AI

Massive simplification here!

Predictive AI does not create new data points. **Infers** outcomes based on patterns in existing data

"Classic" ChatBots, auto correct, medical AI determining probabilities, etc.

Generative AI creates new data that is similar to, *but not identical to*, the data it is trained on

ChatGPT, Bing, Gemini, Claude, Midjourney, DALLE-3, voice cloning, deep fakes, etc.

Create data that is *similar* but *not identical*

Sonnet 18: Shall I compare thee to a summer's day?

Shall I compare thee to a summer's day?

Thou art more lovely and more temperate:

Rough winds do shake the darling buds of May,

And summer's lease hath all too short a date;

Sonnet 18: Written by Mr. Rogers

Can I say, you're like a beautiful summer day?

You're even lovelier, and oh so mild:

Sometimes May's buds get shaken by the wind's play,

And summer, like all good things, stays but awhile;



Create data that is *similar* but *not identical*

Sonnet 18: A PBS Nature Documentary

Read By A British Dude

Imagine, if we may, the majesty of a summer's day.

Here, nature unfolds more lovely and temperate in its grace:

Witness how the rough winds gently play,

Stirring the darling buds of May in their delicate embrace.

Yet, even in this splendor, we are reminded,

Summer's tenure is fleeting, its days counted and dated.



Create data that is *similar* but *not identical*

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That is also an animation

Create data that is *similar* but *not identical*



SECTION 3 | TRY NOT TO PANIC

Where are we going
from **here?**



Where are we heading?

Is GenAI adoption and research an s-curve?

WE DON'T KNOW.

If it is, where are we on the s-curve?

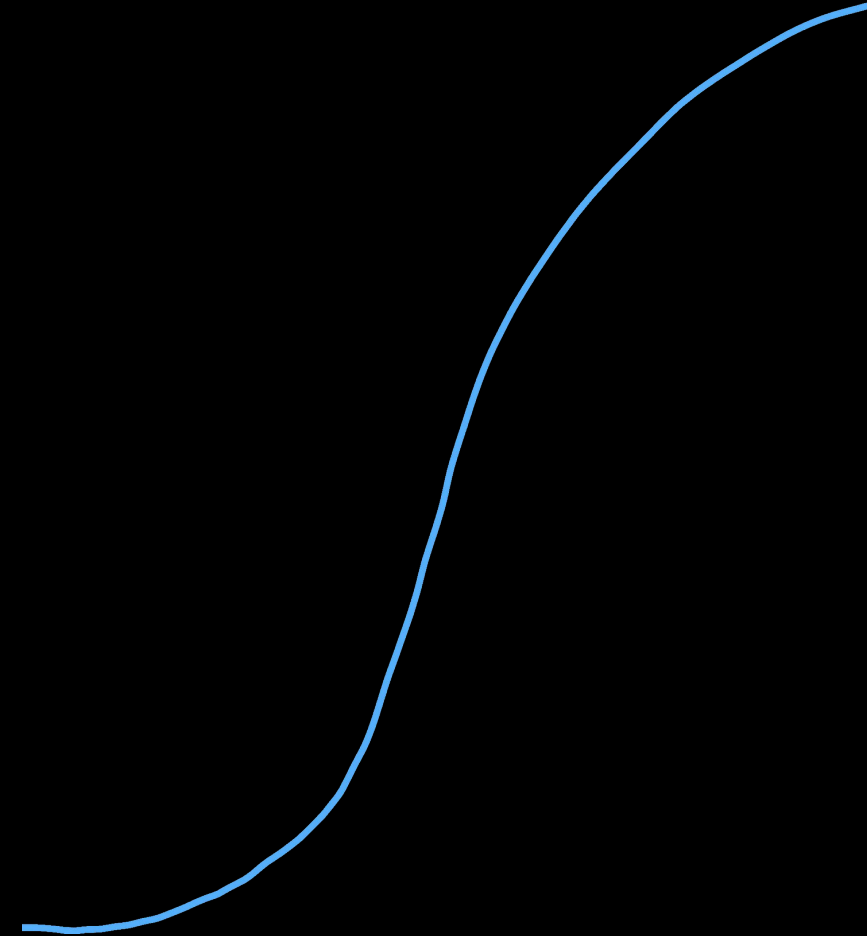
WE DON'T KNOW.

If it *is* an s-curve, and we are at the top, what does that mean?

WE ARE LOOKING AT A TREMENDOUSLY POWERFUL, DISRUPTIVE TECHNOLOGY THAT WILL FORCE US TO REIMAGINE EVERYTHING WE KNOW ABOUT WHAT WE DO.

If it *is* an s-curve, and we are at the bottom, what does that mean?

WE DON'T KNOW.



Things could get weird.



