Qantm AI
Next Level Technology Solutions

A 5–Step Formula for Safe Generative AI

Dr. Seth Dobrin
CEO, Qantm AI

Generative AI has the potential to revolutionize every industry.

What’s your plan?

Others are starting already ...

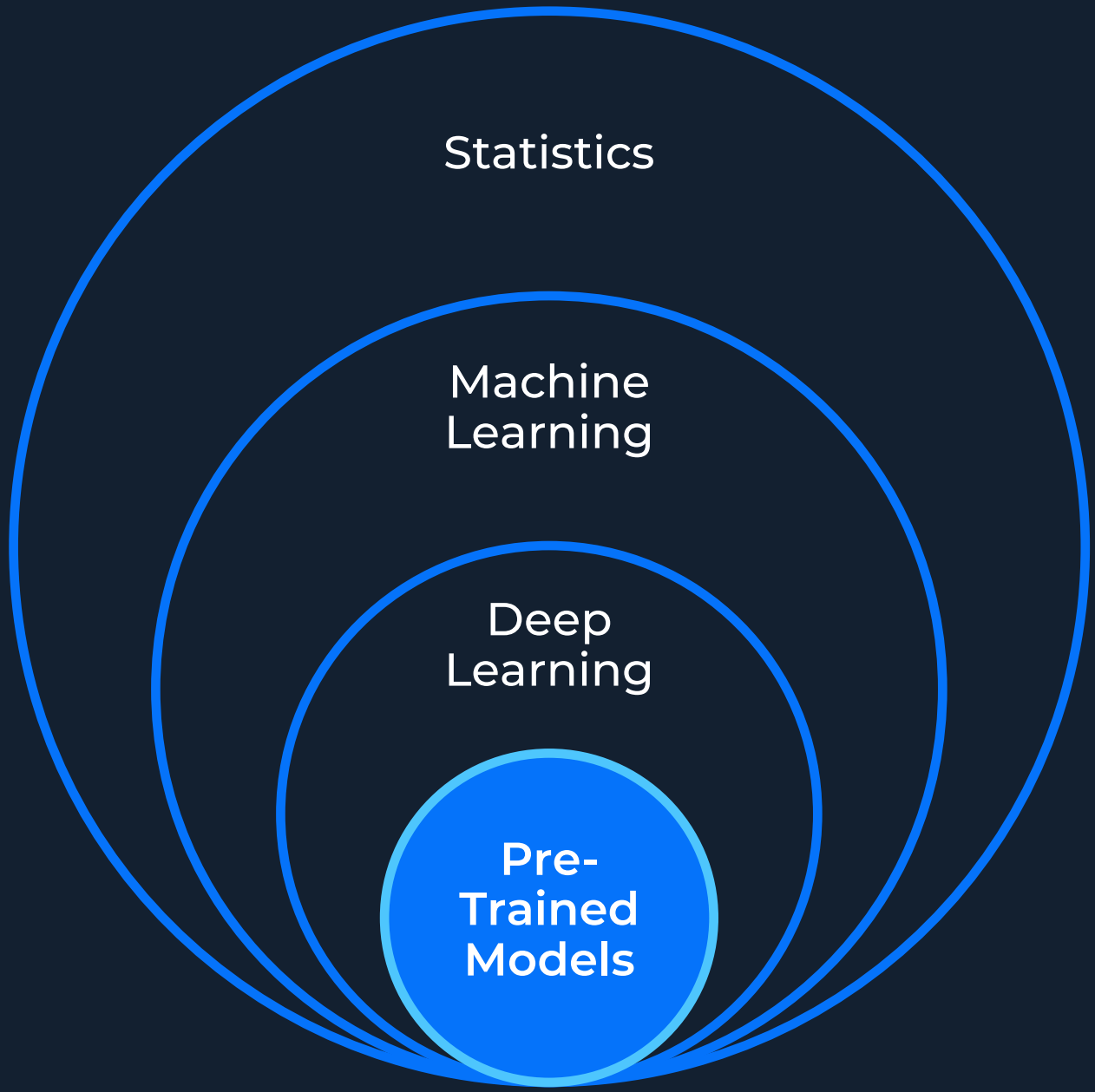
1. AI teams are identifying use cases
2. Fitting GenAI into existing governance and accountability structures
3. Using exclusively commodity models
4. Leveraging existing human resources
5. Leveraging existing technical capabilities

But their approach isn't working ...

1. Needs to be tied to business goals
2. Unique challenges associated
3. Selection of models is use-case specific
4. Existing talent lacks the understanding
5. New architectures are needed

What is AI Anyway ...

Level–Set on AI



Are you using AI in your organization ...

After more than a decade, is AI finally reaching enterprise scale?

28%

Widely implemented,
driving critical business value and will remain a major component of our strategy

16%

A single use case
in one or a few departments but is driving critical value and will remain a major component of our strategy

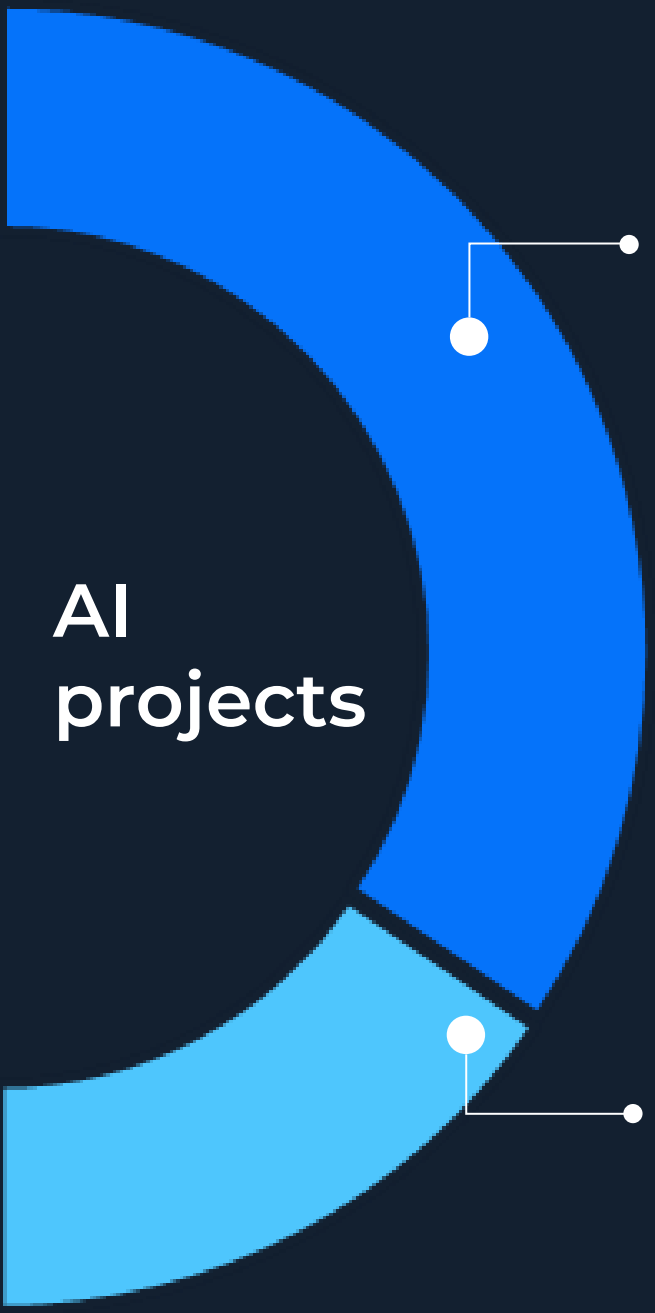
27%

Implemented in a few use cases
across a few departments that will be key for us to scale

30%

A minor component
of a broader strategy but will be critical in the future

Weka 2023 Global Trend in AI Report

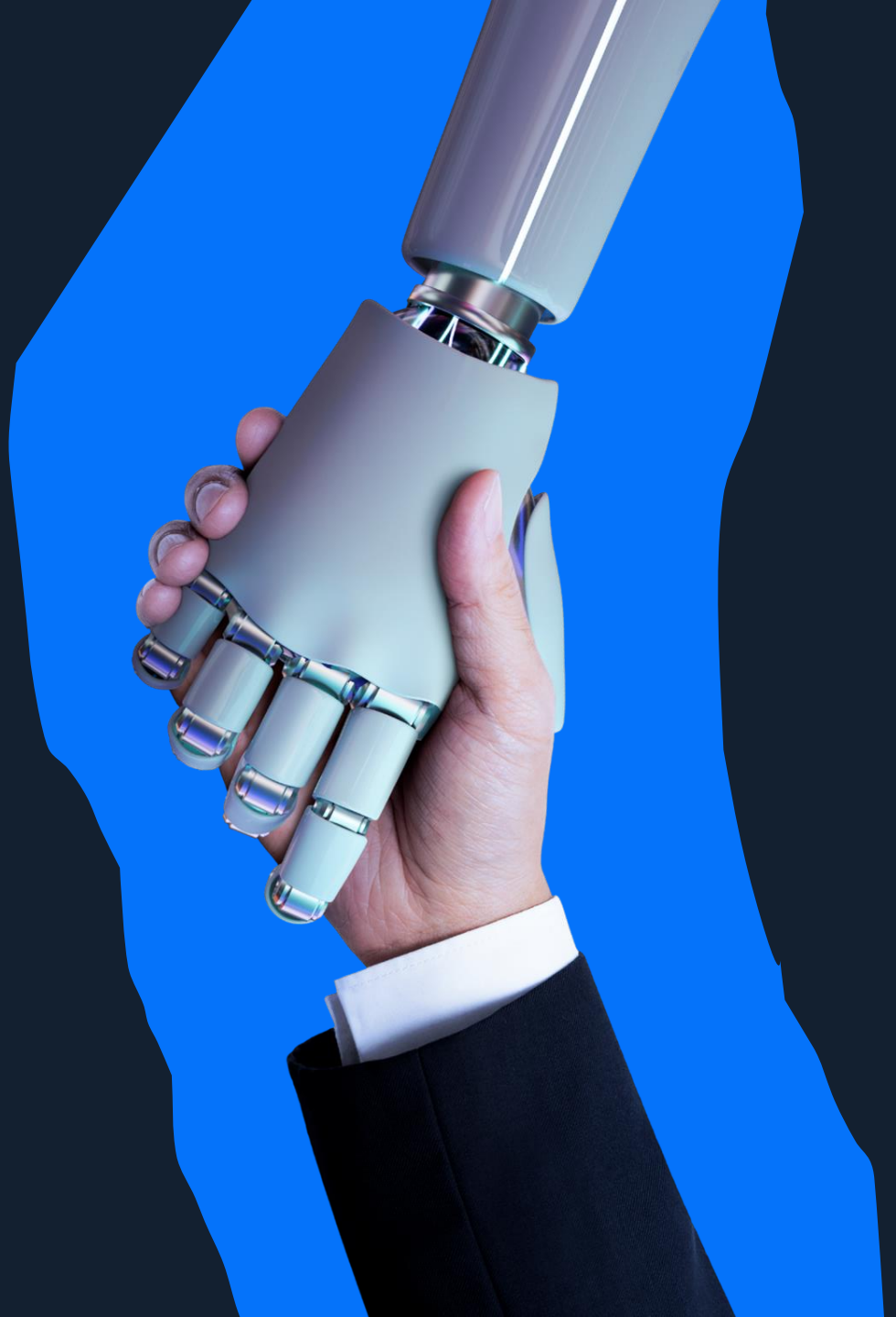


69%

AI pioneers:
AI/ML is in production

31%

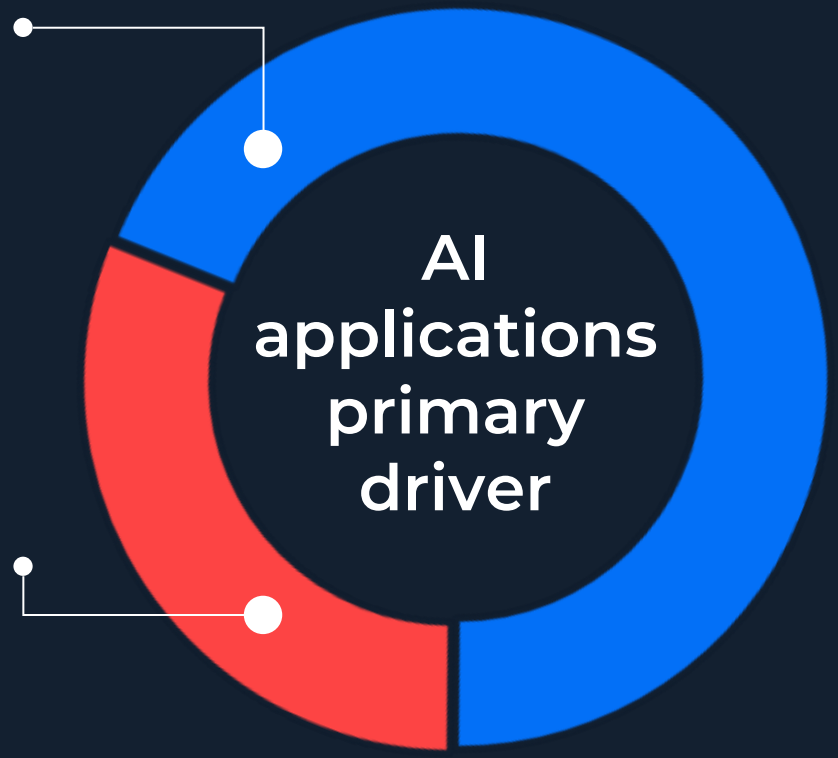
AI explorers:
AI/ML is in pilot/POC



Revenue Drivers Lead Cost Drivers for AI/ML

69% of total responses cite revenue drivers

31% of total responses cite cost drivers



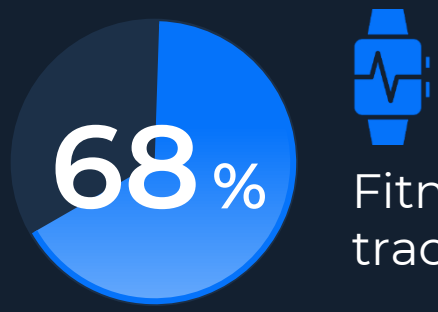
70% of AI pioneers' responses cite revenue drivers

66% of AI explorers' responses cite revenue drivers

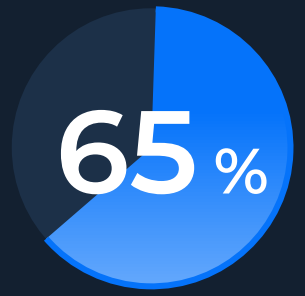
Do your customers know???

