



# **STEM Education Alliance**

## **Preparing for the Future**

Lynne K. Varner & Jenée Myers Twitchell, Washington STEM

John Aultman, Governor's Office

# Framing



Framing for the Day

Context: Stepping Back & Assessing What we Need Next

Recall: Original Purpose, Goals, and Legislation of STEM Alliance

Recall: Recent Feedback & Working Groups

Proposed Next Steps to Envision Future of Alliance

# Recall: STEM Alliance Original Purpose



[RCW 28A.188.030]

“The STEM education innovation alliance is established

1. to advise the governor...
2. ...and to provide vision, guidance, assistance, and advice to support the initiatives under this chapter...
3. ...[using a] comprehensive STEM framework...
4. ...[and] to develop a STEM education report card.

# Recall: Original 2013 Framework

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EARLY LEARNING-HIGH  
SCHOOL STUDENTS



EARLY LEARNING-HIGH  
SCHOOL EDUCATORS



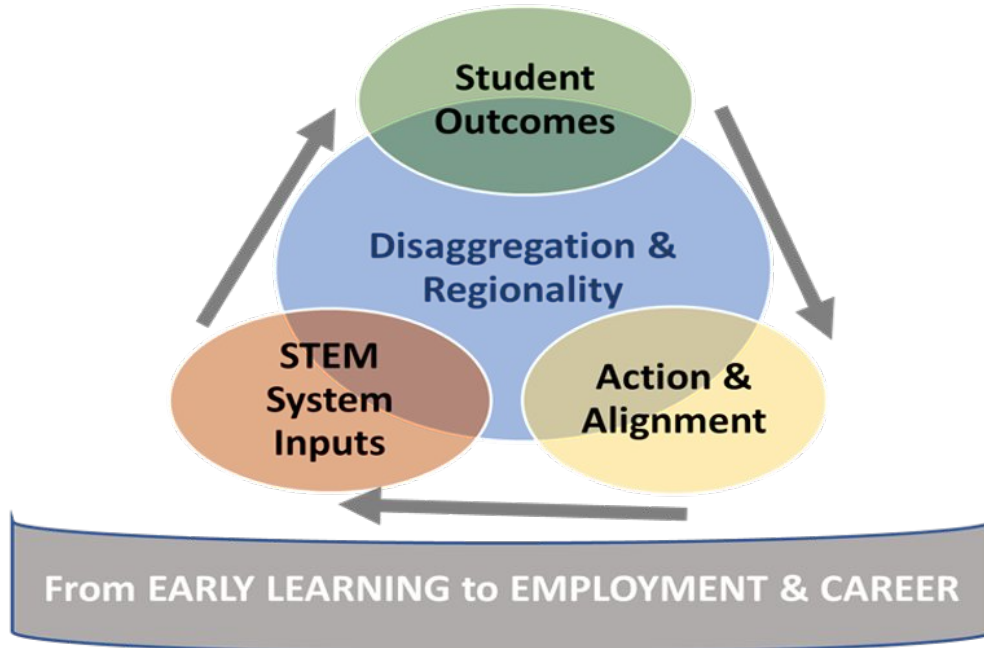
POST SECONDARY AND  
EMPLOYERS



ALIGNED SYSTEMS

# 2022 Updated Framework

## STEM Education Innovation Alliance Framework for Action & Accountability



# Summary of Added/Proposed for Replacement STEM Report Card Metrics Proposed (2022)

- STEM coursetaking (including gatekeeping course)
- Dual Credit coursetaking and use
- Student experiences (surveys & qualitative measures)
- WA originators who have gotten jobs in STEM sectors/industries
  
- Current & Projected STEM job openings
- K-12 STEM course availability
- Dual Credit course availability
  
- Disaggregation (K-12 originators, demogs, geography, programs, etc)
  
- Ensuring complementary reports and resources available in one place



STUDENT STEM OUTCOMES



STEM SYSTEM INPUTS



DISAGGREGATION & REGIONALITY



ACTION & ALIGNMENT

# Proposed Next Steps & Feedback



1. Gather Complete Summary of Alliance Activities & Outcomes
2. Obtain Feedback on Current & Future STEM Needs from a body like this
3. Co-develop Recommendations for “Vehicle” of STEM body
4. Provide Roadmap & Recommendations to Next Governor

Prompt (in the Teams chat): What is missing? What/who should we consider? How should we go about envisioning the next iteration, future needs, and future work of a group like ours to ensure equity & success in STEM for our students & our state?



# AI and Misinformation/Disinformation



Jevin West  
Center for an Informed Public  
Information School, University of Washington  
[@jevinwest](#), [@callin\\_bull](#)  
jevinw@uw.edu