GPT2030:

- **LIKELY SUPERMAN AT MANY TASKS**
hacking, math, protein engineering, coding, etc.
- **TRAINED ON ADDITIONAL MODALITIES BEYOND TEXT AND IMAGES**
brain scans, machine code, astronomical images, network traffic
may possess intuitive grasp of domains where we have limited experience, including forming concepts we do not have
- **"WORK" AND "THINK" UP TO 125X FASTER THAN A HUMAN**
- **MODELS CAN SHARE WITH EACH OTHER AND TEACH EACH OTHER**
2500 human-equivalent years of learning in 1 day
- **COPIES WORKING TOGETHER IN PARALLEL**
1.8 million years of human work could be done in 2.4 months.

Steinhardt, Jacob. "What will GPT-2030 look like?" LessWrong, 7th June 2023,
<https://www.lesswrong.com/posts/WZXqNYbJhtidjRXSi/what-will-gpt-2030-look-like>.

In this scenario the world would be unrecognizable.

When will we know what is going to happen?

Best guess: 2026.

452

DAYS

When will we know what is going to happen?

Best guess: 2025.

87

DAYS

When will we know what is going to happen?

Best guess: Maybe November.

26

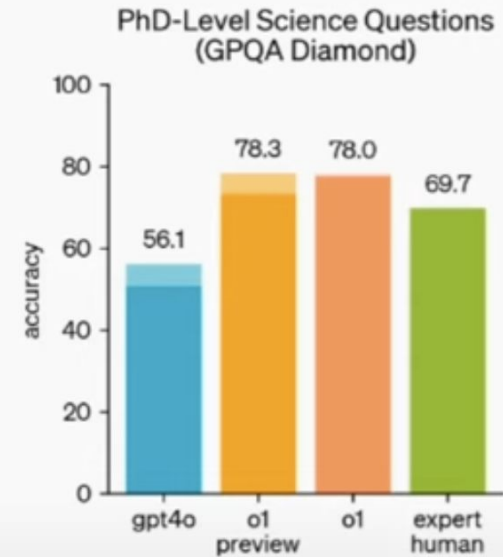
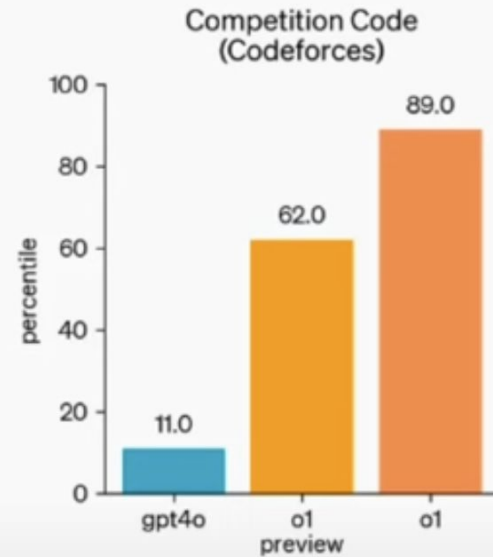
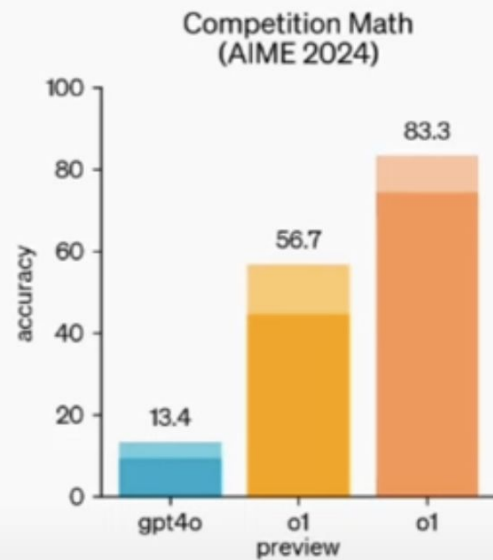
DAYS

When will we know what is going to happen?

