



Generative AI Unleashed: So Now What for Financial Educators?

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Hi I'm Jim

TL;dr

(and a story)

OUR JOURNEY TODAY

0



Context and
Orthodoxies



Generative AI

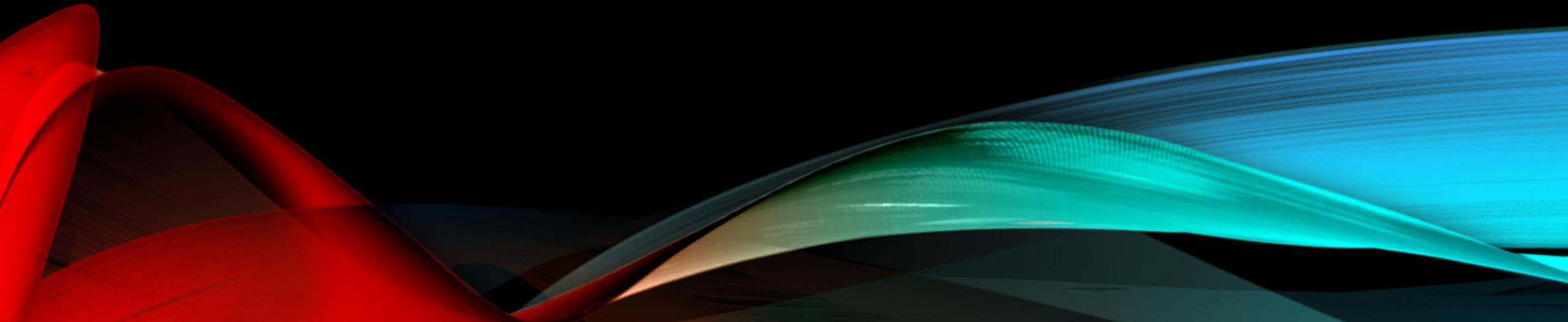


Mindsets for an
Uncertain future



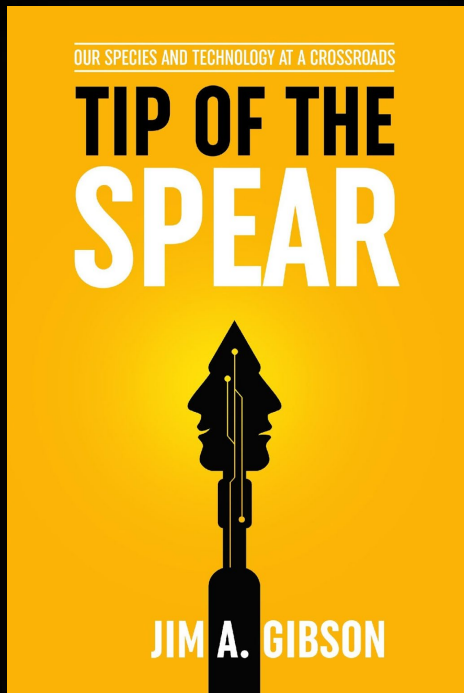
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Context:
Frameworks to Understand this New World



Context 1

The Three Laws of Technology Disruption



1. The *slope* of the curve is increasing
2. Technology “*genies*” never go back in the bottle
3. Our *linear systems* of organization are not designed to handle exponential change

Context 1

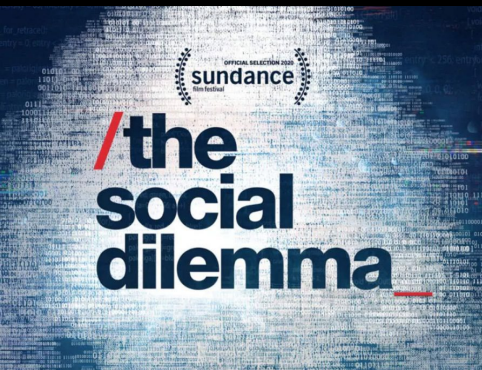
Said Another Way - The Problem with Humanity:

1. We have **paleolithic** emotions ...
2. Governed by **medieval** institutions with...
3. **God-like** technology.

WO Wilson

Context 2

The 3 Rules of Technology Introduction



1. When you invent a new technology, *you uncover a new class of responsibilities*
2. If the Tech confers power, *a Race will begin*
3. *If you don't co-ordinate, the race doesn't end well*

Center for Humane
Technology

Tristan Harris



Context 3

The Human Equation

“While human ingenuity has exponentially increased the transistors on a chip for the past 40 years, we have not applied the same exponential thinking to our dreams nor human compassion.” — Dan Pollata

Context 3

Innovation of

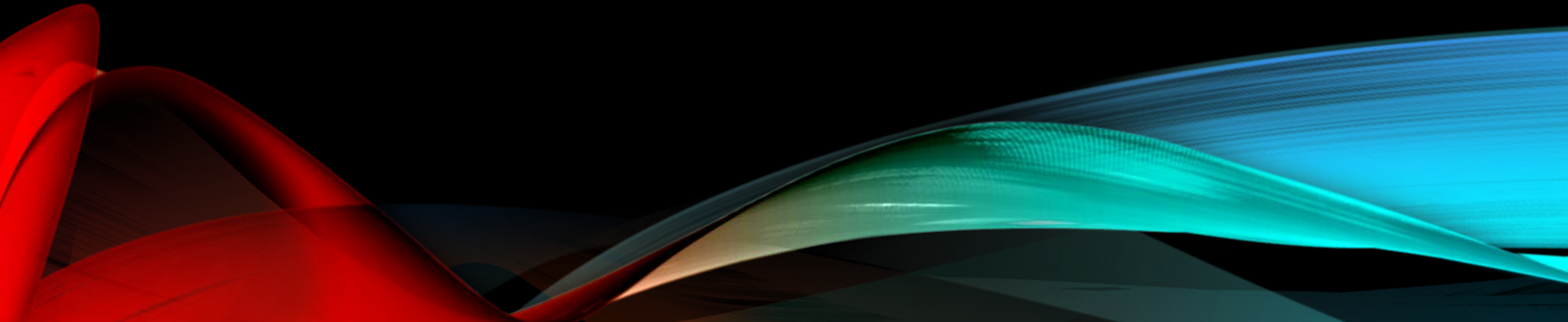
Things


Ways

Innovation of

2


Generative AI
What's Going on {May 5th, 2023!}





Generative AI refers to a class of artificial intelligence techniques that are capable of generating **novel data or content**, such as images, videos, text, and music.