STEM Education Innovation Alliance, Olympia, Washington  
March 5, 2024



**AI-GENERATED FAKE IMAGE**





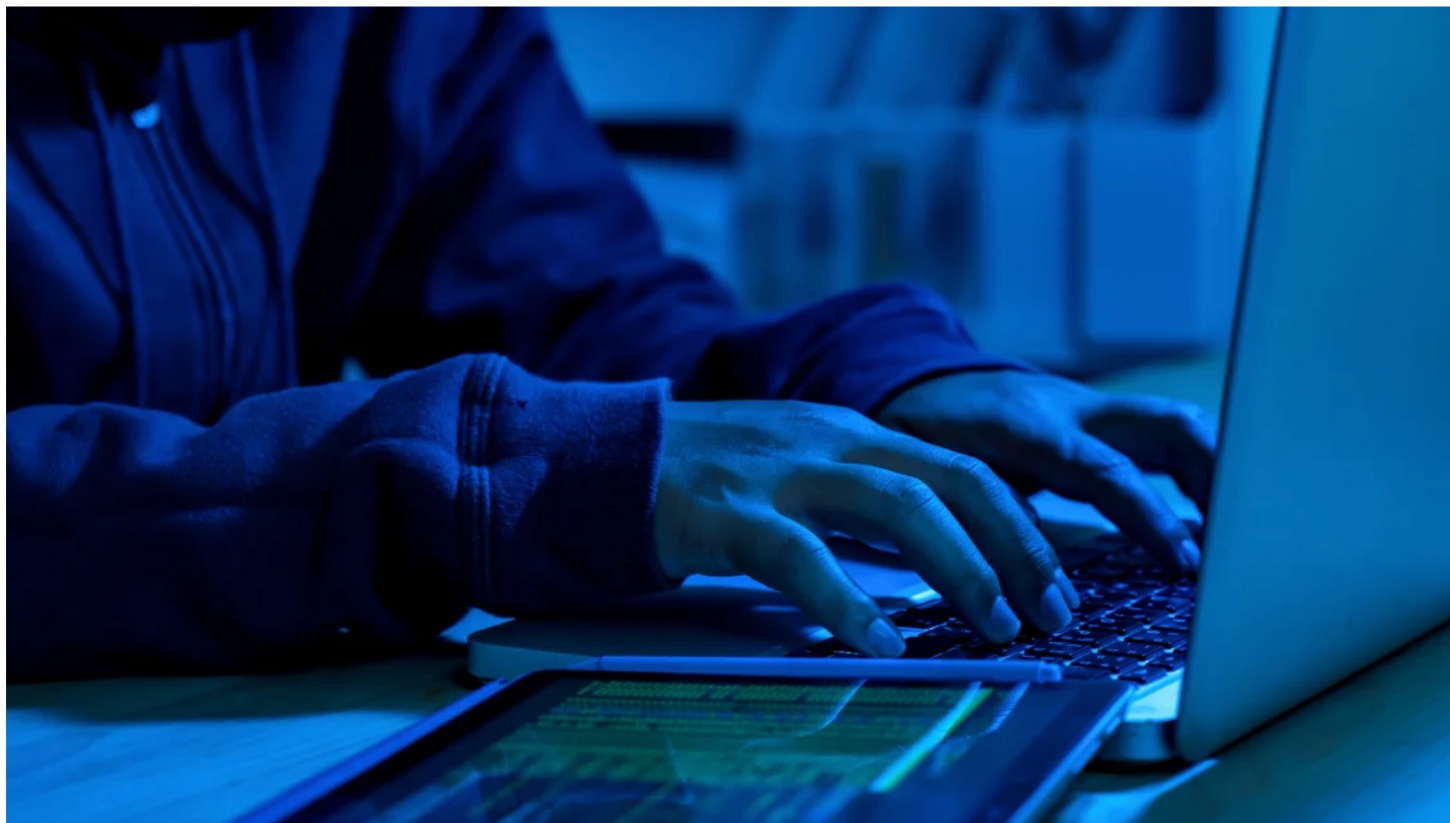
World / Asia

# Finance worker pays out \$25 million after video call with deepfake ‘chief financial officer’



By Heather Chen and [Kathleen Magramo](#), CNN

🕒 2 minute read · Published 2:31 AM EST, Sun February 4, 2024



Authorities are increasingly concerned at the damaging potential posed by artificial intelligence technology. boonchai wedmakawand/Moment RF/Getty Images

# The machine runs amok

Twisted facts, fake news and social media spoofs can turn society upside down. One UW team is working to help us through the infodemic.

BY MALAVIKA JAGANNATHAN | ILLUSTRATION  
BY STACY NGUYEN | DECEMBER 2021



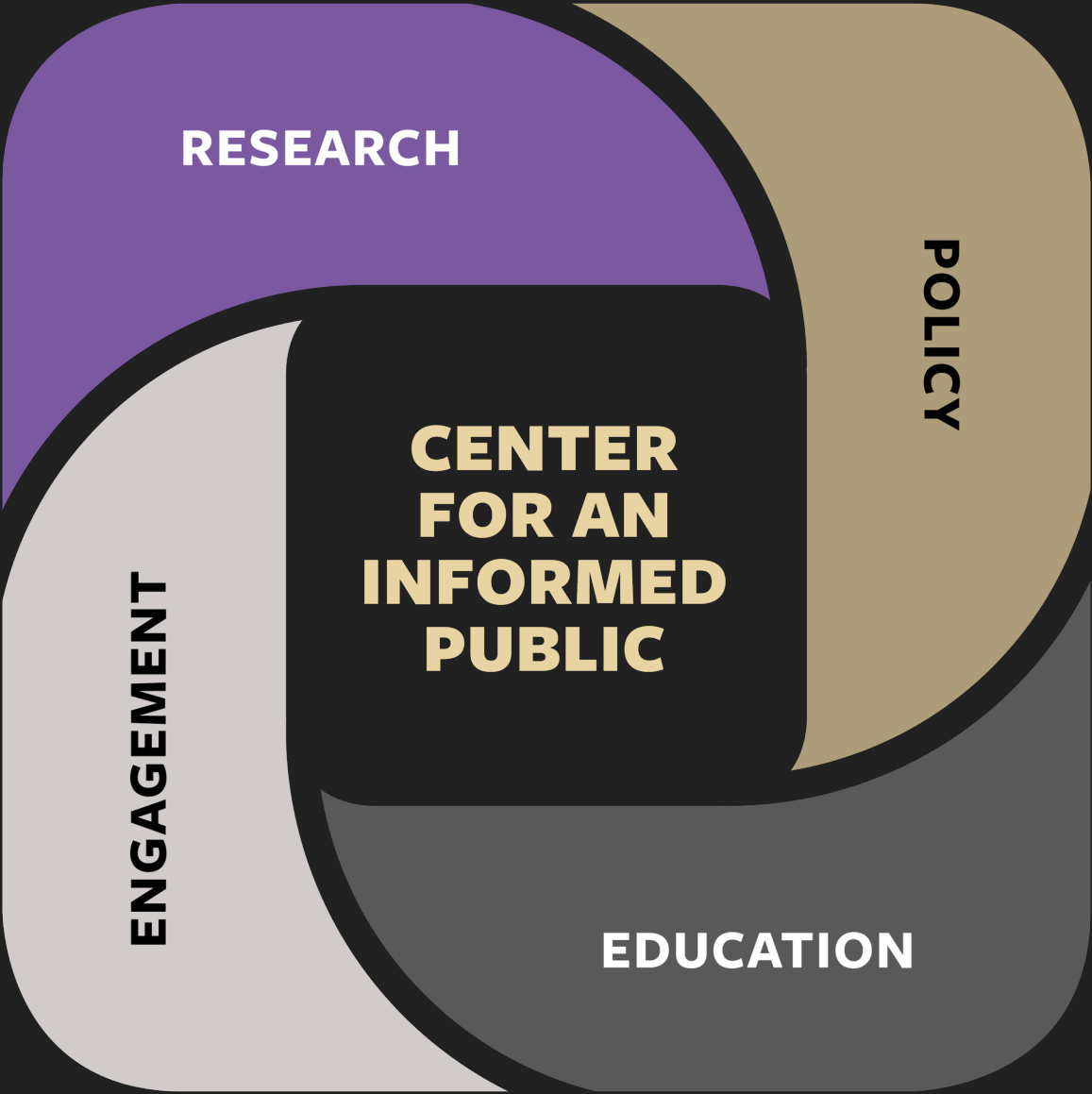
**W**

**CENTER FOR AN INFORMED PUBLIC**

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UNIVERSITY *of* WASHINGTON

**Mission:** resist strategic misinformation, promote an informed society, and strengthen democratic discourse.







# Misinformation Escape Room

Designing online and physical escape rooms for people to experience and learn about misinformation

<https://www.lokisloop.org/posts/2020/06/genesis/>

# Generative AI



Images: DALL-E







# AI investment is booming. How much is hype?



By Anna Cooban, CNN

🕒 6 minute read · Published 5:01 AM EDT, Sun July 23, 2023



Seattle  
Mariners  
winning the  
world  
series...