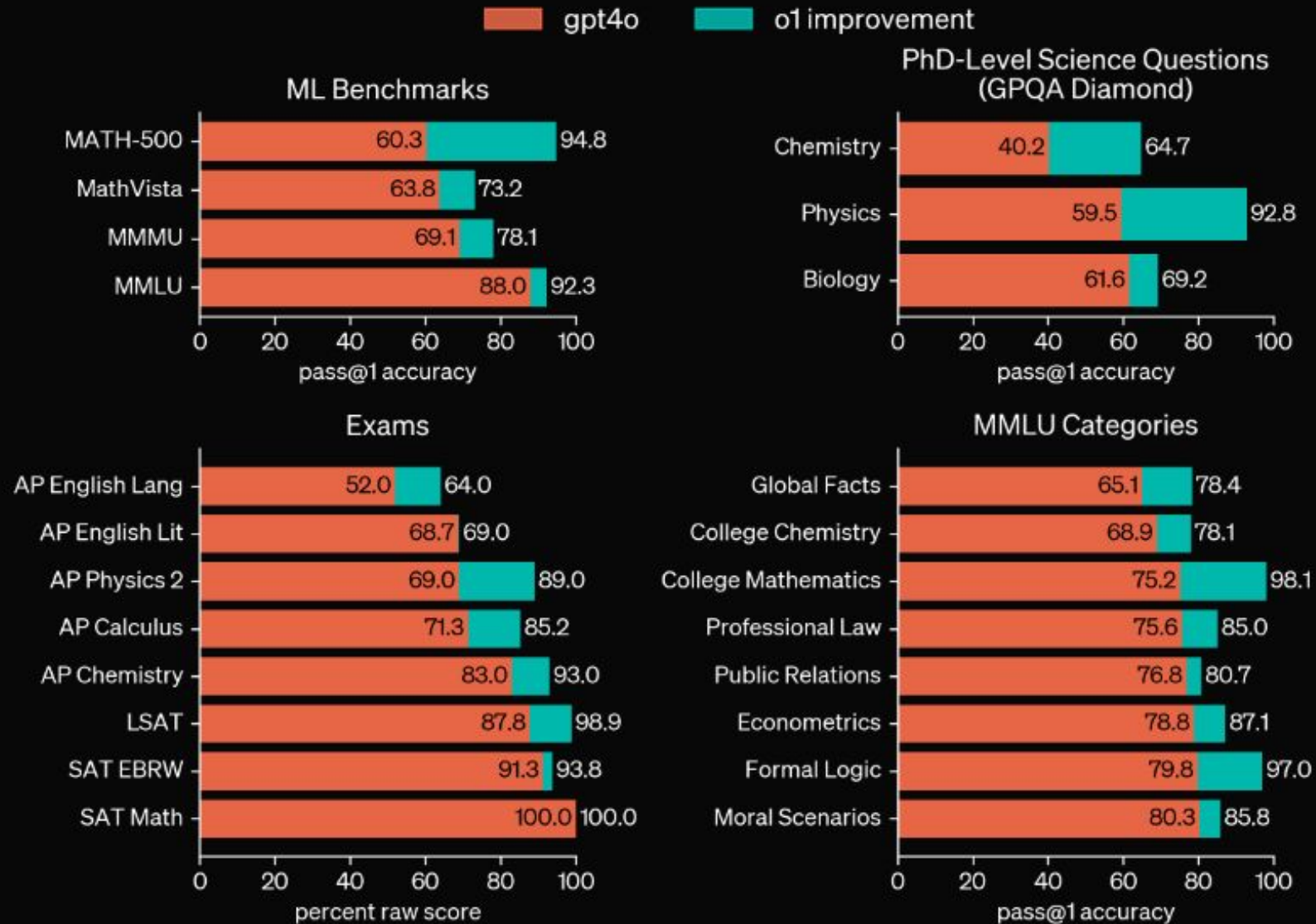
September 12, 2024

Introducing OpenAI o1-preview

A new series of reasoning models for solving hard problems. Available starting 9.12



When will we know what is going to happen?



When will we know what is going to happen?

With a relaxed submission constraint, we found that model performance improved significantly. When allowed 10,000 submissions per problem, the model achieved a score of 362.14 – above the gold medal threshold – even without any test-time selection strategy.

Finally, we simulated competitive programming contests hosted by Codeforces to demonstrate this model's coding skill. Our evaluations closely matched competition rules and allowed for 10 submissions. GPT-4o achieved an Elo rating³ of 808, which is in the 11th percentile of human competitors. This model far exceeded both GPT-4o and o1—it achieved an Elo rating of 1807, performing better than 93% of competitors.





What can we do?

We **can't** stop.

Face challenges, embrace ethical implications

SECURITY, LACK OF REGULATION, BIASES, PRIVACY, ACCESSIBILITY

Use generative AI creatively and cautiously

Build understanding, increase literacy

INTERNALLY, AND EXTERNALLY

What can we do?

Embody the **opposite** of AI

In a world where information has a net-zero value, humanity will be valued more than ever.

FACE TO FACE EXPERIENCES, HUMAN INTERACTION, ACCESS TO FACILITIES, COMMUNITY OUTREACH

Let AI free us to be more **human**



What are we doing at Illinois State?

Increasing **AI Literacy**

WORKSHOPS, PRESENTATIONS, LUNCHES, ONE-ON-ONE DISCUSSIONS

Continuing to **Learn**

READING PAPERS, ATTENDING CONFERENCES, ENGAGING WITH SCHOLARS

THIS IS AN ONGOING, UNENDING PROCESS

Coordinating Across the **University**

FROM STUDENT CODE OF CONDUCT TO RESEARCH AND TEACHING GUIDELINES

Learning How to Be **Prepared**

ADAPTIVE, INFORMED, AGILE, CONSIDERATE



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