It involves using machine learning models that are trained on large datasets to create new, original data that **resembles the training data**

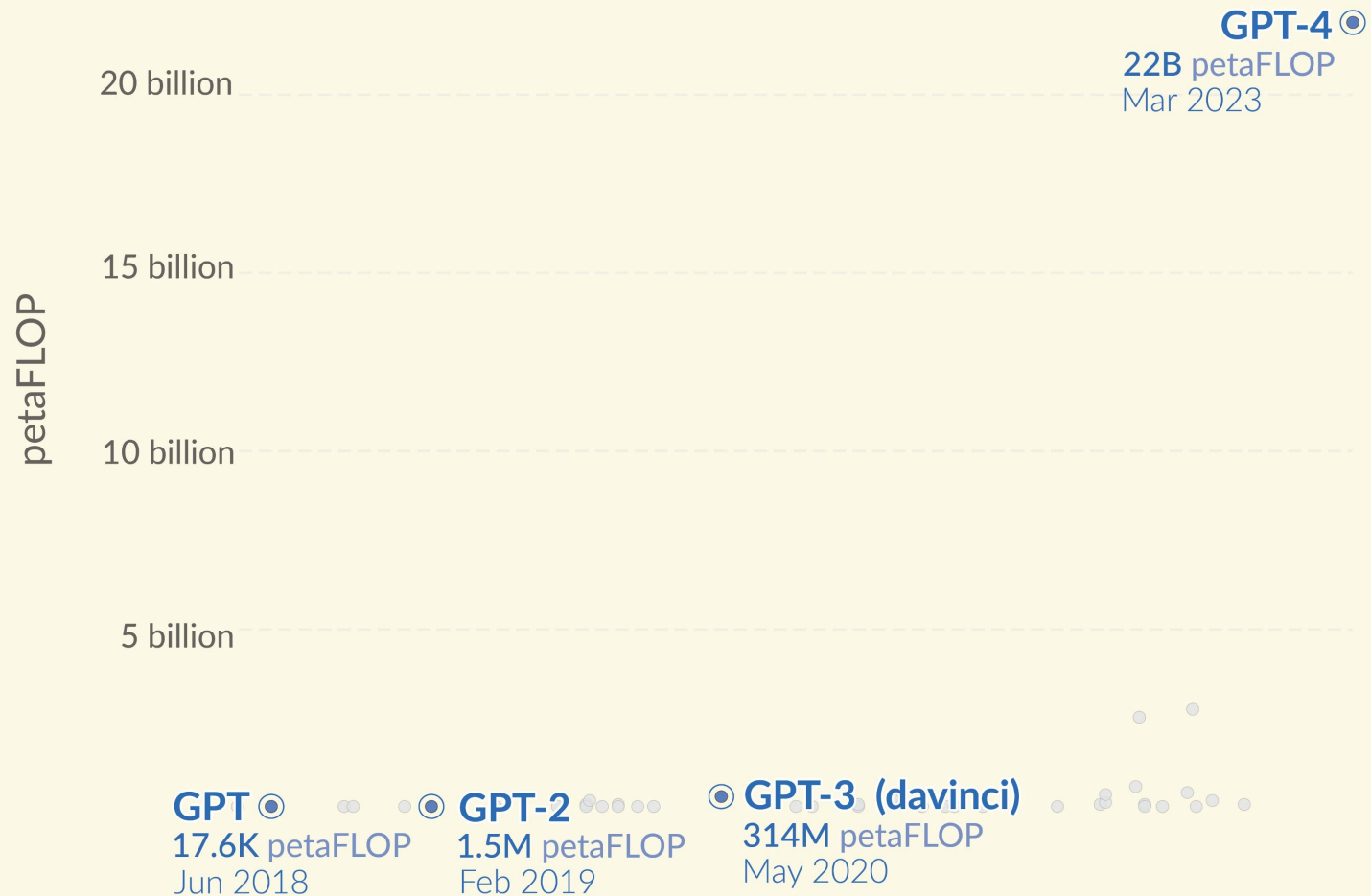


Unlike supervised and unsupervised learning, **generative AI is not focused** on predicting an outcome or clustering data, but on generating new data based on patterns in the input data.