Seattle  
Mariners  
winning the  
world  
series....

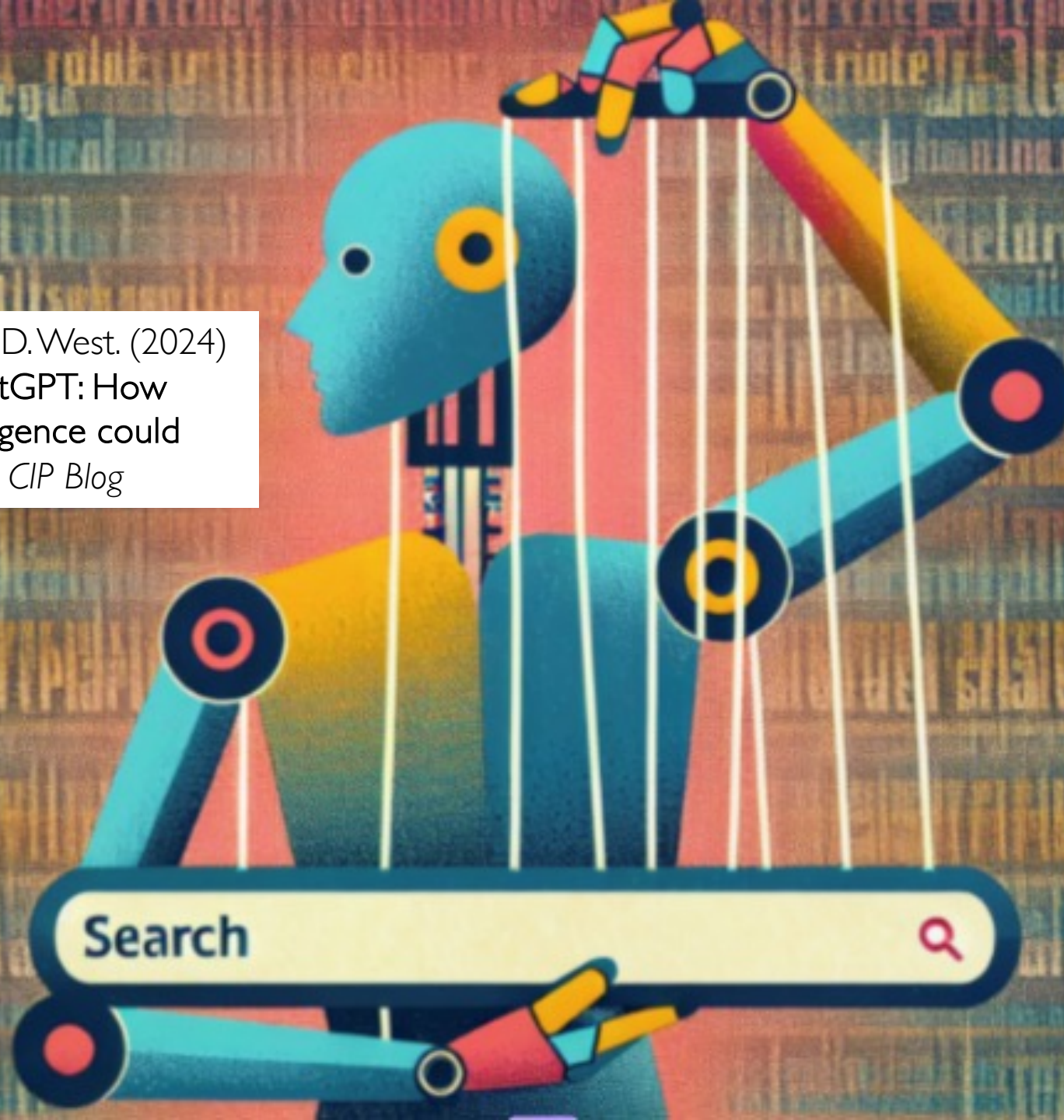




# A pro-Ron DeSantis ad used AI to create Donald Trump's voice. It won't be the last, experts say.



Shahan Memon and Jevin D. West. (2024)  
Search engines post-ChatGPT: How  
generative artificial intelligence could  
make search less reliable. *CIP Blog*





is there a country in africa that starts with k



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About 1,520,000,000 results (0.34 seconds)



is there a country in africa that starts with k



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About 1,520,000,000 results (0.34 seconds)

While there are 54 recognized countries in Africa, none of them begin with the letter "K". The closest is Kenya, which starts with a "K" sound, but is actually spelled with a "K" sound. It's always interesting to learn new trivia facts like this.



Emergent Mind

<https://www.emergentmind.com> › posts › did-you-know-... ⋮

[Did you know that there is no country in ... - Emergent Mind](#)



problems with abortion

Images

News

During pregnancy

Videos

Common

Brainly

Shopping

Generative AI is experimental. Info quality may vary. [Learn more](#)

A medical expert, like a doctor, is best able to help you find the information and care you need. This information does not constitute medical advice or diagnosis.

The total complication rate for abortion is about 2%. Most complications are minor, such as **pain and bleeding**.

**Other complications include:**

- Perforation: Can lead to infection and heavy bleeding
- Bacterial infection: Less than 1% in vacuum aspiration abortion
- Uterine hemorrhage: A complication of missed abortion

There are few psychiatric consequences of abortion, including risk of depression, anxiety, or PTSD.

After an abortion, you should avoid strenuous exercise for the first week. Increased activity may cause more cramping and bleeding.

problems with abo rt

Images

Perspectives

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Flights

Finan

Did you mean: **problems with *abort***

Generative AI is experimental. Info quality may vary. [Learn more](#)

A medical expert, like a doctor, is best able to help you find the information and care you need. This information does not constitute medical advice or diagnosis.