More than half of Americans are aware of common uses of AI ...

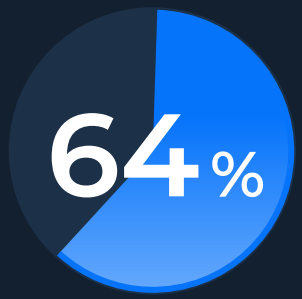
% of U.S. adults who identify that the following use AI in multiple choice questions



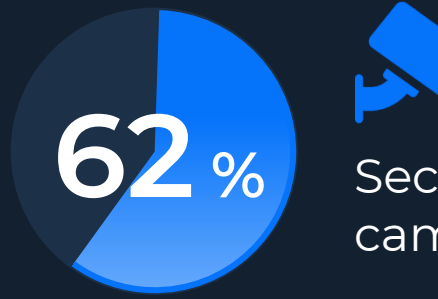
Fitness trackers



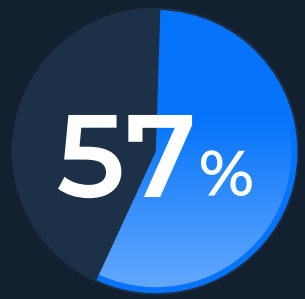
Chatbots



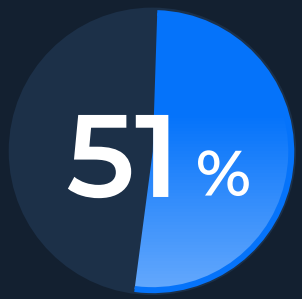
Product recommendations



Security cameras



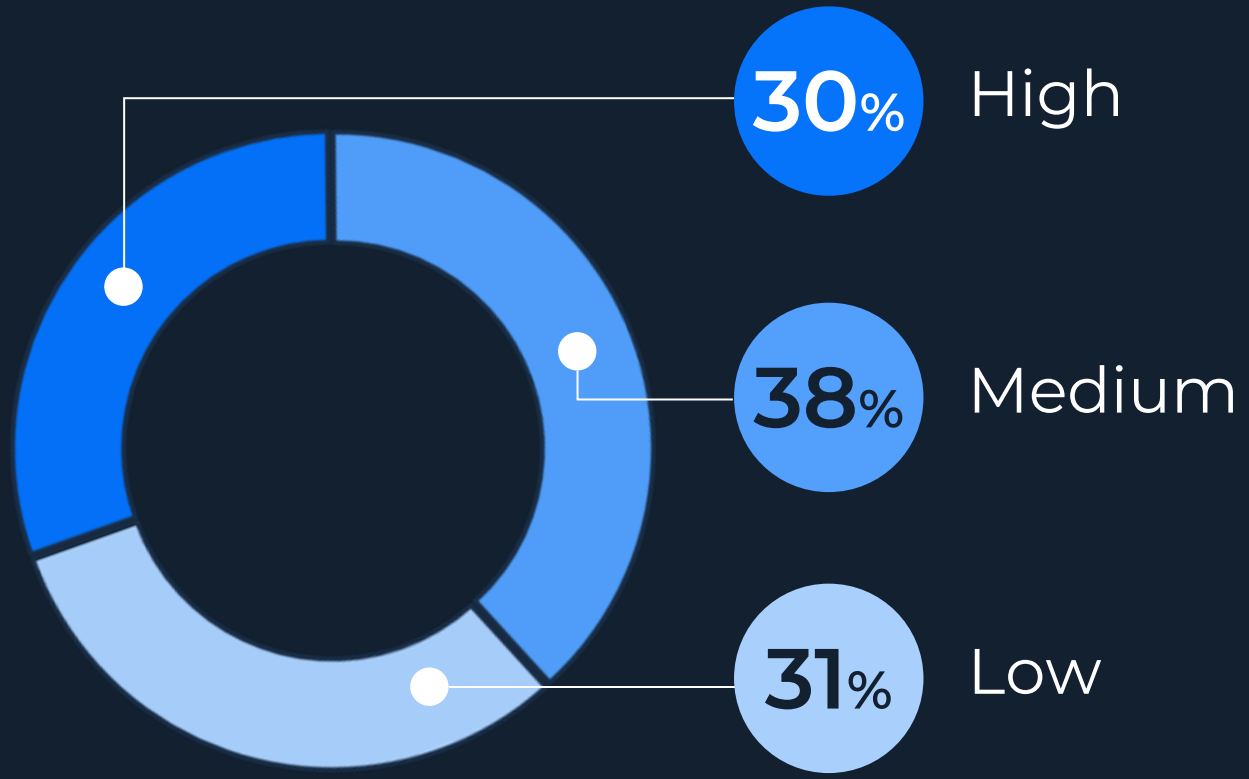
Music playlists



Email service

… but fewer can identify AI's role in all 6 examples

% of U.S. adults who correctly identify … as using AI



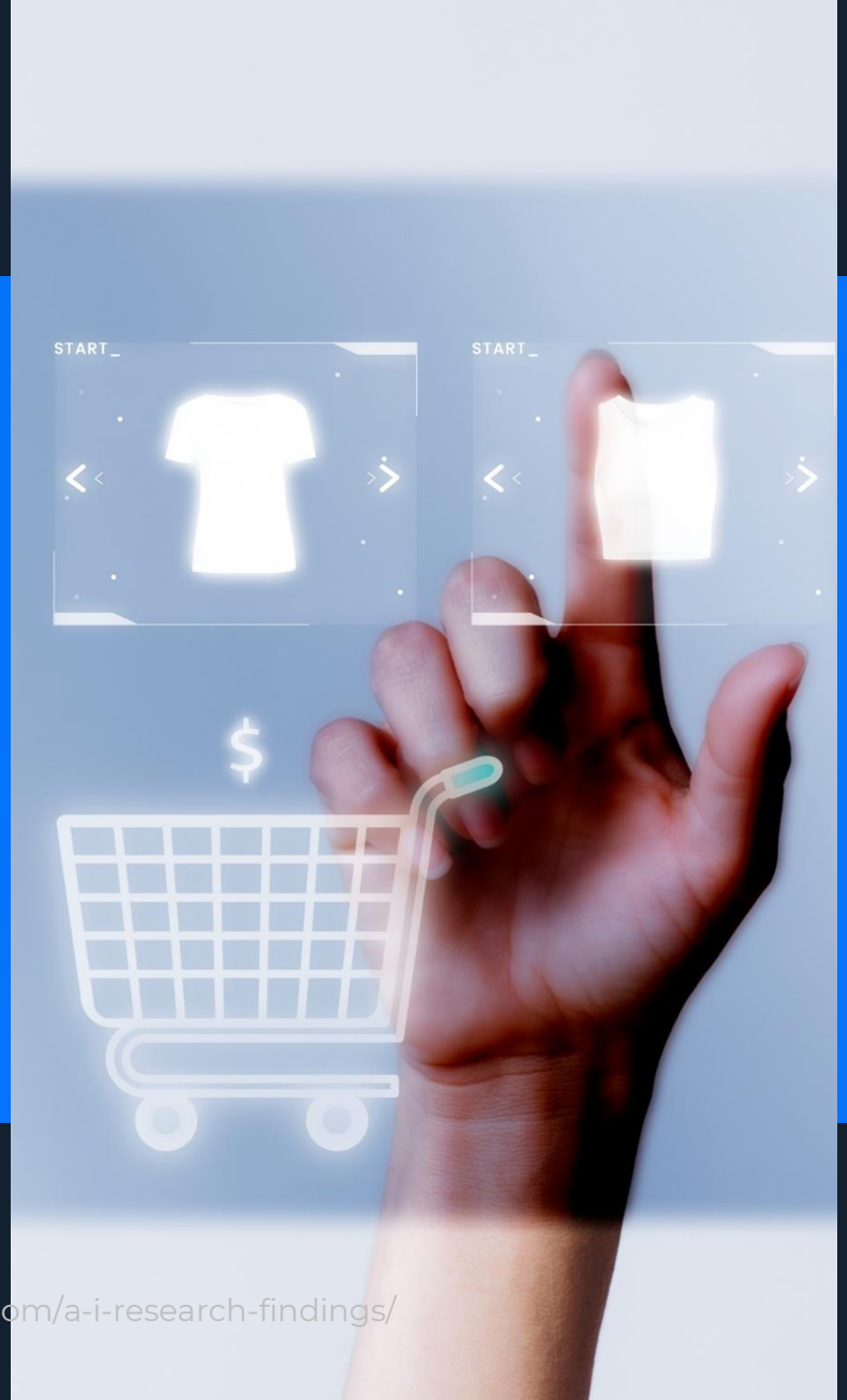
Worldwide retail AI economic impact through 2029

$9.2 trillion

Source: https://lossprevention media.com/a-i-research-findings/

54%

of cumulative economic benefits from AI through 2029 will be in increased sales

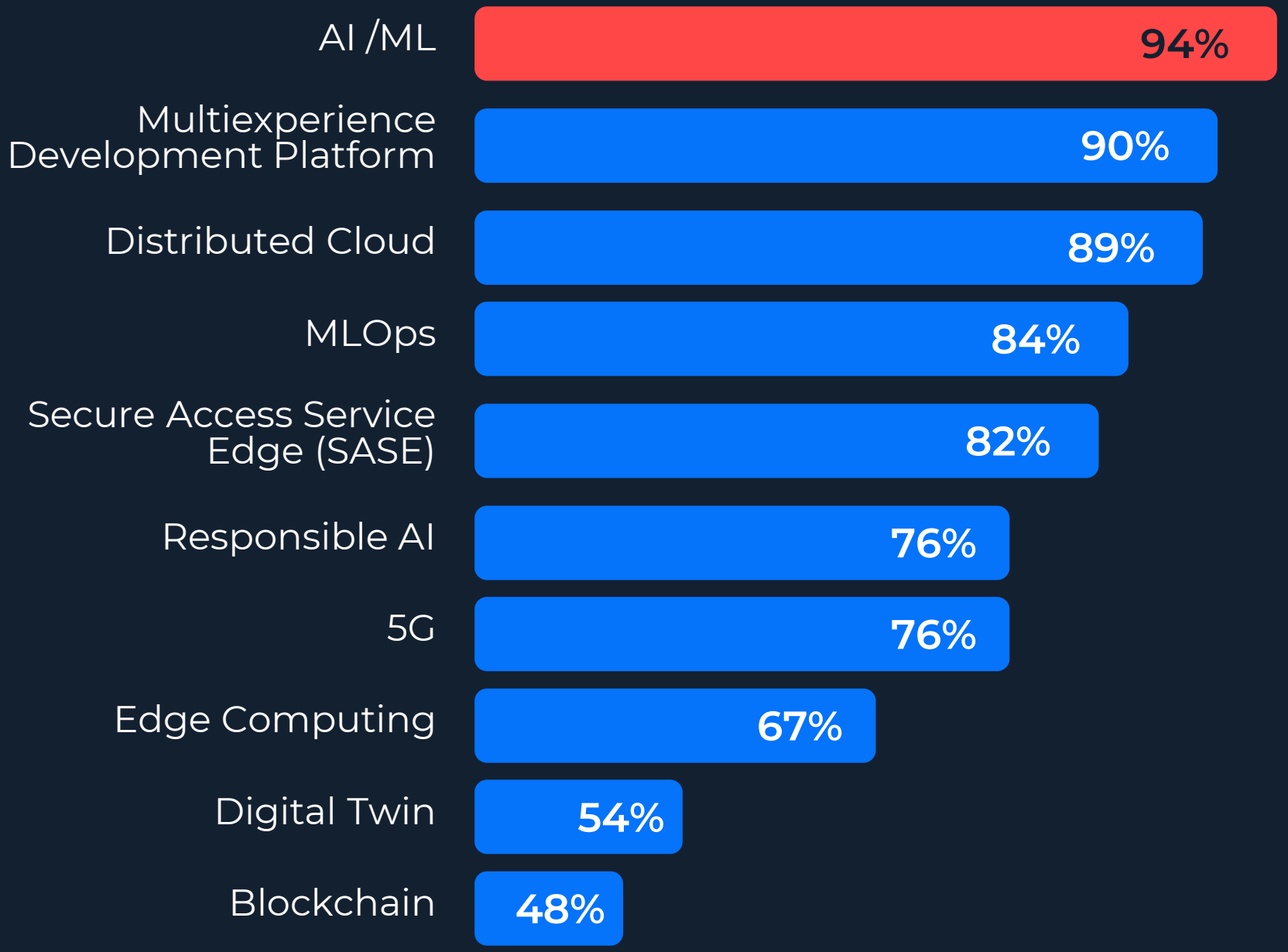


72%

of cumulative AI economic benefits will go to retailers over $1b in size

Source: https://losspreventionmedia.com/a-i-research-findings/

Which technologies are most likely to be implemented by 2025



SOURCE: Gartner 2023 CIO Agenda Insights for the Retail Industry

What are the challenges while developing a vision for digital change?