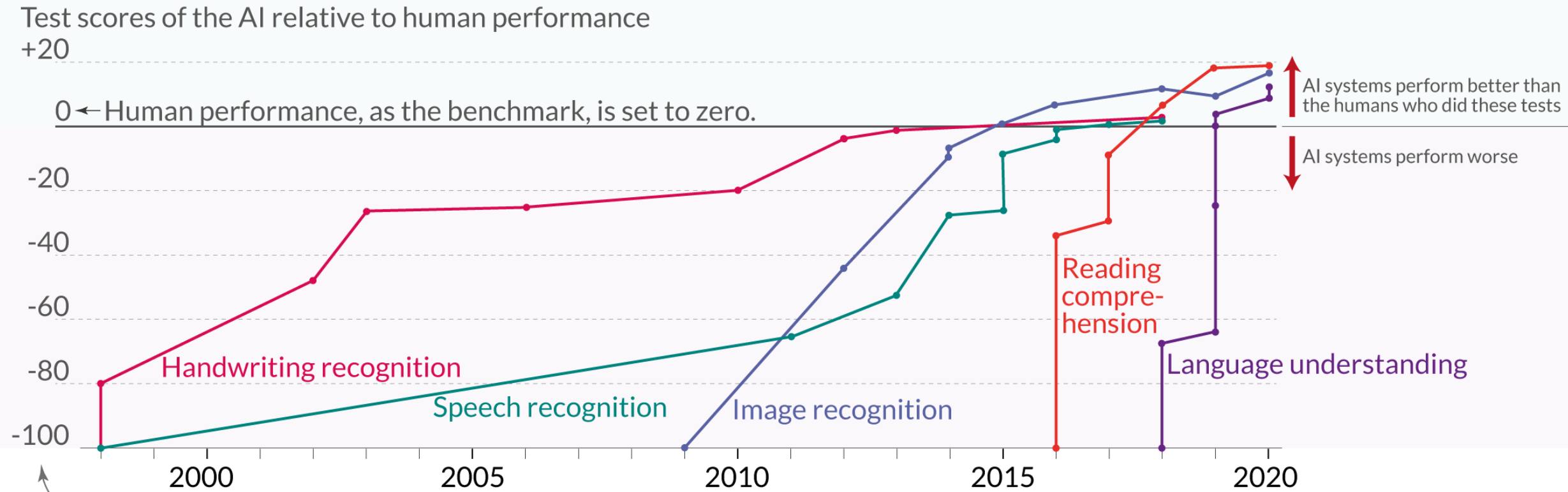
Computation used to train notable artificial intelligence systems

Computation is measured in total petaFLOP, which is 10^{15} floating-point operations.

LINEAR LOG



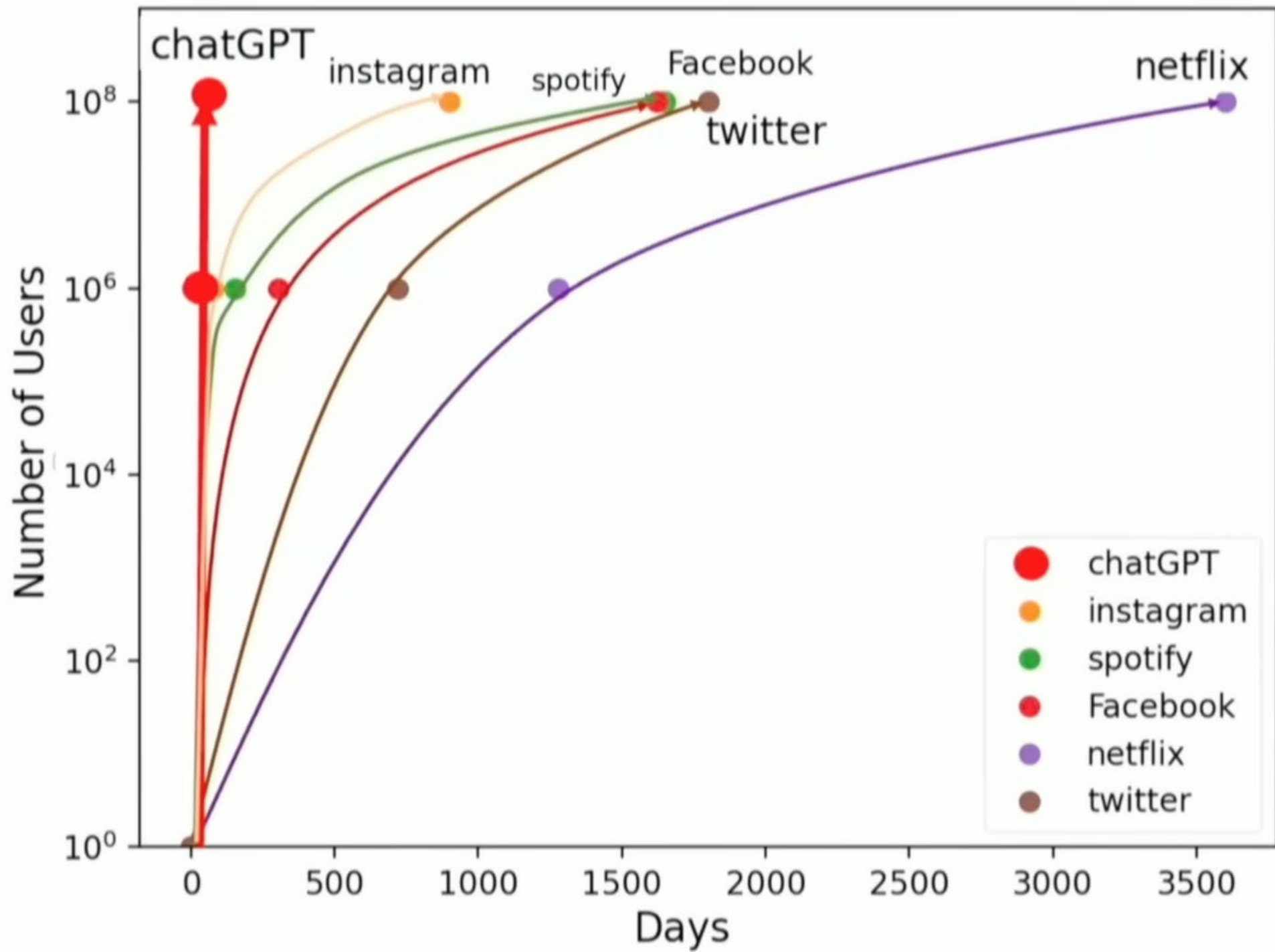
Language and image recognition capabilities of AI systems have improved rapidly



The capability of each AI system is normalized to an initial performance of -100.

Data source: Kiela et al. (2021) - Dynabench: Rethinking Benchmarking in NLP
 OurWorldinData.org - Research and data to make progress against the world's largest problems.

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Thursday May 4th, 2023





Two Questions We Need to Discuss:

1. Is it really that ground breaking?
2. Do We Need to Be Afraid?

Is it Ground Breaking?

No ...