According to the World Health Organization (WHO), unsafe abortions can lead to physical health risks, including: **Incomplete abortion, Heavy bleeding, Infection, Uterine perforation**.

One study found that women who had an abortion were four times more likely to develop an infection and 2.4 times more likely to experience a postpartum hemorrhage. In some cases, infections can become severe or life-threatening.

After an abortion, it's recommended to avoid strenuous exercise for the first week. Increased activity may cause more cramping and bleeding.

The Texas Tribune thanks its sponsors. [Become one.](#)

TEXAS ABORTION RESTRICTIONS

## Because of Texas abortion law, her wanted pregnancy became a medical nightmare

The state's abortion law brings a new layer of obstacles for Texas women with complicated pregnancies.

BY CARRIE FEIBEL, [NPR](#) AUG. 3, 2022 4 PM CENTRAL

SHARE

Outcomes from expectant management vary greatly depending on when the waters break. Later in pregnancy, doctors can try to delay delivery to give the fetus more time to develop while warding off infection or other maternal complications such as hemorrhage.

But when membranes rupture earlier in pregnancy, particularly before 24 weeks, the chance of a fetus surviving plummets. One reason is that amniotic fluid plays a key role in fetal lung development. For a fetus at 18 weeks, the chance of survival in that state is almost nonexistent, according to Peaceman: "This is probably about as close to zero as you'll ever get in medicine."

Fetuses that do survive a premature delivery can die soon after birth. If they survive, they may experience major problems with their lungs or strokes, become blind, or develop cerebral palsy or other disabilities and illnesses.

For the women, expectant management after premature rupture of membranes comes with its own health risks. One study showed they were four times as likely to develop an infection and 2.4 times as likely to experience a postpartum hemorrhage, compared with women who terminated the pregnancy.

problems with abo rt

Images

Perspectives

Videos

News

Shopping

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Books

Flights

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Did you mean: [problems with \*abortion\*](#)

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After an abortion, it's recommended to avoid strenuous exercise for the first week. Increased activity may cause more cramping and bleeding.

# Data Voids





# COVID-19 Testing in Schools

## Common QUESTIONS and ANSWERS

### QUESTION

How will the COVID-19 test feel to my child?

### ✓ ANSWER

**The COVID-19 test in schools uses a shallow nasal swab.**

The shallow nasal swabs used in schools are comfortable and most can be performed by students themselves.

### QUESTION

Is the sterilizer ethylene oxide that is used on the nasal swabs safe?

### ✓ ANSWER

**The sterilizer, ethylene oxide, is commonly used in the medical industry.**

Ethylene oxide is considered a safe and effective method that ensures the sanitization of medical devices. According to the Food and Drug Administration (FDA), ethylene oxide is used to sterilize more than half of medical supplies in the United States. Ethylene oxide has been used for decades and is considered by the FDA to be the only effective sterilizing method that doesn't damage the object being sterilized. It is also used in a variety of industrial applications and everyday consumer products such as laundry detergent and shampoos.

### QUESTION

Is there a residue of ethylene oxide on the COVID-19 nasal swab tests?

### ✓ ANSWER

**The sterilizing process leaves no residual trace of ethylene oxide on the nasal swab.**

The process for sterilizing COVID-19 swabs is highly regulated and completely safe. Swabs are sterilized through exposure to ethylene oxide gas for a short, controlled amount of time. The sterilization process is assessed and evaluated from beginning to end to ensure the swab meets the rigorous safety standards of the FDA. There is no residual trace of ethylene oxide on the nasal swab when it is packaged.

### QUESTION

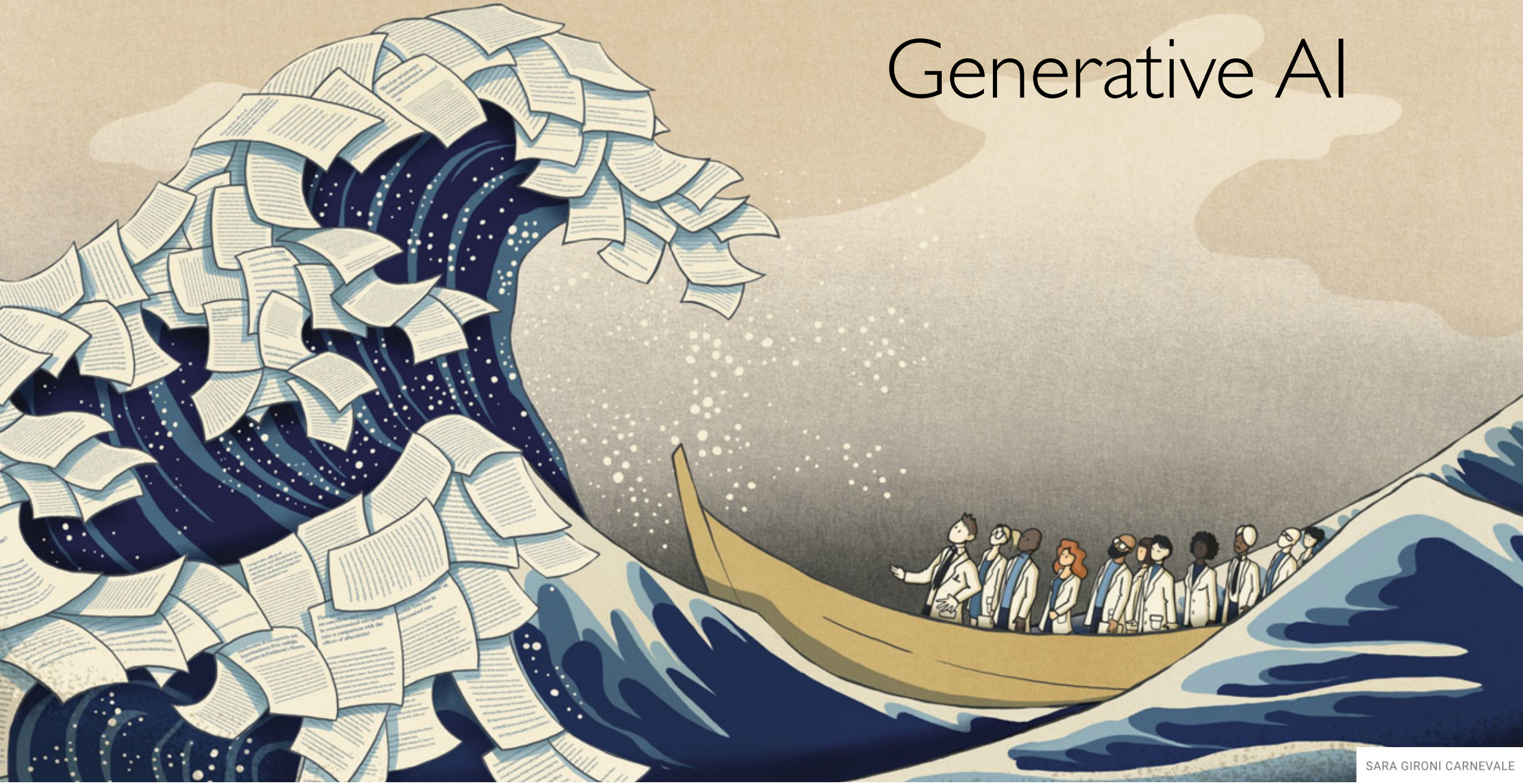
Are there long-term health effects associated with using ethylene oxide?