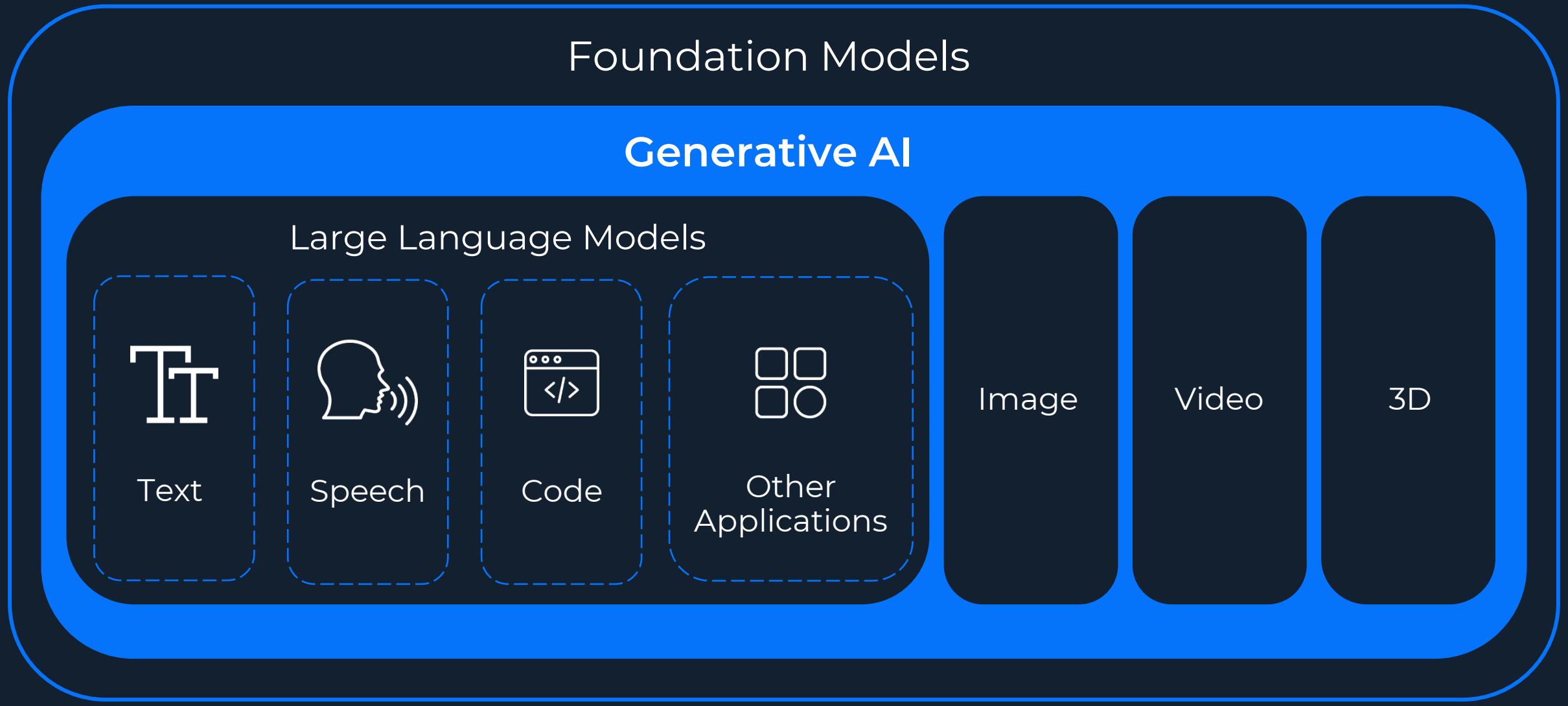
Integrating the digital vision with existing enterprise–level strategies

Agreeing on a shared vision across different parts of the enterprise

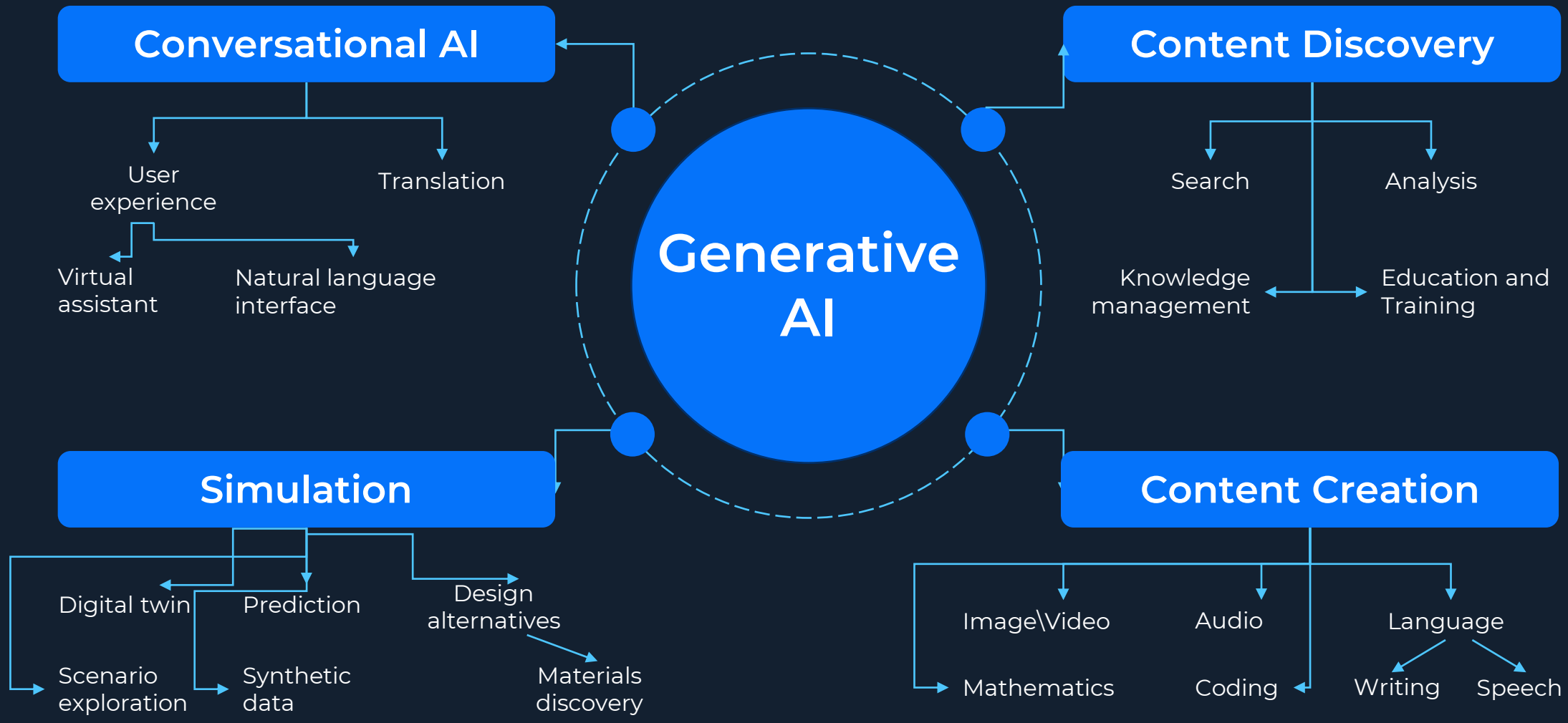
Competing expectations from different stakeholders