- Continuation and extension of work of Machine Learning for 40 years
- Same constraints and limitations as the past
 - Large amounts of data needed
 - Computation and capability
- Resource limit due to extremely high carbon and water intensity of data storage and computation requirements



Yes ...

It's **Converging** Into One Thing

AI used to have separate fields...



Computer Vision



Speech Recognition



Robotics



Image Generation



Speech Synthesis



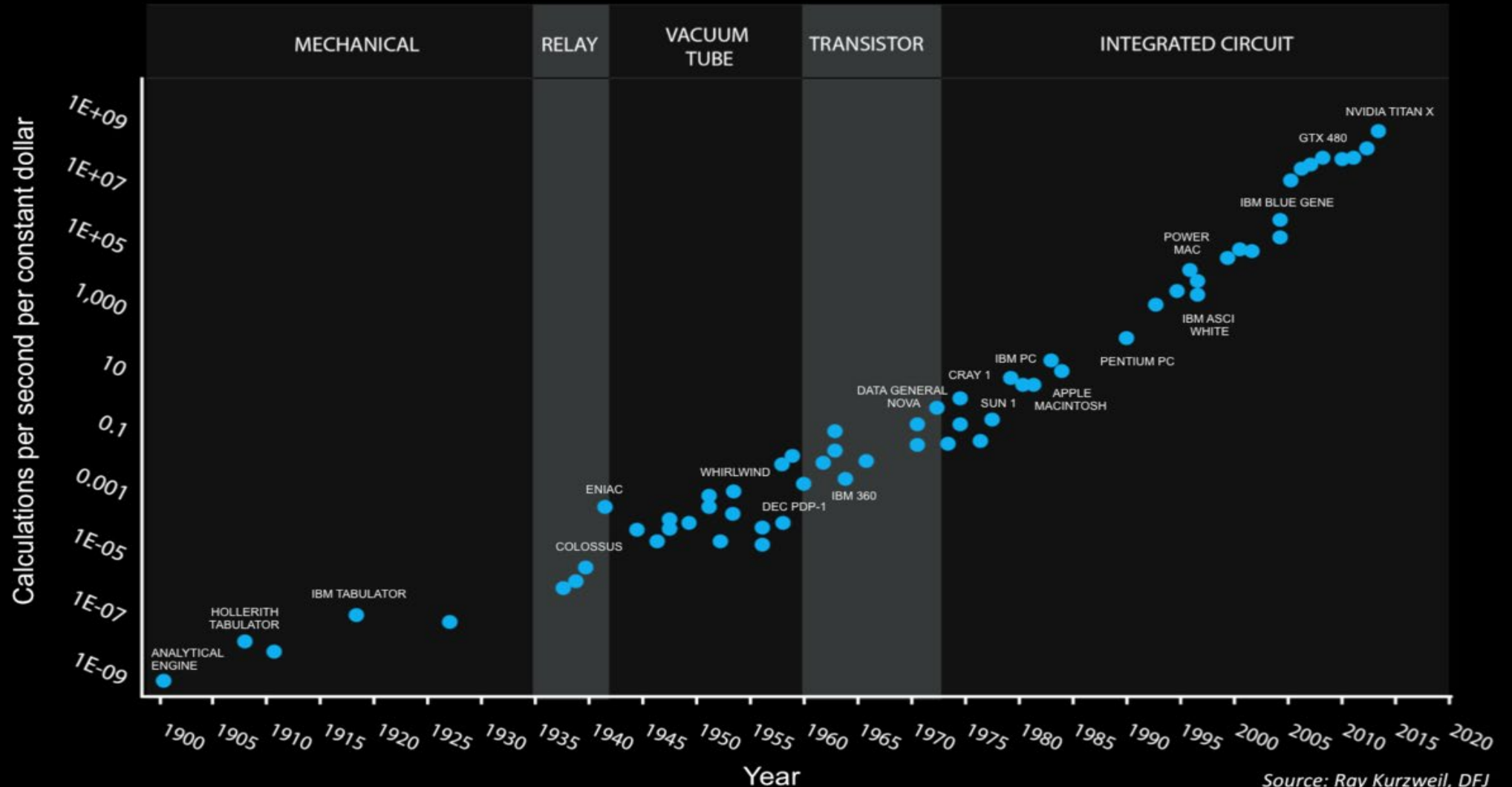
Music Generation

Generative Large Language Multi-Modal Model

```
2 3 1 9 2 1 2 6 3 8 9 0 8 6 9 0 0 3 3 3 3 4 9 1  
4 1 3 2 5 6 9 9 6 4 0 4 0 0 1 9 8 7 6 8 3 0 7 2 1  
2 7 7 4 2 1 2 4 2 4 8 4 3 7 9 6 7 8 7 1 7 6 8 2 1  
4 0 9 4 3 7 8 2 3 7 7 4 7 0 4 0 3 0 5 5 6 6 1 0 1  
2 9 0 9 1 1 7 5 9 1 8 6 7 0 0 4 4 1 9 4 9 1 4 0 1  
3 9 5 7 6 7 3 1 5 3 1 7 8 9 4 5 8 2 1 5 5 0 2 0 1  
7 2 0 8 6 9 6 0 6 1 6 6 9 0 4 0 3 0 0 7 0 1 1 5 1  
1 4 2 0 9 8 4 6 0 3 4 7 4 2 7 2 8 3 7 1 2 5 1 7 1  
3 1 9 4 3 0 2 2 6 9 9 4 5 7 7 5 8 8 7 4 2 1 6 4 1  
4 7 8 2 9 4 4 4 2 0 4 9 4 5 9 7 0 4 3 1 3 8 8 0 1
```

Or “GOLLEM”

120 Years of Moore's Law



Source: Ray Kurzweil, DFJ

Context 4

*We overestimate technology's impact in the **near** term;*

*We underestimate technology's impact in the **long** term*

Do We Need to be Afraid?