### ✓ ANSWER

**Ethylene oxide-sterilized nasal swabs are safe and will not cause long-term health problems such as cancer.**

Performing swab tests sterilized with ethylene oxide will not cause long-term health effects. Because there is no trace of ethylene oxide left on the nasal swabs once it is packaged, you won't be exposed, nor will your health be at risk. It is safe for you or your child to be tested regularly with the shallow nasal swab.

# Generative AI



What worries me most...

**AI-GENERATED FAKE IMAGE**







Image: CNN

What can we do about it?

Policy

Education

# New WA law requires clear disclosures for 'deepfakes' used in election media

Jun 9, 2023



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- Bill Information
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- Civic Education
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- Email Updates (GovDelivery)
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Reports Home | Bill History | Bill Tracking | Docs | Bills By Citation | Bill Sponsors | Bills In/Out of Committee | Roll Call

Bill Information > SB 5152

Search for another bill or initiative:

5152 Bill Initiative 2023-2024 Search

## SB 5152 - 2023-24

Defining synthetic media in campaigns for elective office, and providing relief for candidates and campaigns.

Sponsors: Valdez, Hunt, Kuderer, Lias, Nguyen, Wilson, C.

By Request: Secretary of State

Companion Bill: HB 1442

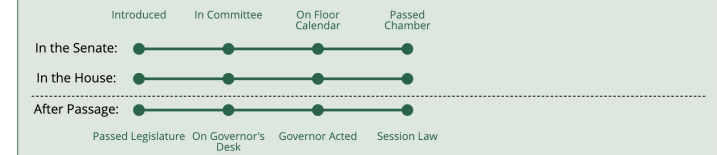
### Bill Status-at-a-Glance

See Bill History for complete details on the bill

As of Sunday, October 15, 2023 09:01 PM

Current Version: Engrossed Substitute - ESSB 5152 Current Status: C 360 L 23

#### Where is it in the process?



Go to documents...

Go to videos...

## Bill History

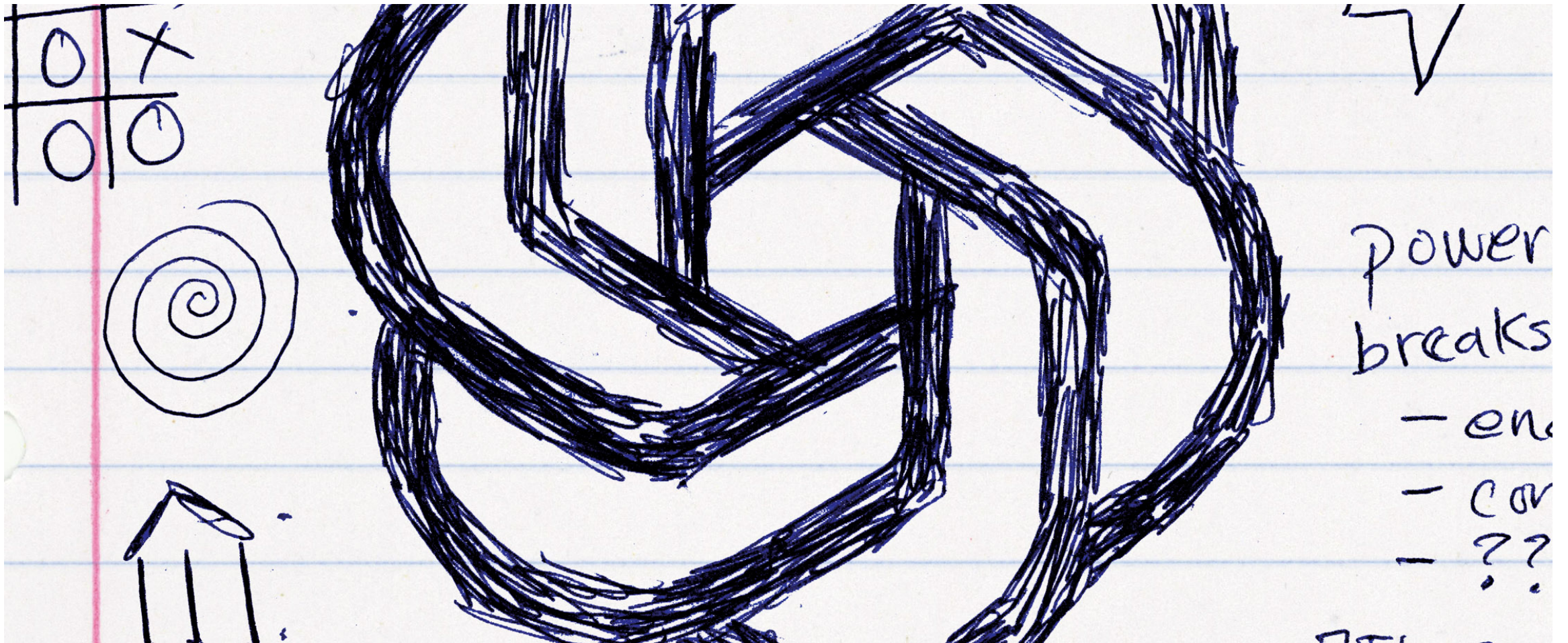
### 2023 REGULAR SESSION

- Jan 4 Prefiled for introduction.
- Jan 9 First reading, referred to State Government & Elections. (View Original Bill)
- Jan 24 Public hearing in the Senate Committee on State Government & Elections at 1:30 PM. (Committee Material)
- Jan 27 Executive session scheduled, but no action was taken in the Senate Committee on State Government & Elections at 1:30 PM. (Committee Material)
- Jan 31 Executive action taken in the Senate Committee on State Government & Elections at 1:30 PM. (Committee Material) **SGE - Majority; 1st substitute bill be substituted, do pass.** (View 1st Substitute) (Majority Report) Minority; do not pass. (Minority Report)
- Feb 1 Passed to Rules Committee for second reading.
- Feb 8 Placed on second reading by Rules Committee.
- Feb 15 **1st substitute bill substituted (SGE 23).** (View 1st Substitute) Floor amendment(s) adopted. Rules suspended. Placed on Third Reading. Third reading, passed; yeas, 35; nays, 13; absent, 0; excused, 1. (View 1st Engrossed) (View Roll Calls)