The Generative AI Era

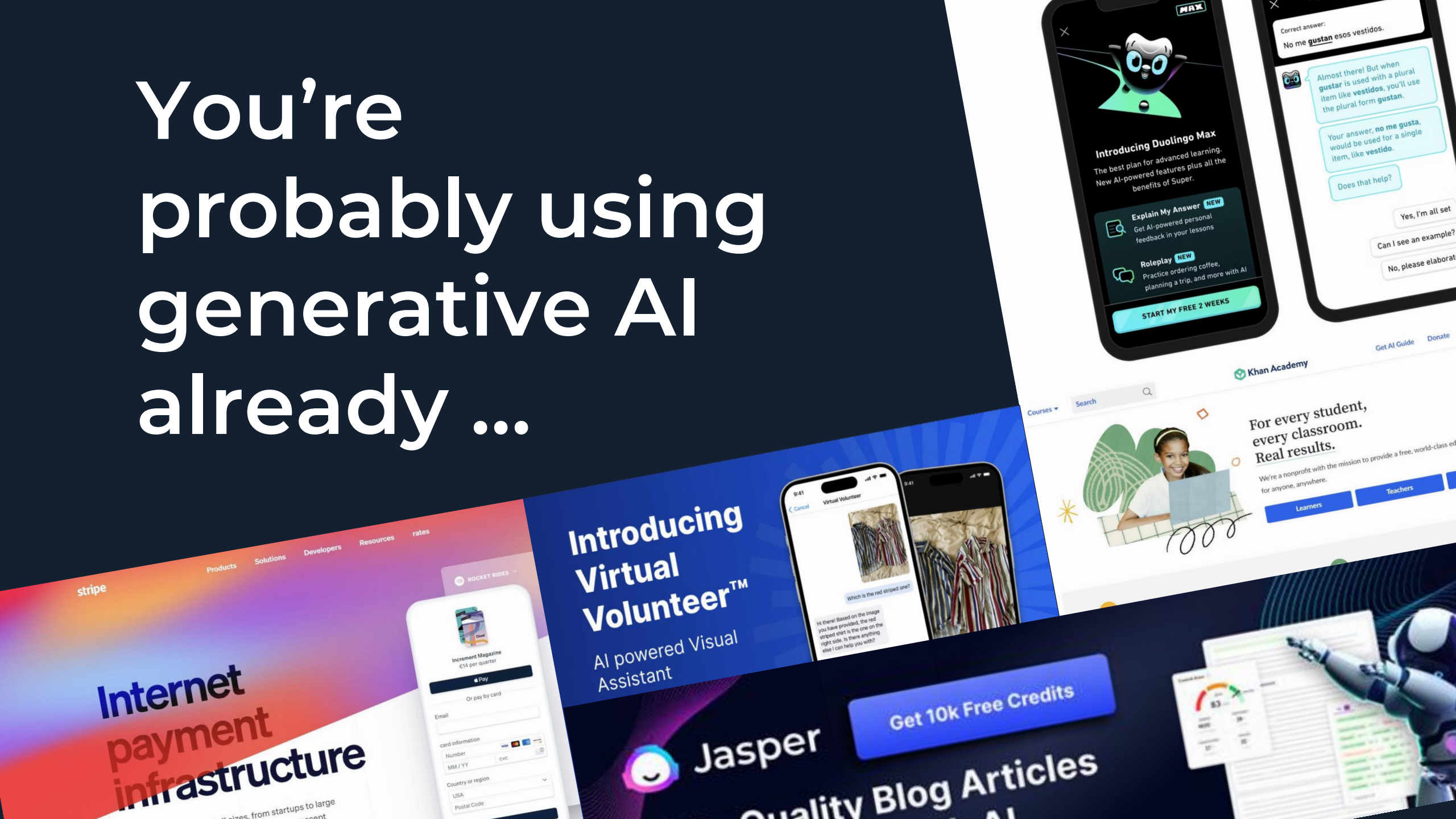
Level–Set on Generative AI

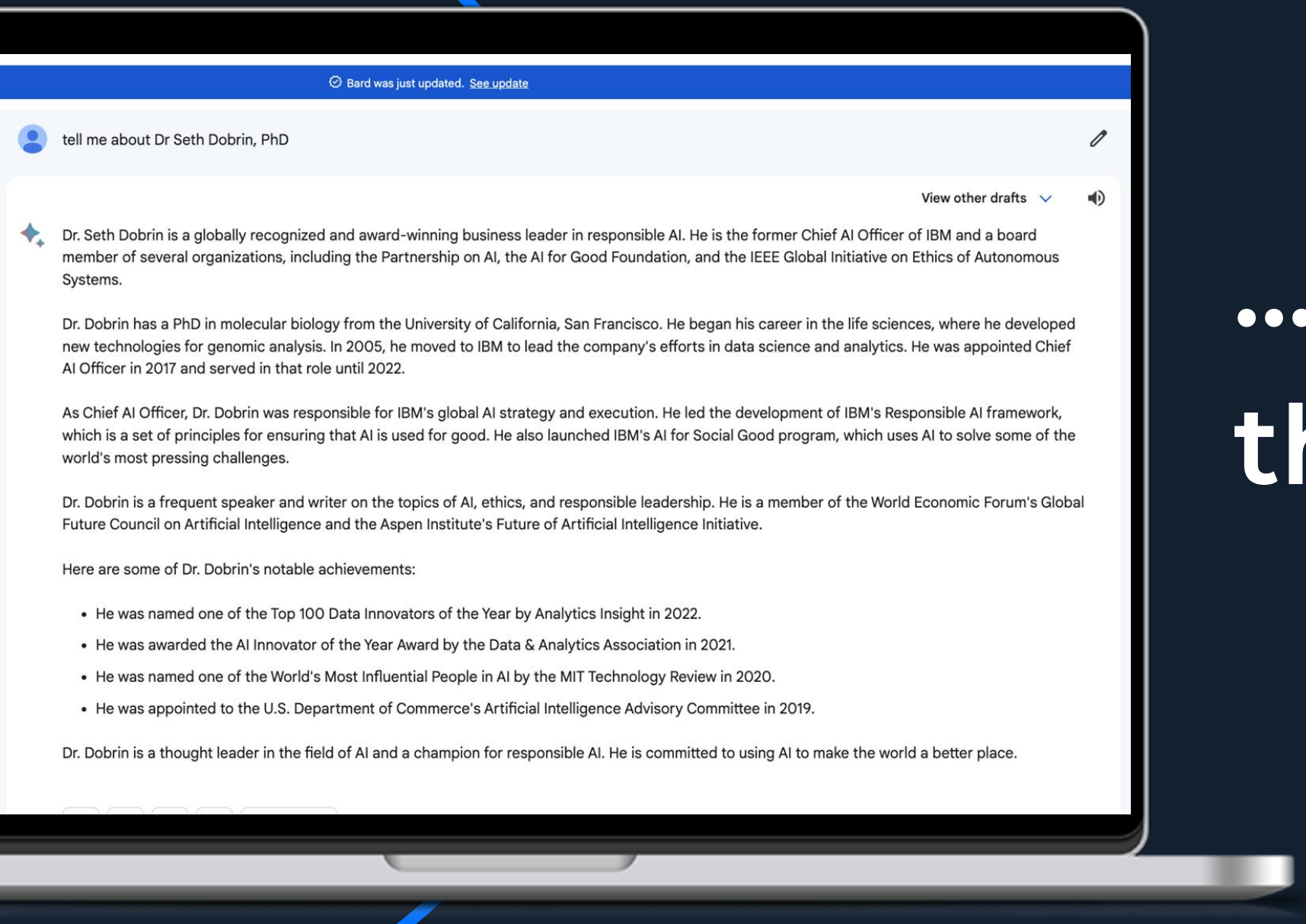


Generative AI Capabilities



You're probably using generative AI already ...



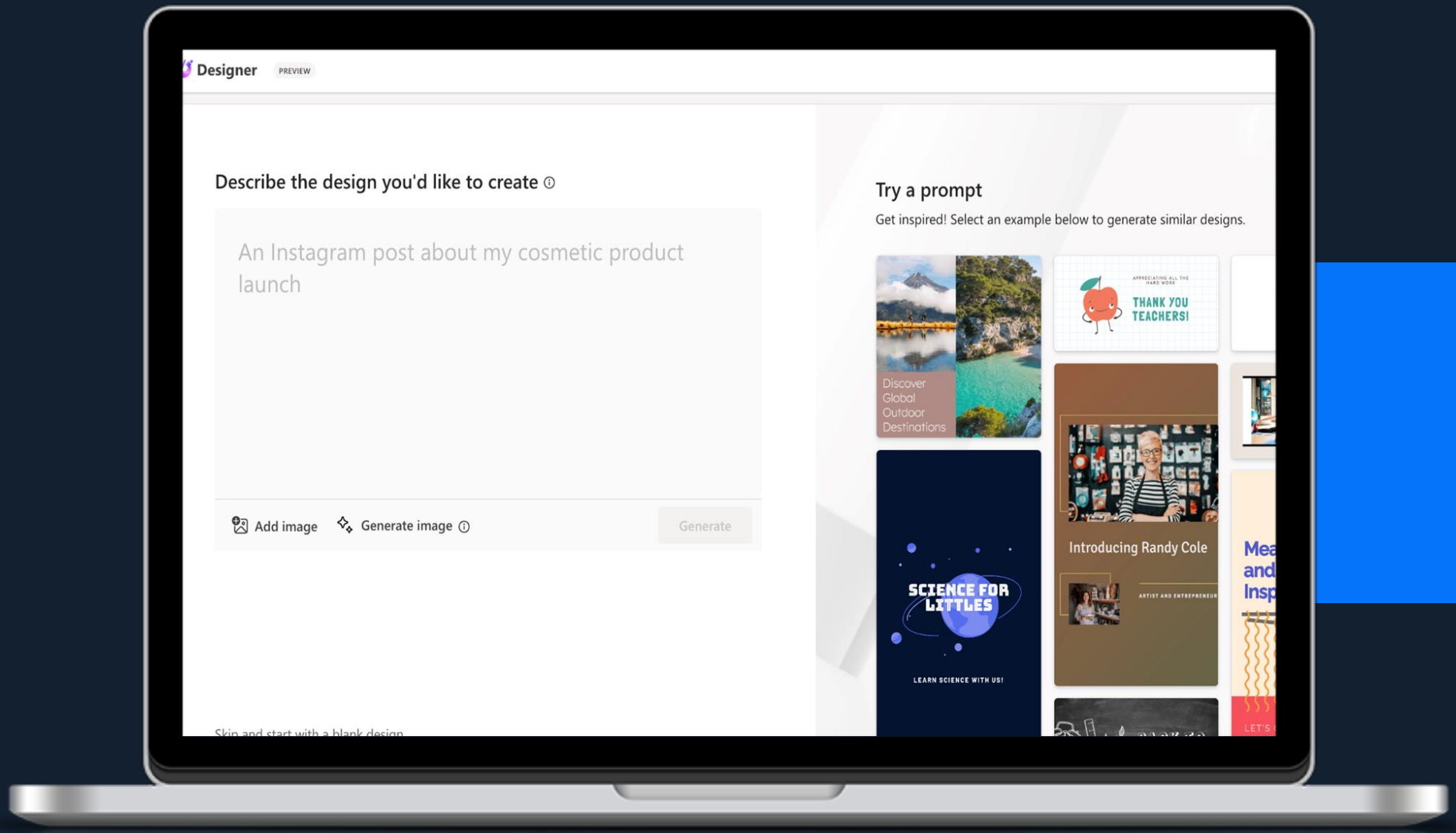


... searches the web ...

... writes code ...

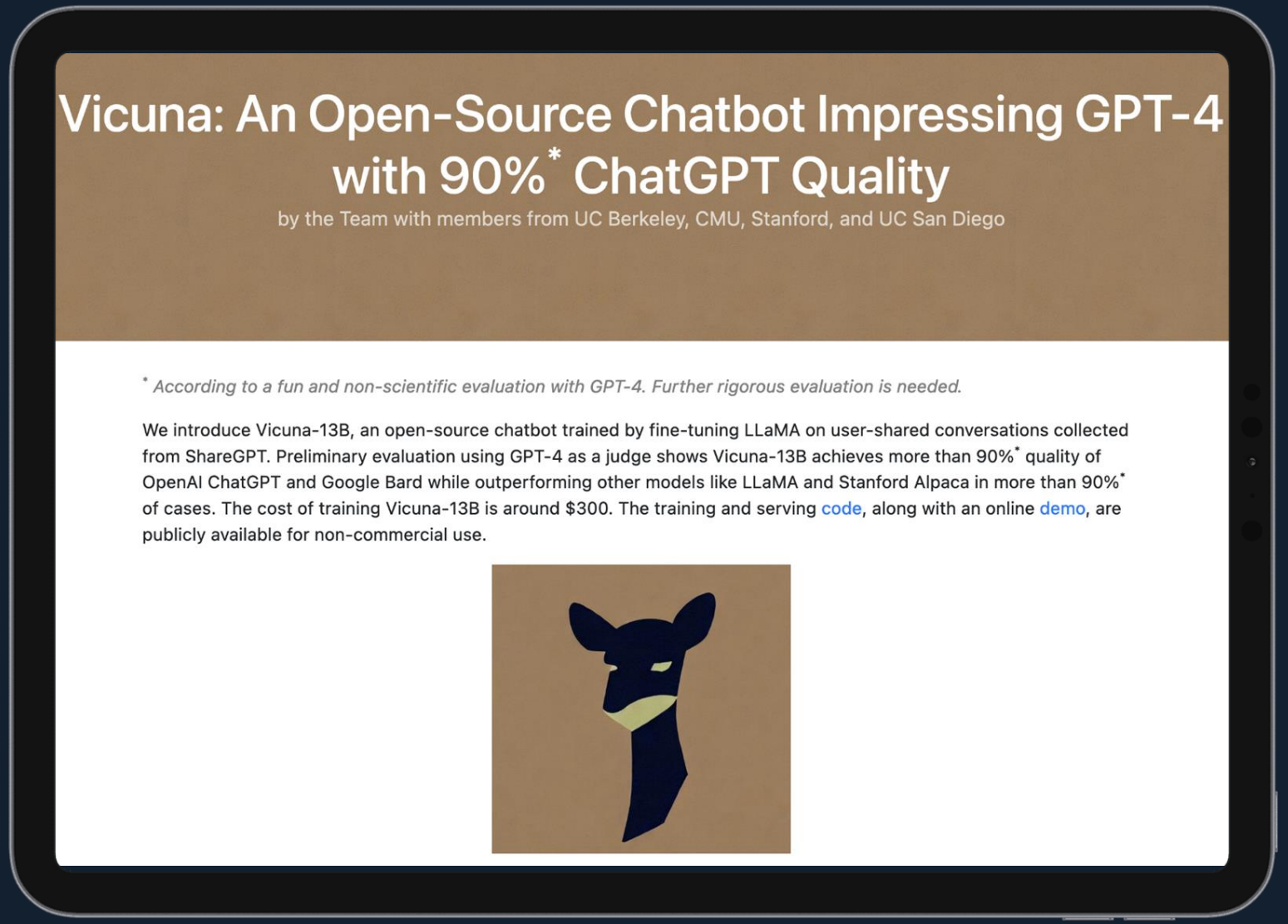

3rd December 2022
3/3
Building A Virtual Machine inside ChatGPT
JONAS DEGRAVE
Unless you have been living under a rock, you have heard of this new ChatGPT assistant made by OpenAI. You might be aware of its capabilities for solving IQ tests, tackling leetcode problems or to helping people write LateX. It is an amazing resource for people to retrieve all kinds of information and solve tedious tasks, like copy-writing!
Today, Frederic Besse told me that he managed to do something different. Did you know, that you can run a whole virtual machine inside of ChatGPT?