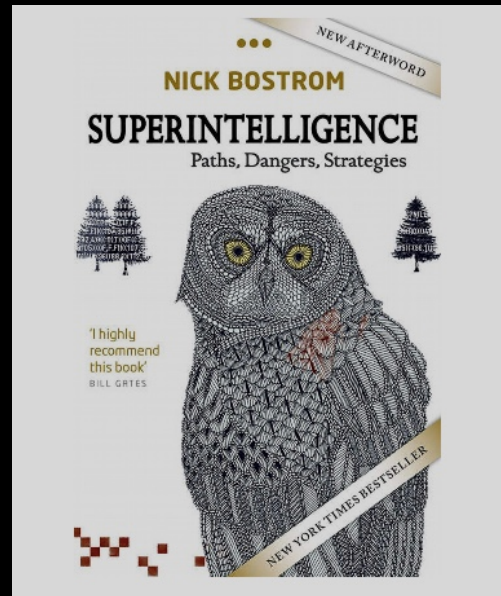
“The Godfather of A.I.’ just quit Google and says he regrets his life’s work because it can be hard to stop ‘bad actors from using it for bad things’

~ New York Times, May 1, 2023

What’s really going to happen is that the rules followers will pause ... and the rule breakers – totalitarian Governments, criminals etc. – will continue to accelerate. The ‘good actors’ will have worse AIs than the bad actors... All of us need to fight like hell for the positive cases.

~Sal Khan, Founder of Khan Academy, TEDx, April 2023

Our Maybe Both...



Nick Bostrom:

Artificial Intelligence...

...is the last invention of mankind

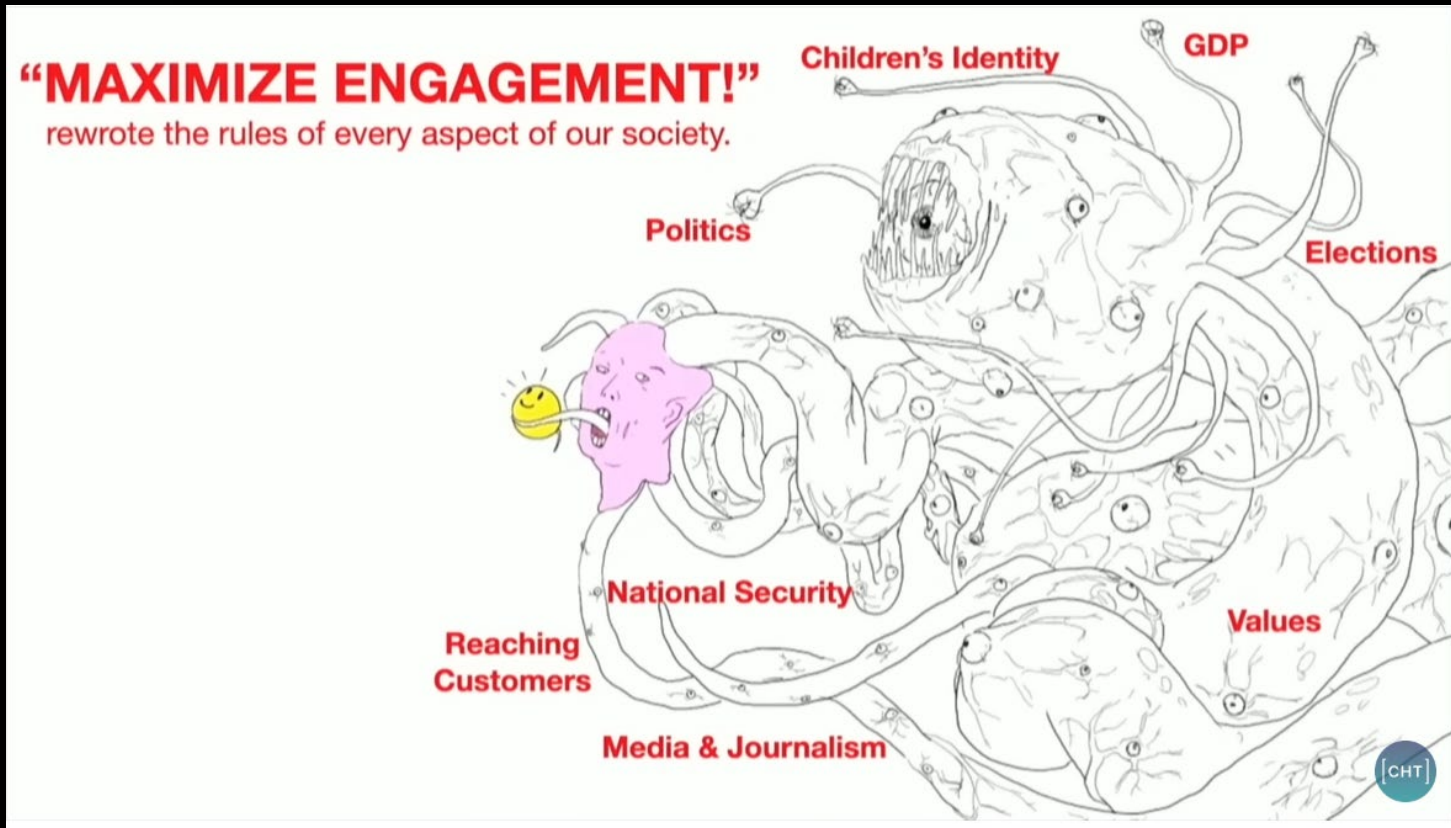
1st Contact with AI – Social Media

How Did We Do?