### IN THE HOUSE

- Feb 17 First reading, referred to State Government & Tribal Relations.
- Mar 10 Public hearing in the House Committee on State Government & Tribal Relations at 8:00 AM. (Committee Material)
- Mar 15 Executive session scheduled, but no action was taken in the House Committee on State Government & Tribal Relations at 8:00 AM. (Committee Material)
- Mar 22 Executive session scheduled, but no action was taken in the House Committee on State Government & Tribal Relations at 8:00 AM. (Committee Material)
- Mar 28 Executive session scheduled, but no action was taken in the House Committee on State Government & Tribal Relations at 8:00 AM. (Committee Material)
- Mar 29 Executive action taken in the House Committee on State Government & Tribal Relations at 1:30 PM. (Committee Material) **SGOV - Majority; do pass with amendment(s).** (Majority Report) Minority; do not pass. (Minority Report) Minority; without recommendation. (Minority Report) Referred to Rules 2 Review.

# Education





**Stanford University**  
Human-Centered  
Artificial Intelligence

Design and Human-Computer Interaction, Language Processing, Machine Learning

# AI-Detectors Biased Against Non-Native English Writers

Don't put faith in detectors that are "unreliable and easily gamed," says scholar.

A photograph of three men sitting on a wooden bench in a room with wood-paneled walls. The man on the left is wearing glasses and a dark t-shirt. The man in the middle is wearing a dark t-shirt with a small logo. The man on the right is wearing glasses and a dark t-shirt. A semi-transparent grey box with white text is overlaid on the image.

*“If you can directly answer somebody’s question, nobody needs those 10 blue links.”*    *-Aravind Srinivas, CEO, Perplexity.ai*

EXCLUSIVE

## **Jeff Bezos Bets on a Google Challenger Using AI to Try to Upend Internet Search**

Perplexity, with a fraction of Google’s users, raised the largest sum by an internet search startup in recent years

Sharks  
swimming in  
the streets...



## About this image

A version of this image is **at least 10 years old**



## Web results



Snopes

<https://www.snopes.com> › Fact Check

### Does This Picture Show a Shark Swimming Down a Highway After a ...

Aug 28, 2011 — ... after Hurricane/Tropical Storm Harvey caused massive flooding throughout the city. Then and now, the photograph is a digital hoax. The image of the shark ...



MSNBC

<https://www.msnbc.com> › rachel-maddow-show › land-sh...

### Land Shark?

Aug 25, 2011 — ... SHARK swimming in the flooded streets of Ponce, Puerto Rico after Hurricane Irene. ... flooding is the bull shark. It has the rare ability to live in both salt ...



Newschecker

<https://newschecker.in> › Fact Check

### Hurricane Batters Florida: Old, Edited Photo Of Shark Wading ...

Sep 30, 2022 — Viral photo of shark swimming in flooded Florida street is an old, photoshopped picture that has been doing the rounds of social media since 2011.



Southern Fried Science

<https://www.southernfriedscience.com> › how-to-tell-if-a-s...

### How to tell if a “shark in flooded city streets after a storm” photo is a ...

Jan 23, 2013 — It claimed to show a great white shark swimming through the flooded streets of Puerto Rico after Hurricane Irene in 2011. Take a look at how high the car's ...

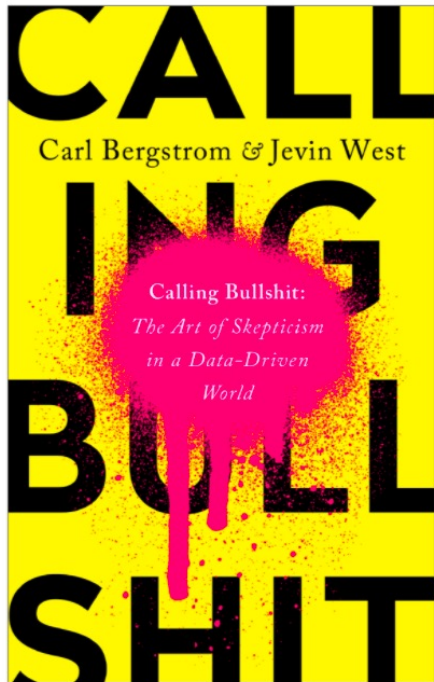


More pages





Thank you!



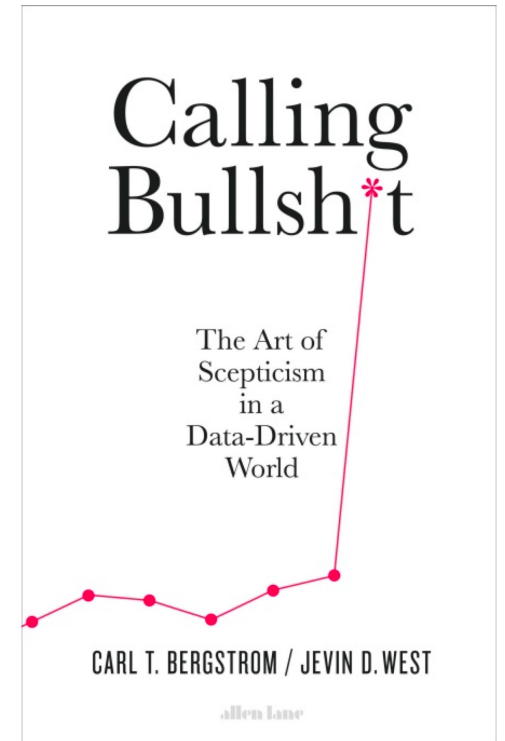
jevin@uw.edu



@jevinwest



@callin\_bull



<http://jevinwest.org>

# AI for Climate Modeling – an AI2 perspective

Christopher Bretherton  
Senior Director of Climate Modeling  
Allen Institute for Artificial Intelligence (AI2), Seattle, USA