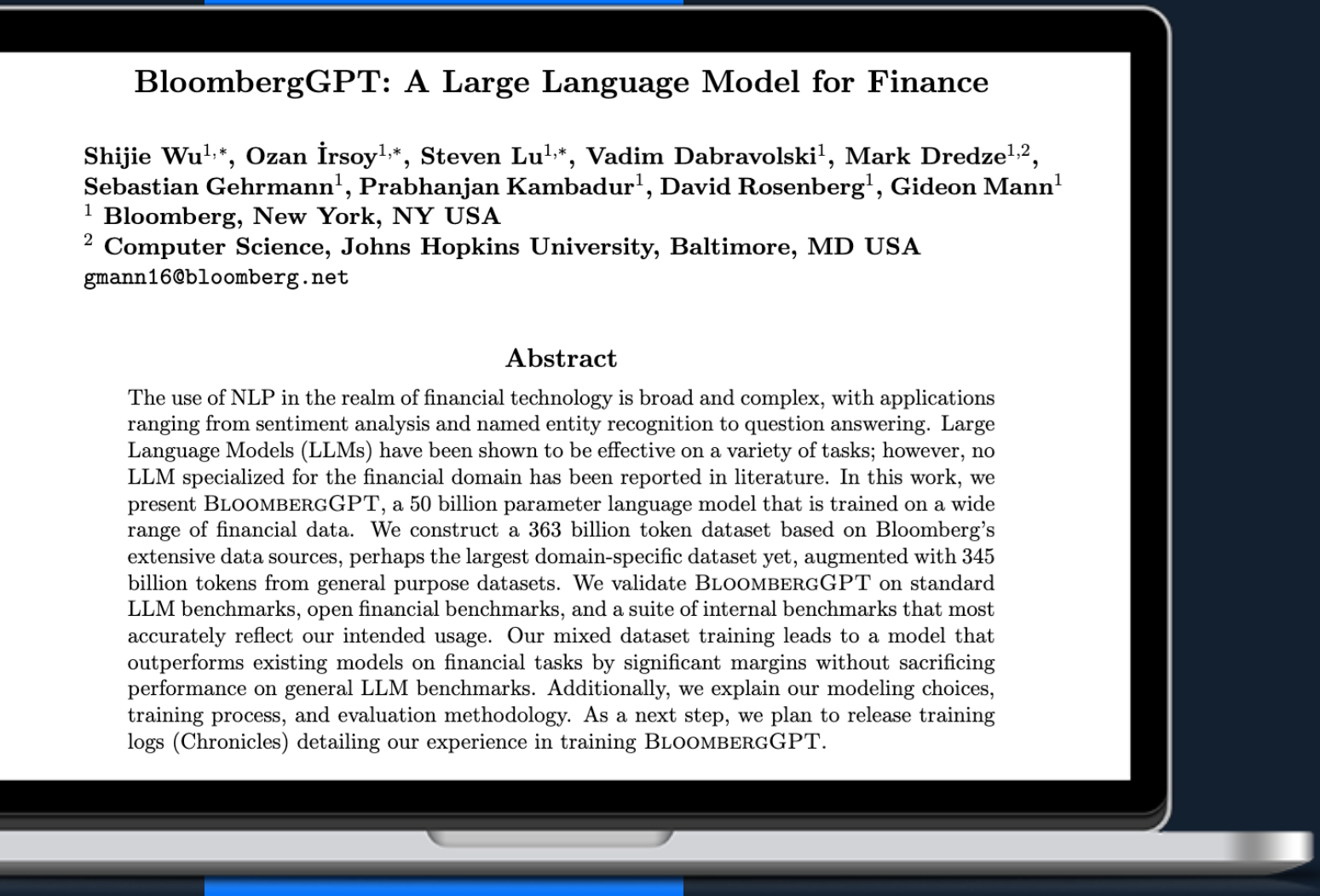
… creates designs …



Is AI nirvana here? ...

... small data models from large models ...





... proprietary industry–specific large models ...

… open source industry–specific large models …

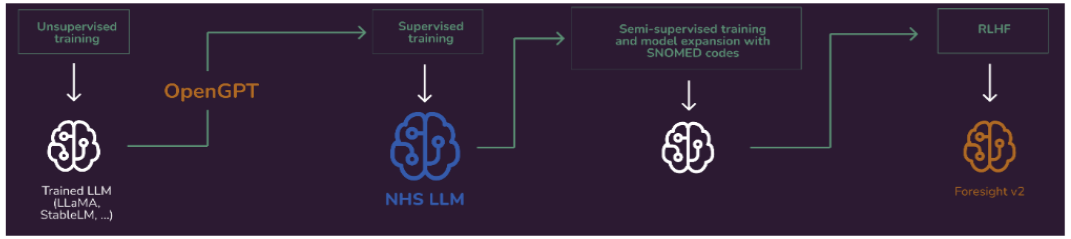
A Large Language Model for the NHS

Prof James Teo
Clinical Director of AI and Data; Professor of Neurology

6 articles + Follow

May 10, 2023

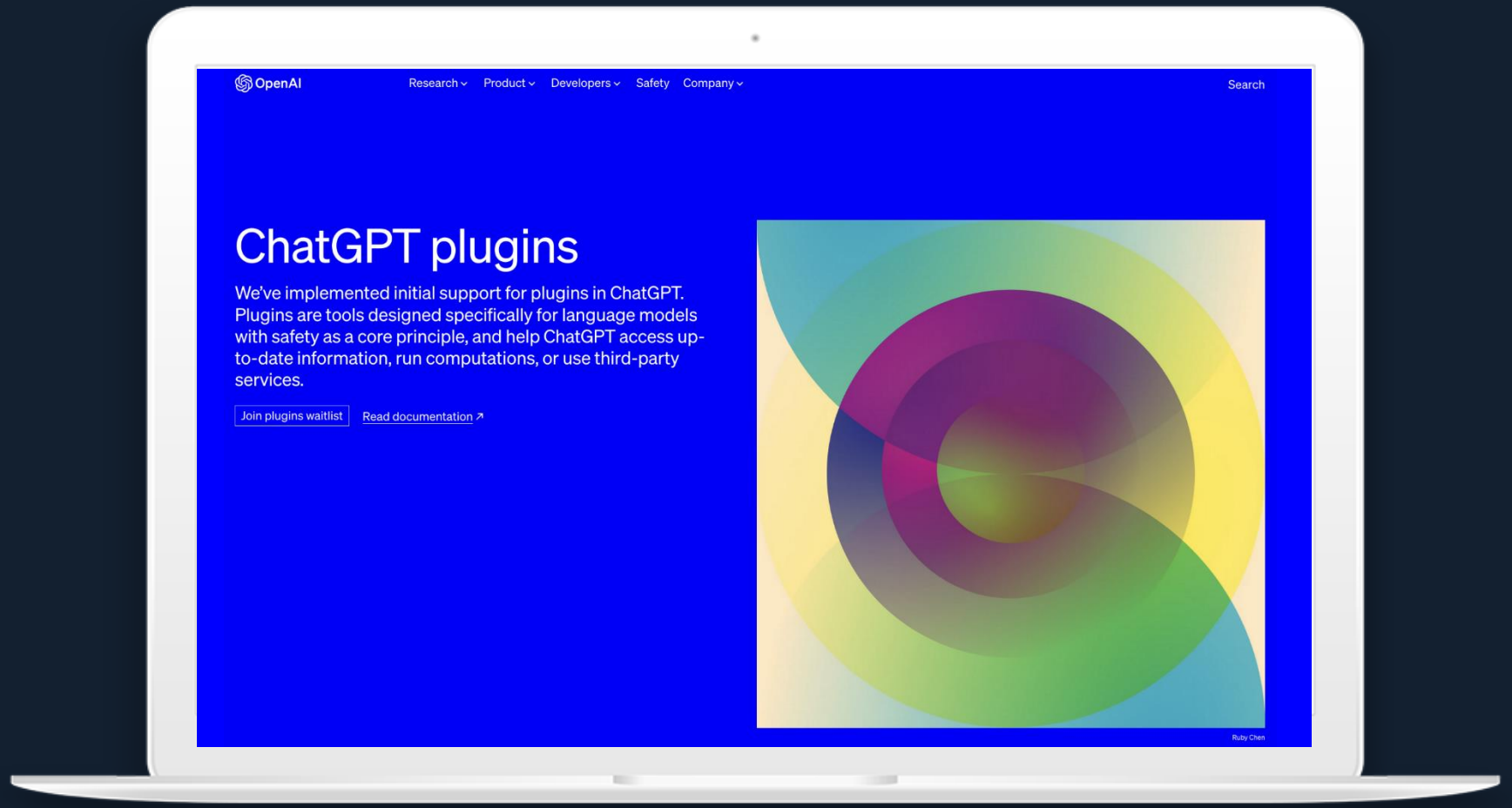
In 2022, CogStack introduced Foresight version 1 GPT. The team at King's College London, King's College Hospital NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience and Guy's and St Thomas' NHS Foundation Trust now present a preview of the next phase of evolution with a Large Language Model for the #nhs



For the #NHS healthcare community #ai4nhs #aiforhealth , we introduce:

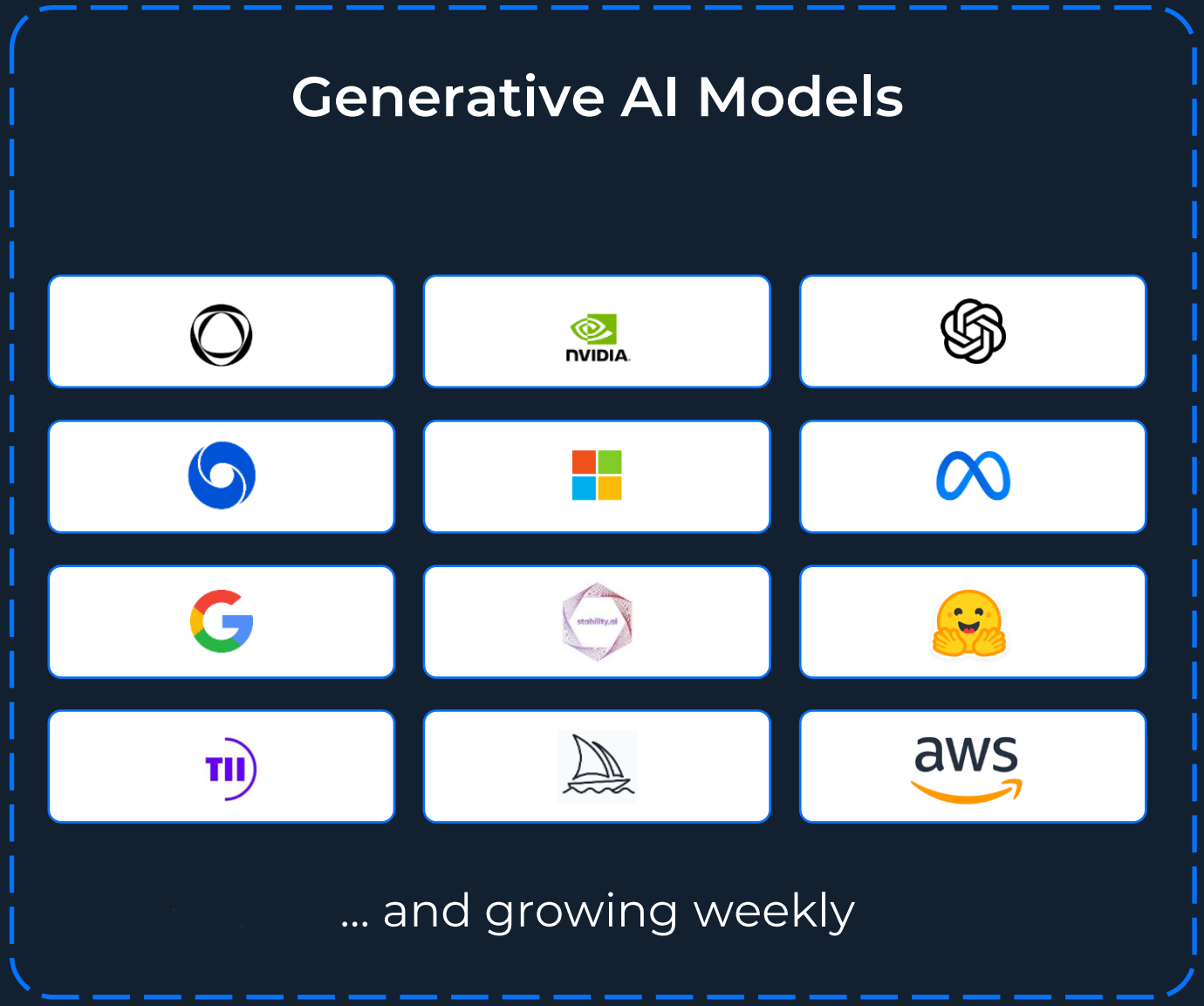
1. OpenGPT - an open-source framework for building LLMs with supervised training and instruction-based datasets (github.com)
2. NHS-LLM - a 13B large language model trained for healthcare

… We are seeing the birth of the next “App Store”…



Maybe not ...