1st contact: SOCIAL MEDIA




- 🌐 Information Overload 📱 Addiction
- 😓 Doomscrolling 🗣️ Influencer Culture
- 👶 Sexualization of kids 🧑‍🚫 Qanon
- 🧠 Shortened attention spans
- 👤 Polarization 🤖 Bots, DeepFakes
- 🏭 Cult factories 📰 Fake News

📄 Breakdown of Democracy





2nd Contact with AI – *How Will We Do?*

2nd Contact: A.I. in 2023



 Reality collapse  Fake everything  Trust collapse

 Collapse of law, contracts  Automated fake religions

 Exponential blackmail  Automated Cyberweapons

 Automated exploitation of code

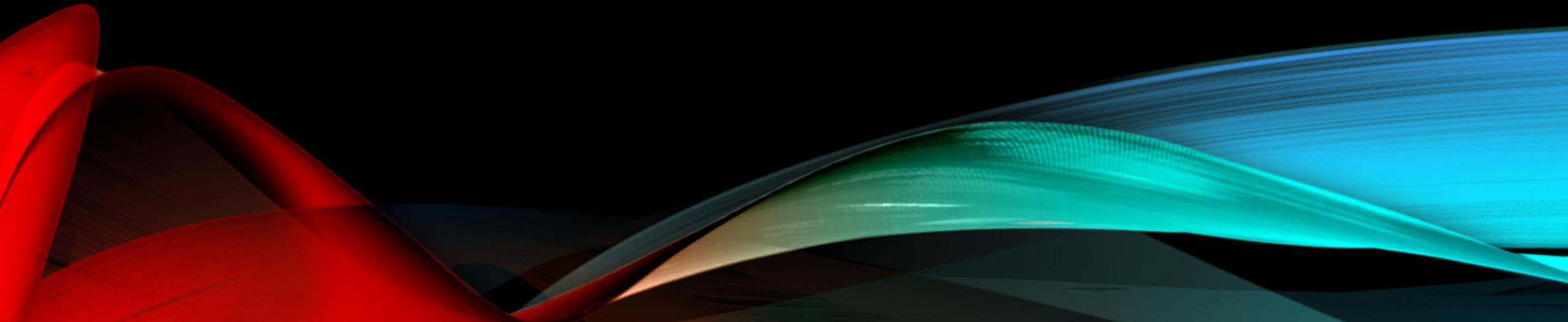
 Automated lobbying  Biology automation

 Exponential scams  A-Z testing of everything

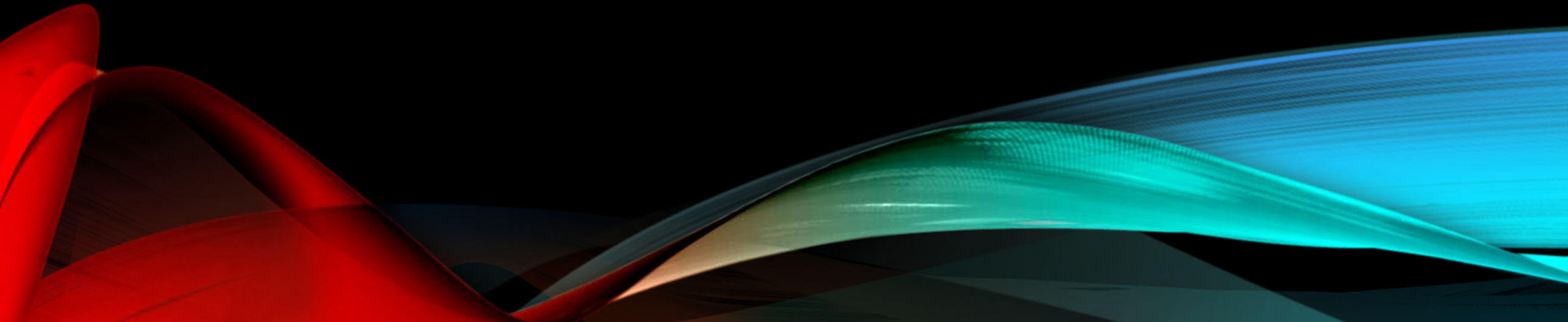
 Synthetic relationships  AlphaPersuade

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Financial Educators:
Frameworks for Learning