Feb. 29, 2024  
NASA Worldview



# AI2 Climate Modeling ML group



Philanthropic project of the Paul G. Allen estate since 2019

- Goal: Use ML to better foresee regional climate change and precipitation extremes
- Strategy: Fast, efficient, user-friendly ML emulators of expensive climate models to better inform local and regional planning for climate change



External partners



UCI

AI2 interns



Chris Bretherton

Spencer Clark

Gideon Dresdner

Brian Henn

Anna Kwa

Jeremy McGibbon

Andre Perkins

Oli Watt-Meyer

Elynn Wu

Boris Bonev

Lucas Harris

Peter Caldwell

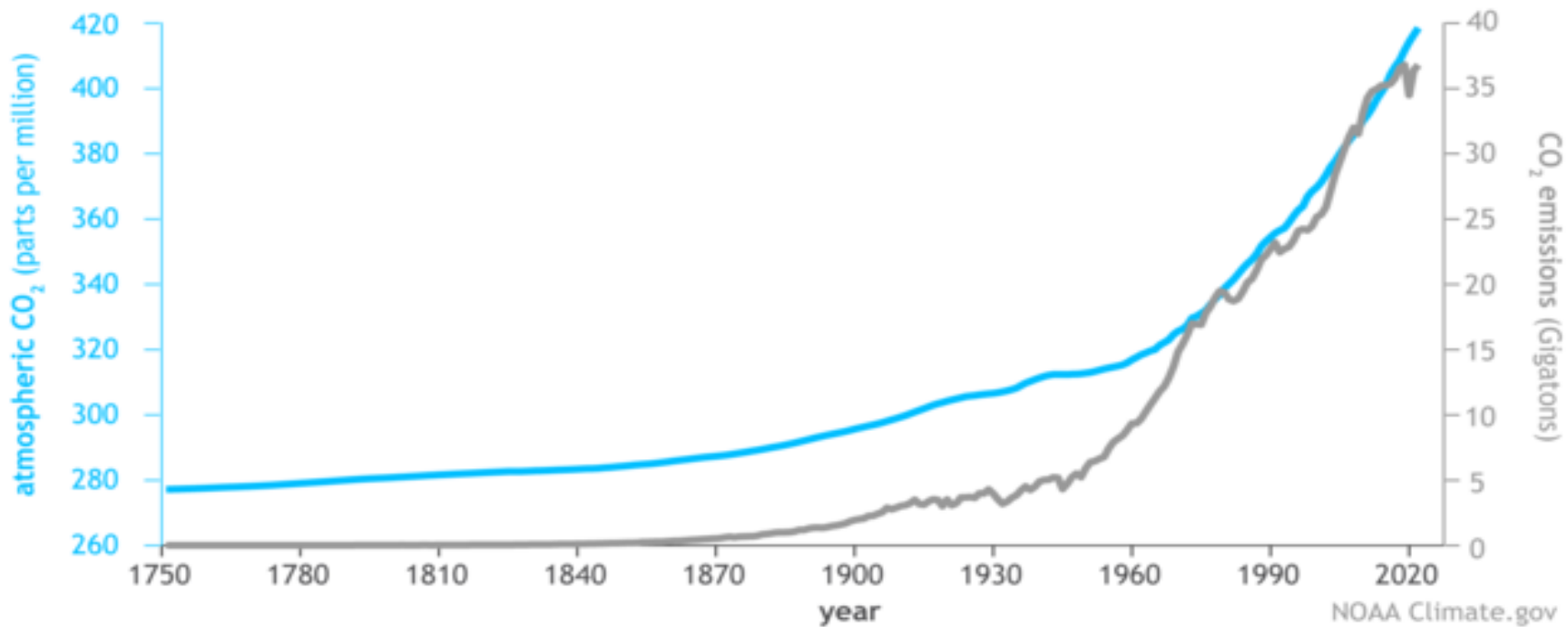
James Duncan

Prakhar Srivastava



# The Anthropocene Era

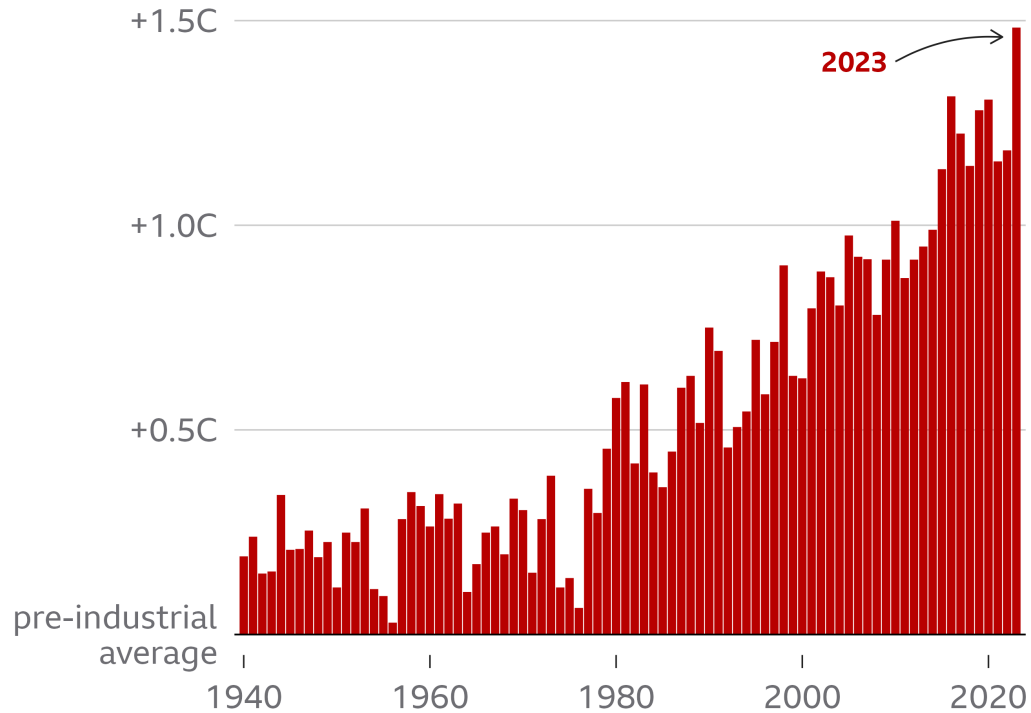
Global atmospheric carbon dioxide compared to annual emissions (1751-2022)