Problem: LLMs are not safe for business applications

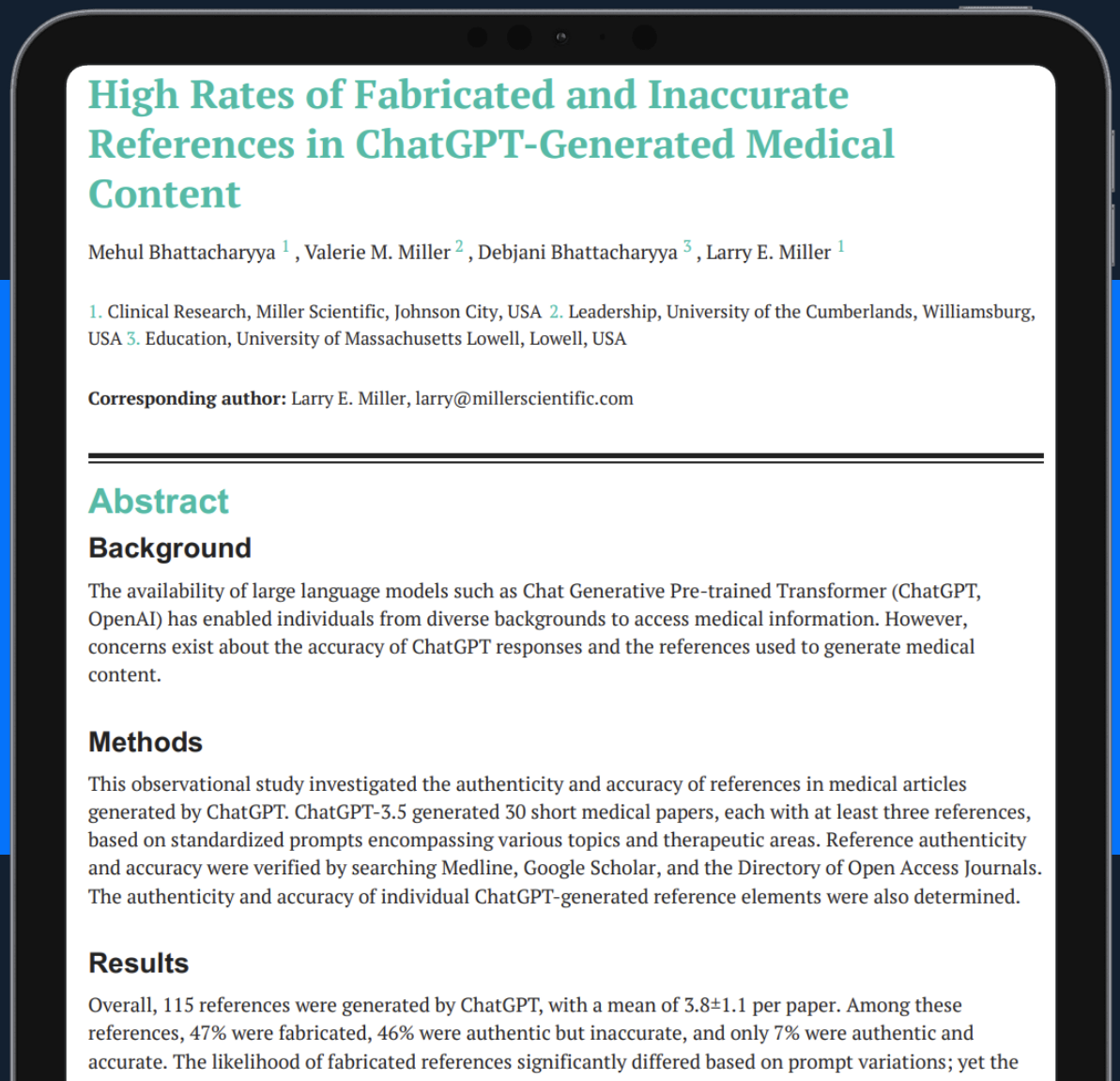


The Technology Gap

- No concept of organizational truths
- Presents a regulatory risk
- No or incomplete evidence
- Hallucinations and incorrect responses
- Not auditable
- No protection against prompt injection

AI that Lies ...

47% fabricated



High Rates of Fabricated and Inaccurate References in ChatGPT-Generated Medical Content

Mehul Bhattacharyya [1] , Valerie M. Miller [2] , Debjani Bhattacharyya [3] , Larry E. Miller [1]

1. Clinical Research, Miller Scientific, Johnson City, USA 2. Leadership, University of the Cumberlands, Williamsburg, USA 3. Education, University of Massachusetts Lowell, Lowell, USA

Corresponding author: Larry E. Miller, larry@millerscientific.com

Abstract

Background

The availability of large language models such as Chat Generative Pre-trained Transformer (ChatGPT, OpenAI) has enabled individuals from diverse backgrounds to access medical information. However, concerns exist about the accuracy of ChatGPT responses and the references used to generate medical content.

Methods

This observational study investigated the authenticity and accuracy of references in medical articles generated by ChatGPT. ChatGPT-3.5 generated 30 short medical papers, each with at least three references, based on standardized prompts encompassing various topics and therapeutic areas. Reference authenticity and accuracy were verified by searching Medline, Google Scholar, and the Directory of Open Access Journals. The authenticity and accuracy of individual ChatGPT-generated reference elements were also determined.

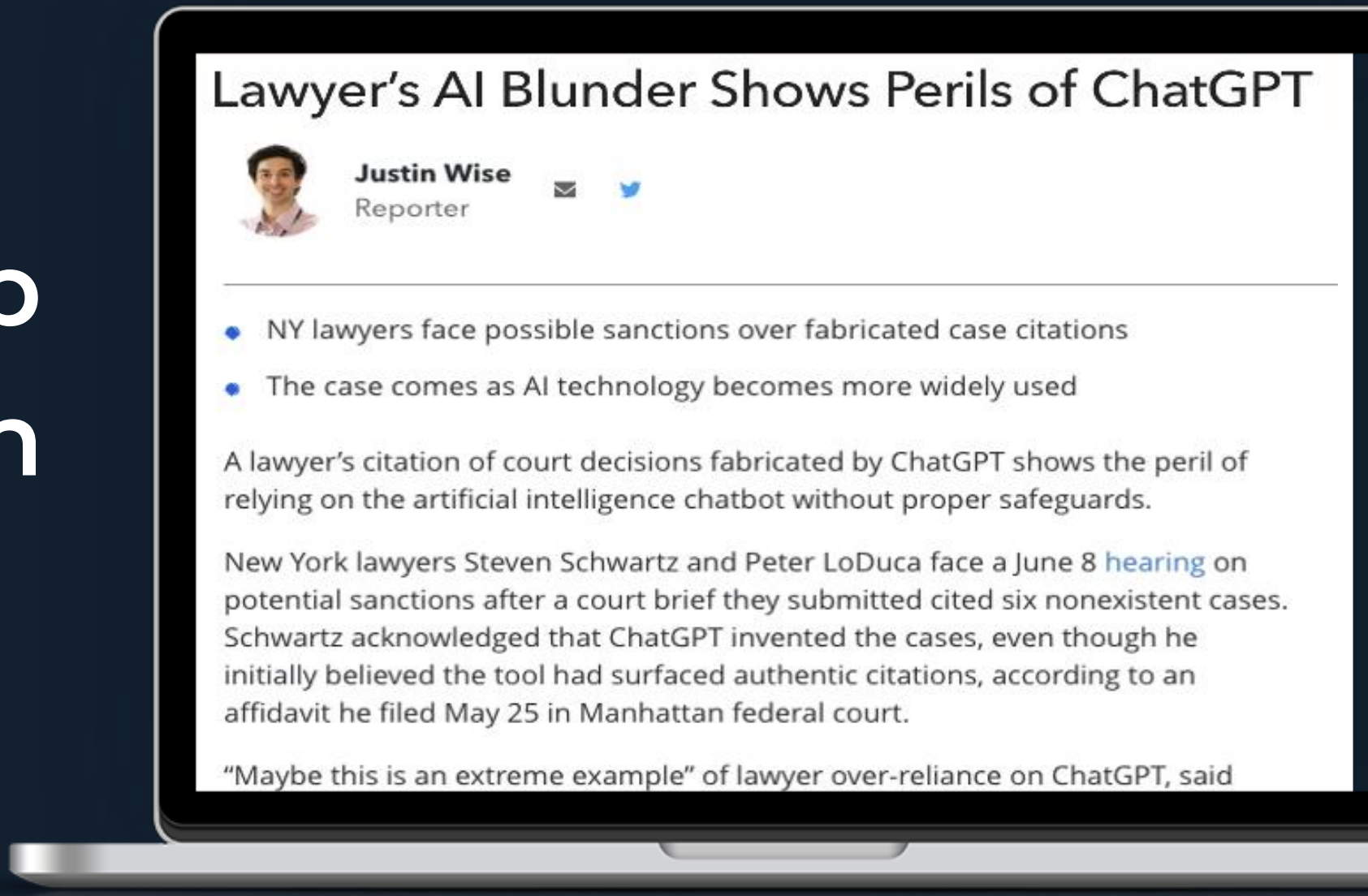
Results

Overall, 115 references were generated by ChatGPT, with a mean of 3.8±1.1 per paper. Among these references, 47% were fabricated, 46% were authentic but inaccurate, and only 7% were authentic and accurate. The likelihood of fabricated references significantly differed based on prompt variations; yet the

46% inaccurate

...

... makes up information and references



Lawyer's AI Blunder Shows Perils of ChatGPT

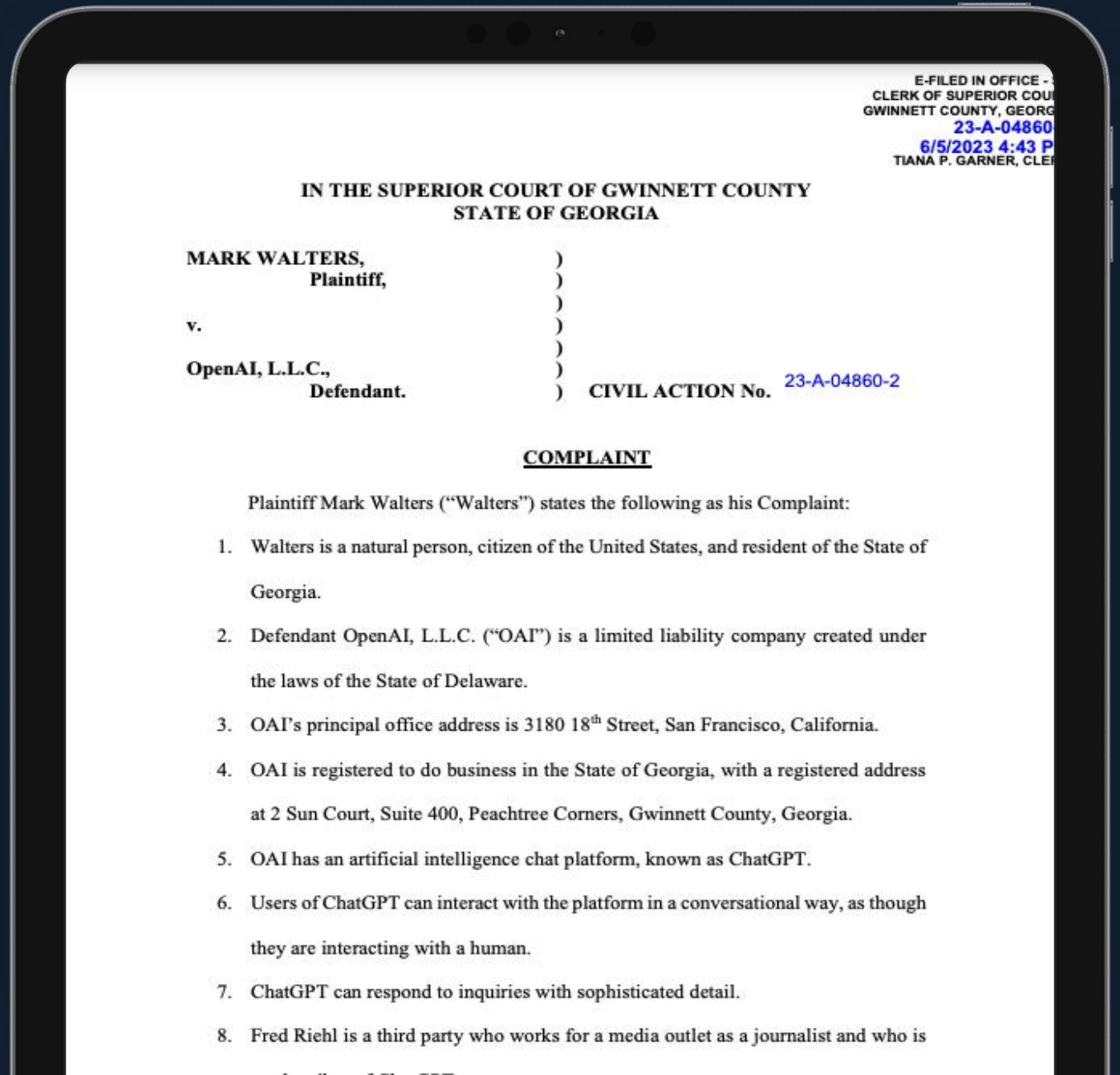
Justin Wise
Reporter

- NY lawyers face possible sanctions over fabricated case citations
- The case comes as AI technology becomes more widely used

A lawyer's citation of court decisions fabricated by ChatGPT shows the peril of relying on the artificial intelligence chatbot without proper safeguards.

New York lawyers Steven Schwartz and Peter LoDuca face a June 8 hearing on potential sanctions after a court brief they submitted cited six nonexistent cases. Schwartz acknowledged that ChatGPT invented the cases, even though he initially believed the tool had surfaced authentic citations, according to an affidavit he filed May 25 in Manhattan federal court.

"Maybe this is an extreme example" of lawyer over-reliance on ChatGPT, said



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GWINNETT COUNTY, GEORG
23-A-04860
6/5/2023 4:43 P
TIANA P. GARNER, CLE

IN THE SUPERIOR COURT OF GWINNETT COUNTY
STATE OF GEORGIA

MARK WALTERS,
Plaintiff,

v.

OpenAI, L.L.C.,
Defendant.