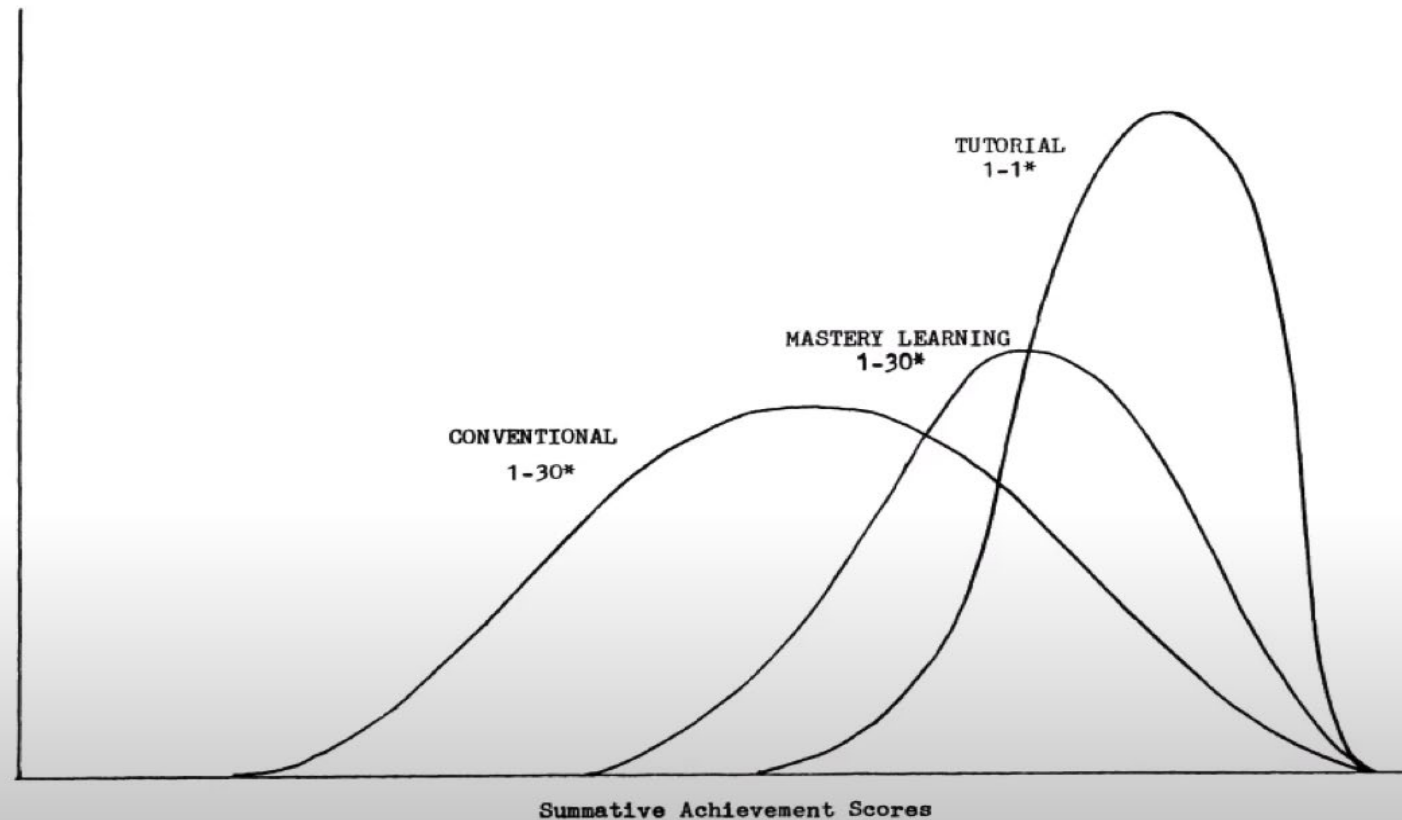
The Collective Opportunity



The 2 Sigma Opportunity

Benjamin Bloom,
1984

FIGURE 1. Achievement distribution for students under conventional, mastery learning, and tutorial instruction.



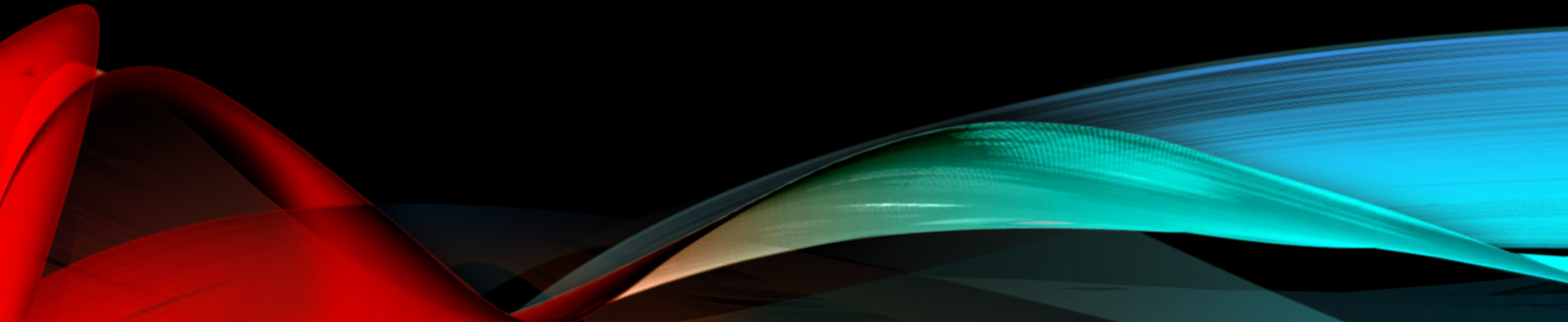
*Teacher-student ratio

June/July 1984

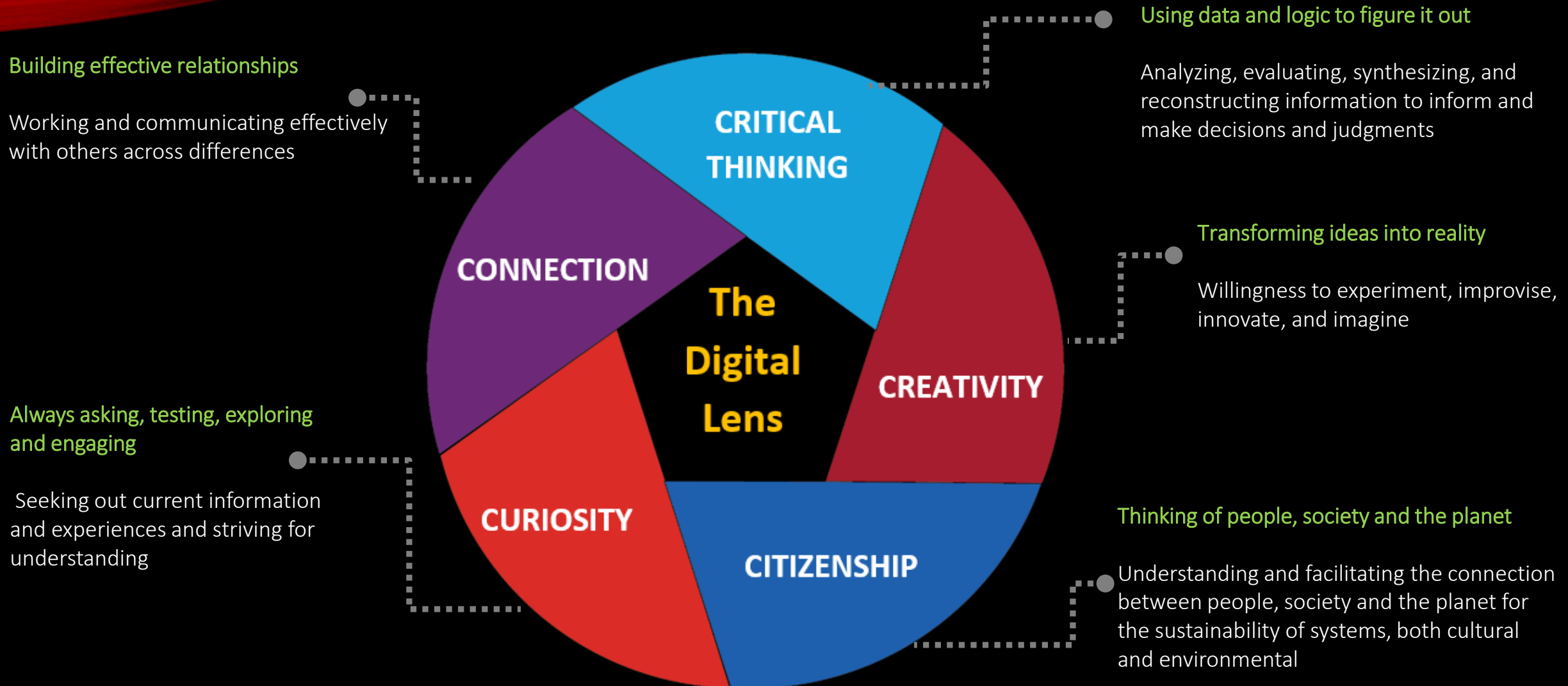
What if ...