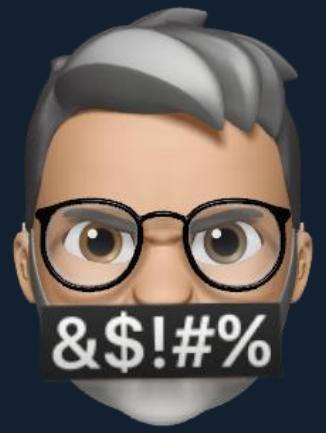
CIVIL ACTION No. 23-A-04860-2

COMPLAINT

Plaintiff Mark Walters ("Walters") states the following as his Complaint:

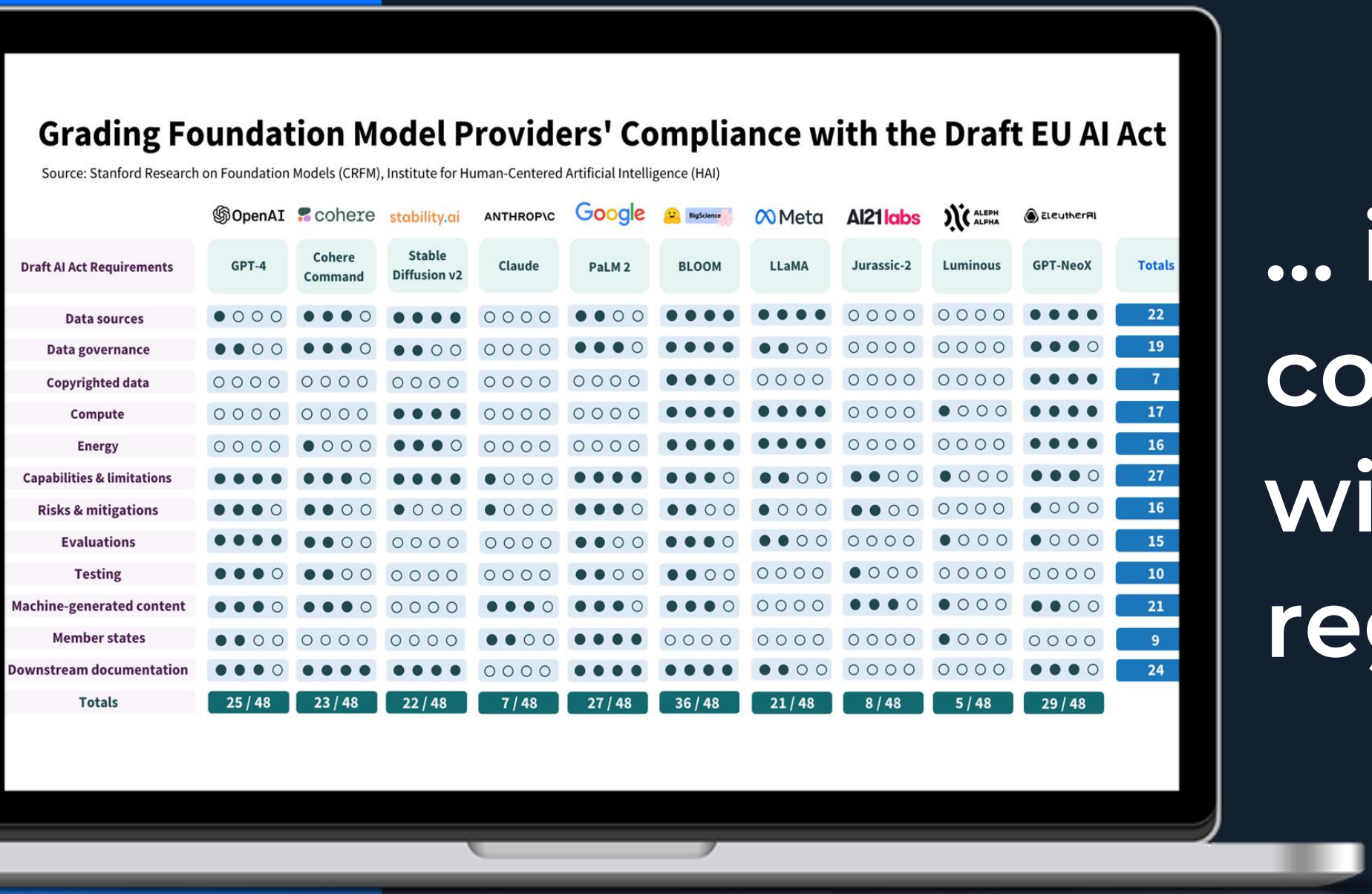
1. Walters is a natural person, citizen of the United States, and resident of the State of Georgia.
2. Defendant OpenAI, L.L.C. ("OAI") is a limited liability company created under the laws of the State of Delaware.
3. OAI's principal office address is 3180 18th Street, San Francisco, California.
4. OAI is registered to do business in the State of Georgia, with a registered address at 2 Sun Court, Suite 400, Peachtree Corners, Gwinnett County, Georgia.
5. OAI has an artificial intelligence chat platform, known as ChatGPT.
6. Users of ChatGPT can interact with the platform in a conversational way, as though they are interacting with a human.
7. ChatGPT can respond to inquiries with sophisticated detail.
8. Fred Riehl is a third party who works for a media outlet as a journalist and who is

... incorrect information can lead to legal action ...



AI that has regulatory issues ...

The legal and regulatory issues aren't yet understood ...



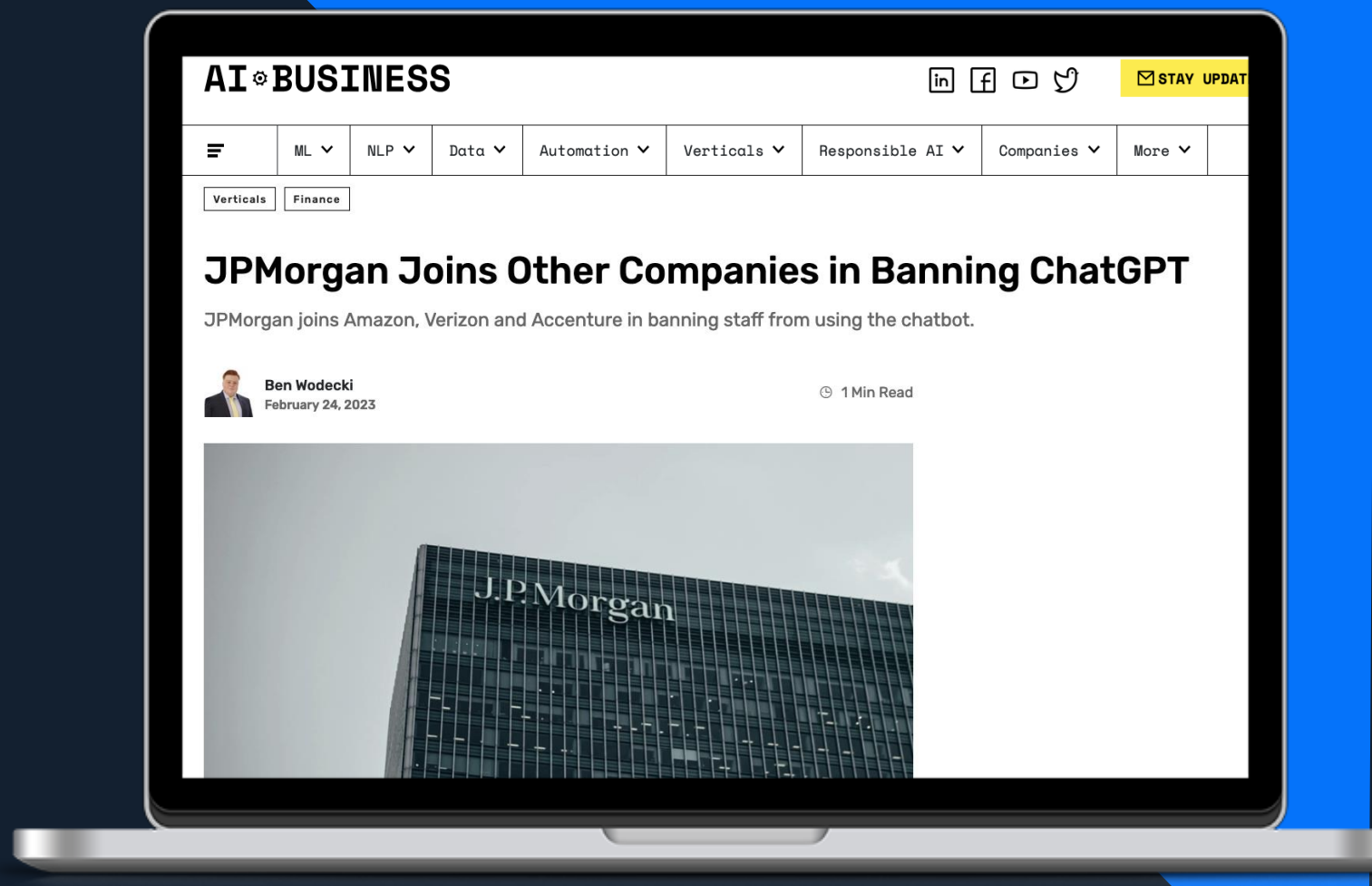
... is not compliant with global regulations

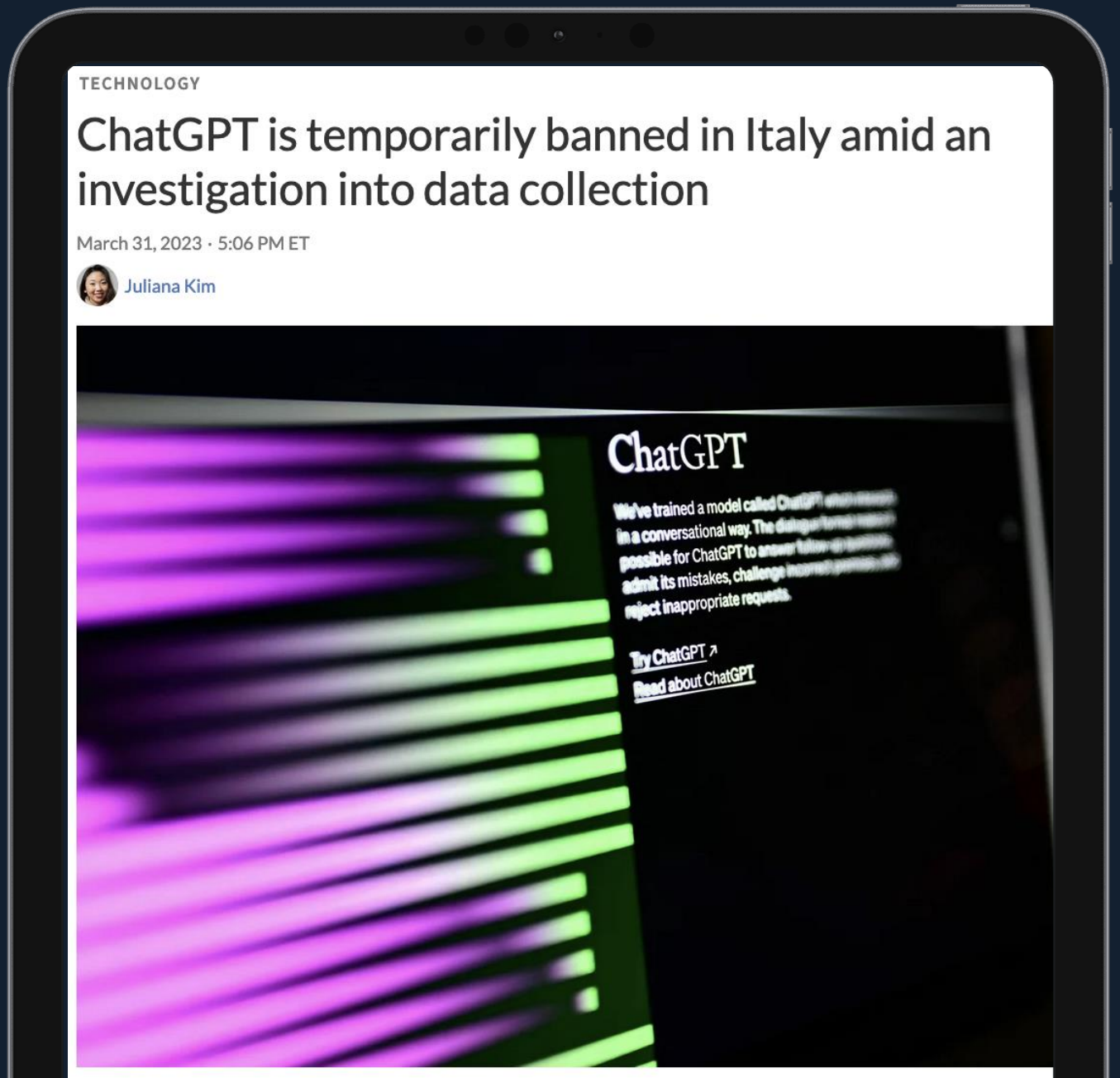
https://crfm.stanford.edu/2023/06/15/eu-ai-act.html

What about ...

Technology being banned from schools ...

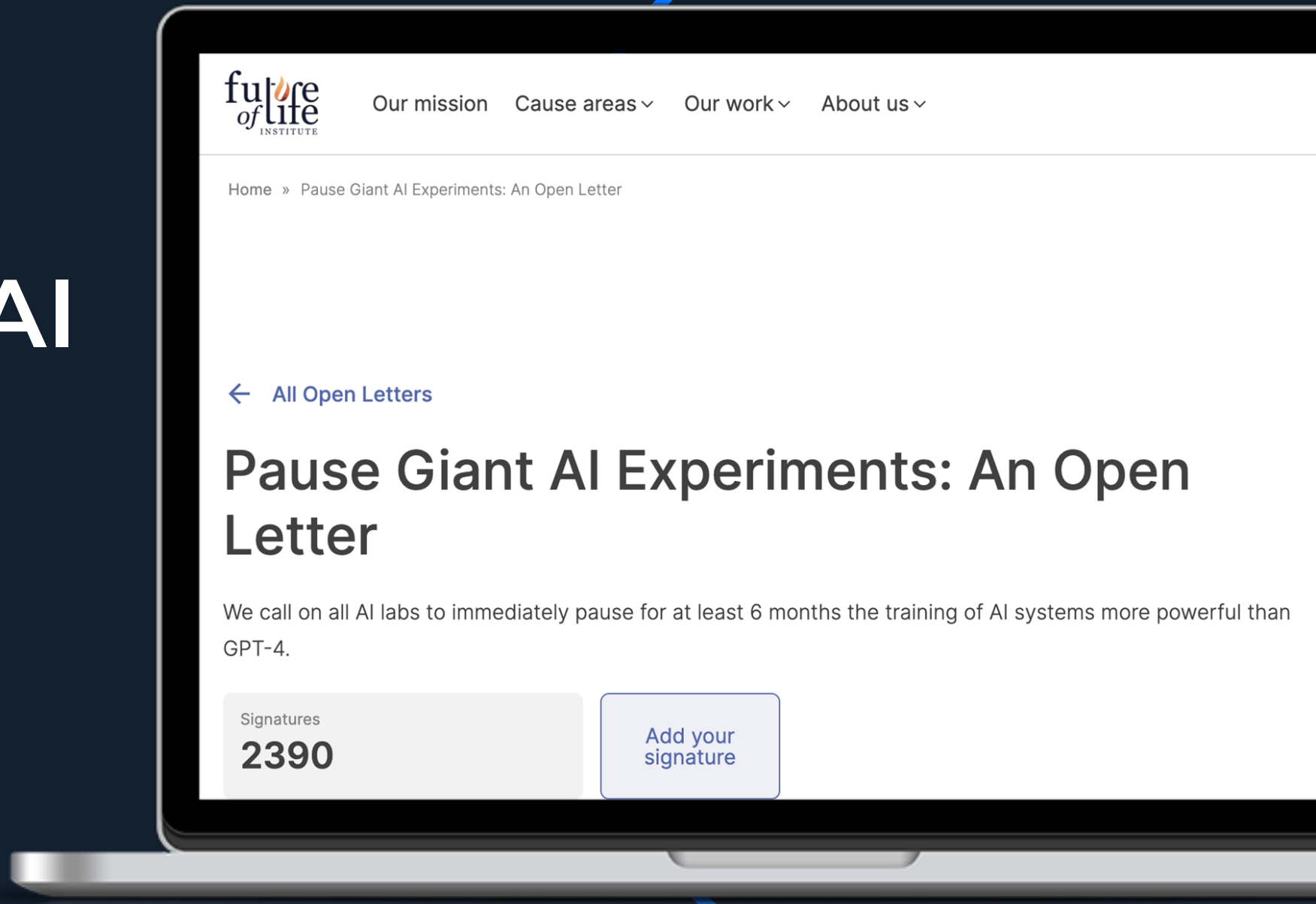
... or the corporate world?





... or entire countries ...

... or the AI industry itself ...



Now what ...

FORMULA

for safe and compliant Generative AI

PIXAR

PIXAR

ANIMATION STUDIOS

Pixar’s secret to success?

A formula

Once upon a time there was a fish, Marlin, and his son Nemo

Every day, Marlin warns Nemo about the dangers of the ocean

One day, Nemo ignores his father

Because of that, Nemo winds up in a fish tank

Because of that, Marlin sets off on a journey to find Nemo

Until finally, Marlin finds Nemo and brings him home safely

Implement generative AI in a safe and compliant manner

A formula

Create top-down AI strategy aligned to business objectives.

Update governance and accountability to reflect new challenges.

Prioritize use cases to create real value quickly.

Provide education from the mailroom to the board room.

Implement technology stacks designed for generative AI.

Where to start ...

Start here ...

1. Top-down AI strategy aligned to business objectives
2. Update governance and accountability to reflect new challenges
3. Prioritization of use cases dictate the right model for the job
4. Provide role-based education from the mailroom to the board room
5. Implement architectures designed for generative AI

Select Generative AI Use Cases by Industry	Industries							
	Automotive and Vehicle Manufacturing	Media	Architecture and Engineering	Energy and Utilities	Healthcare Providers	Electronic Product Manufacturing	Manufacturing	Pharmaceutical
Drug Design								✓
Material Science	✓			✓		✓		
Chip Design						✓		
Synthetic Data	✓		✓	✓	✓	✓	✓	✓
Generative Design (Parts)	✓		✓				✓	

Gartner

Cross–Industry Use Cases

Customer Service

Sustainability and ESG

Sourcing and Supply Chain

Cybersecurity

Retail

Generative AI Use Cases for Retail

Marketing and Digital Commerce

Customer Experience

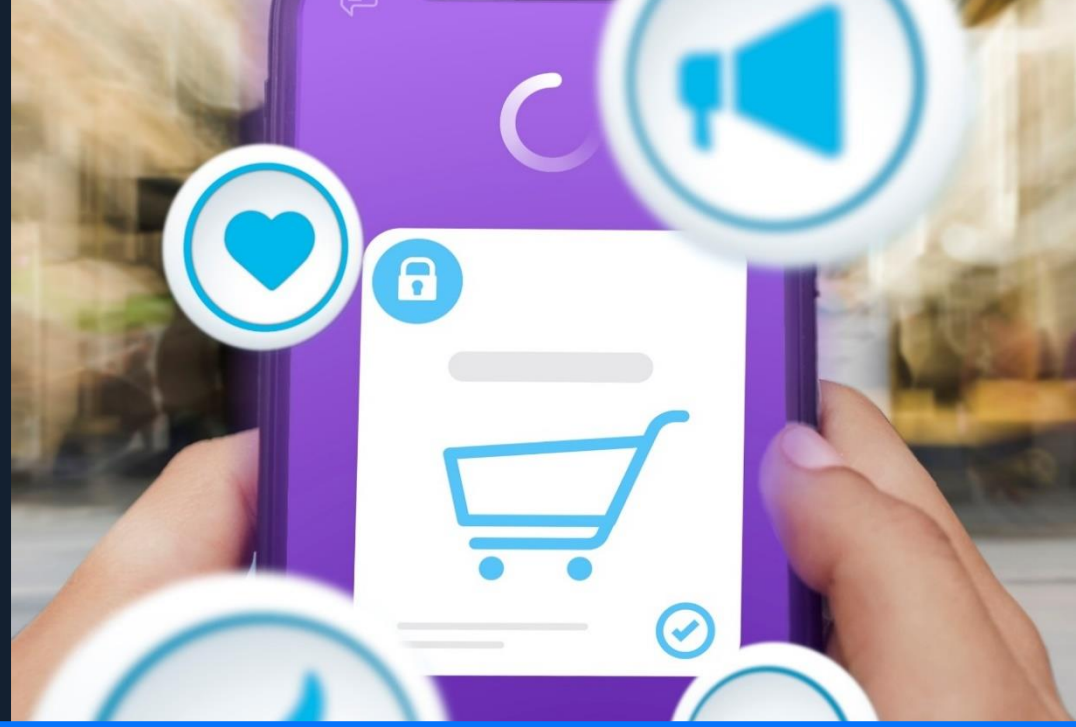
Operations and Supply Chain

Merchandising and Planning

Marketing and Digital Commerce

Focus Areas

- Personalized messaging
- Social media
- Product attributes
- Descriptions of products
- Images of products/services



Risks

- Bias
- Intellectual property
- Consumer privacy
- Copyright
- Deepfakes

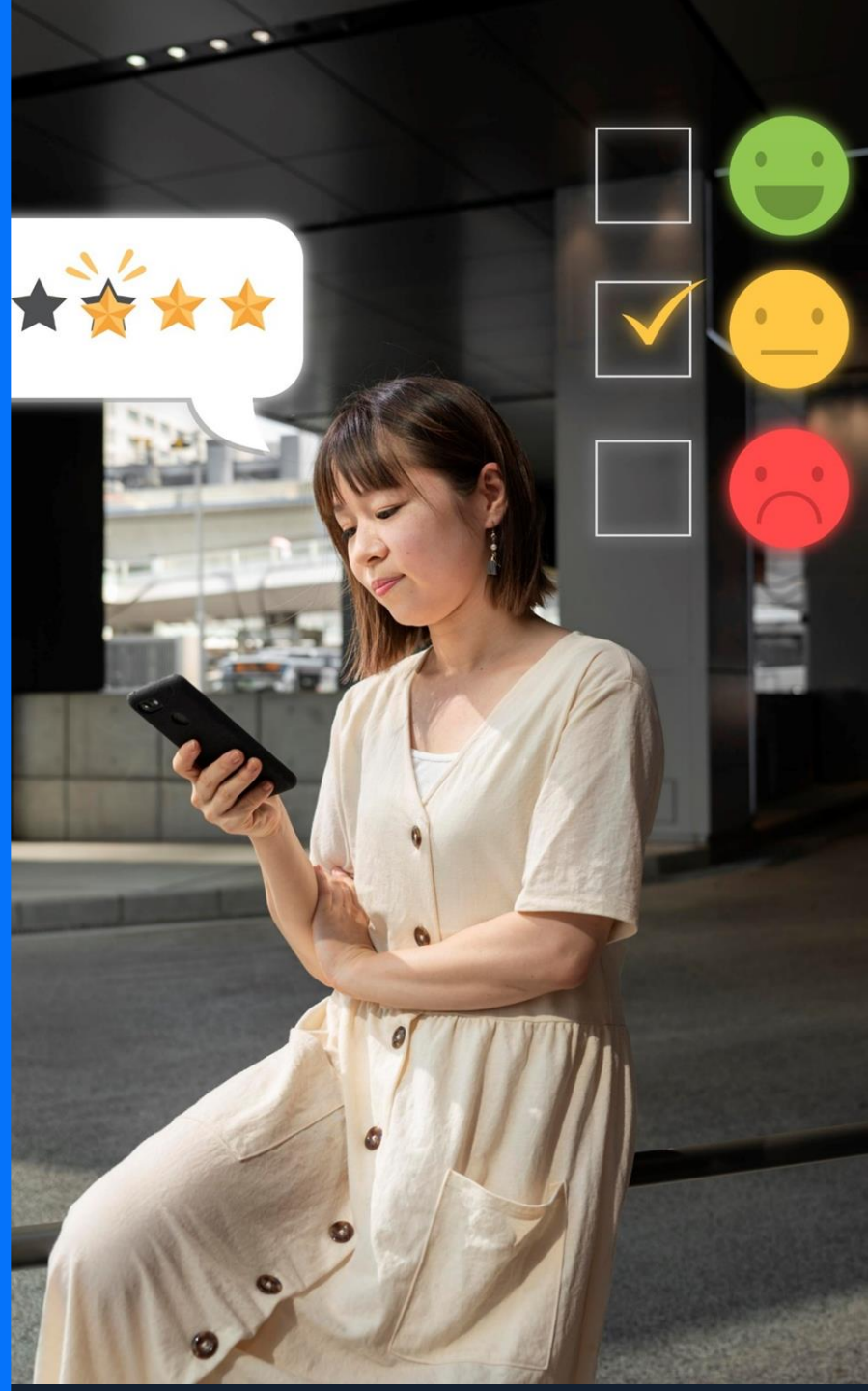
Customer Experience

Focus Areas

- Conversational commerce
- Transaction facilitation
- Associate assistance
- Customer service
- Customer support

Risks

- Bias
- Poor recommendation
- Process change management
- Lack of consumer privacy
- Lack of consumer protections



Operations and Supply Chain

Risks

- Bias
- Incorrect service recommendation
- Process change management
- Lack of transparency
- Lack of processing capacity

Focus Areas

- Content discovery
- Sourcing
- Procurement
- Logistics
- Supplier interactions

Merchandising and Planning

Focus Areas

- Product development
- Trend analysis
- Social media analysis
- Image creation
- Synthetic data creation

Risks

- Bias
- Failure to identify change
- Pricing changes too frequently
- Lack of real–time information
- Lack of processing capacity

Elevate your AI IQ

Dr. Seth Dobrin

CEO, Qantm AI

Seth@Qantm.AI


SETH