- Every **STUDENT** had an infinitely patient, always-on, Socratic tutor that enabled individualized learning AT SCALE?
- Every **TEACHER** had the ability to interact with any knowledge set to build and create lesson plans, help create progress reports and help them, eventually, grade. An infinitely patient, dynamic LMS

The Individual Imperative
The 5 C's of Future Ready Mindsets



Our Human Capabilities - SAIT Capability Framework

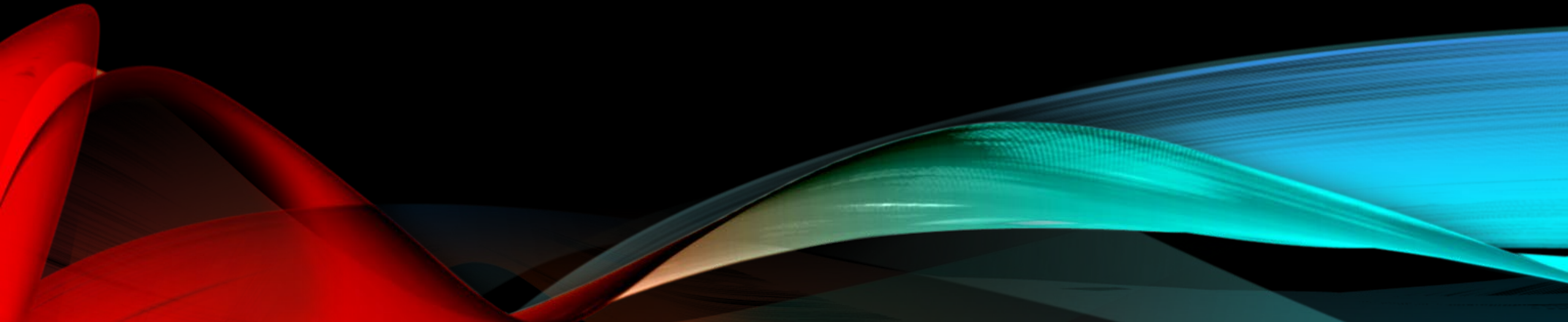


Bringing this All Together as Educators

1. Your profession is in the cross-hairs of systemic change. **THIS IS NOT A DRILL.**
2. Understand and teach Innovation and Technological Change **CONTEXT**
3. Think about **ROLES** versus PROFESSIONS/JOBs and drill into **CREATIVE DESTRUCTION** (*elimination, augmentation, expansion, creation*)
4. “Fight like hell” to identify demonstrate, & implement **POSITIVE USE CASES**
5. **You don't have to be an expert – just an awesome human.**

4

Some Final Thoughts

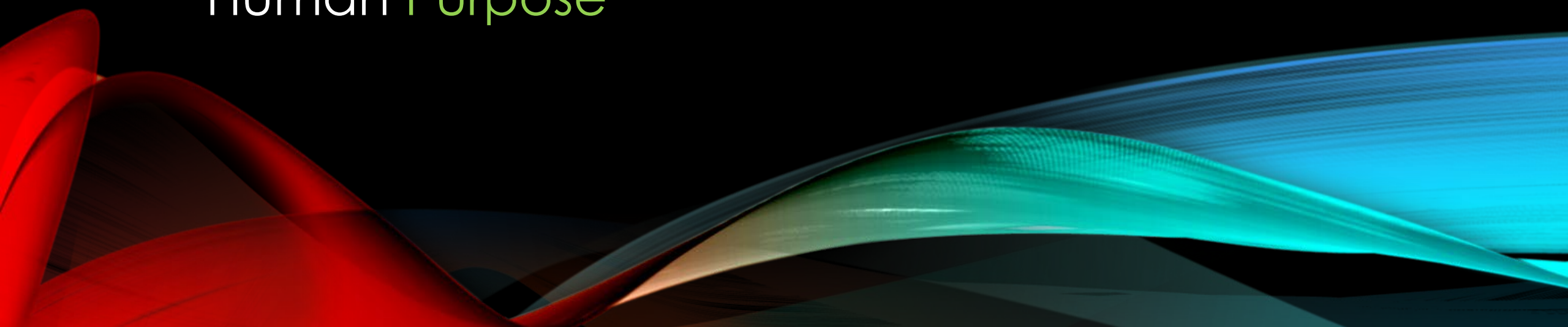


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Perhaps it isn't AI but really a combination of using the incredible fruits of human creativity and ingenuity that **built** AI to enhance:

”

Human **Intelligence**
Human **Potential**
Human **Purpose**





Thank you.

And coming in the fall of 2023,

The Human Race:

Wicked Problems and the Human Animal