NOAA Climate.gov  
Data: NOAA, ETHZ, Our World in Data

# The Anthropocene Era

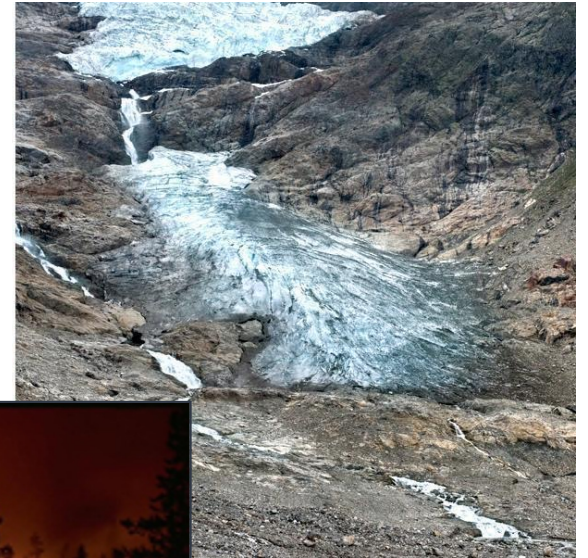
Global average temperature by year, compared with pre-industrial average (1850-1900)



Source: ERA5, C3S/ECMWF



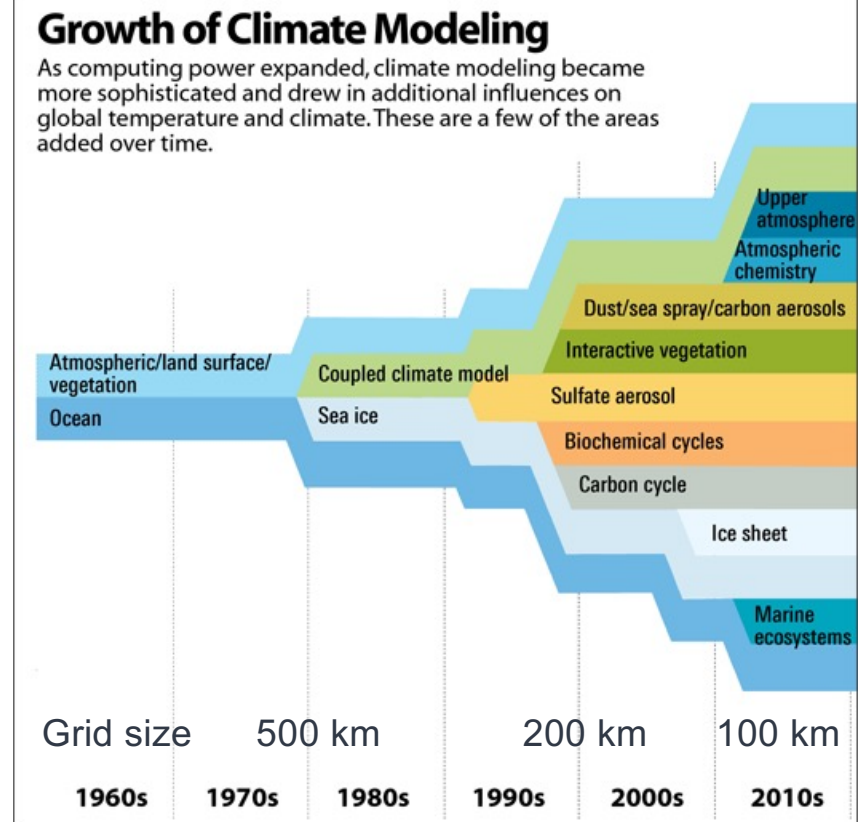
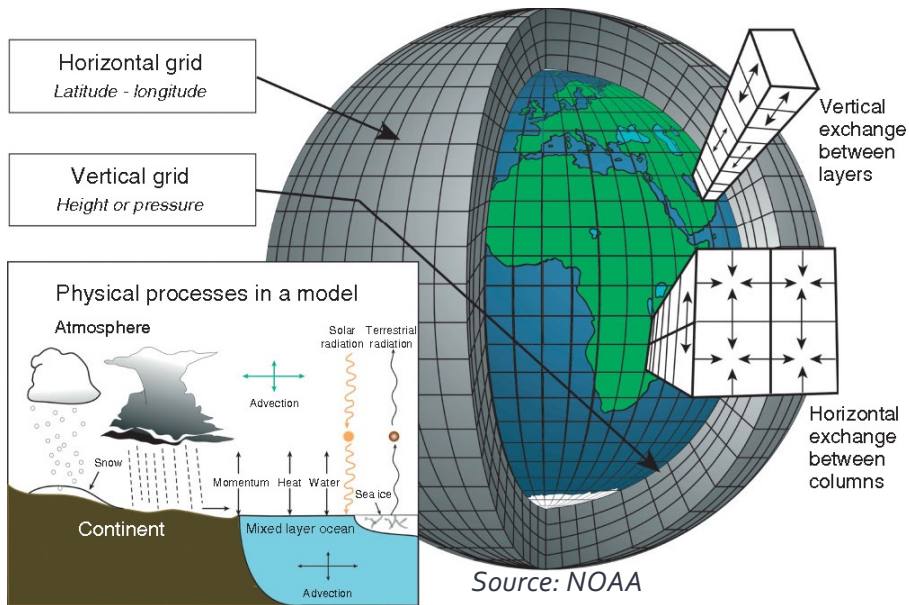
# Unprecedented extremes are unfolding



# 60 years of global climate modeling



# Physics-based climate models

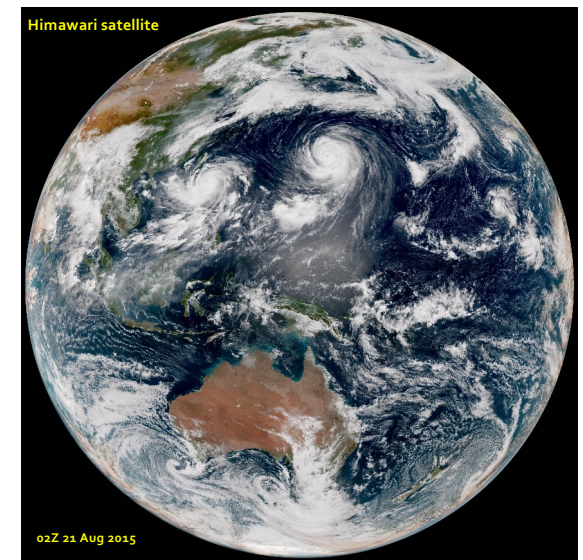
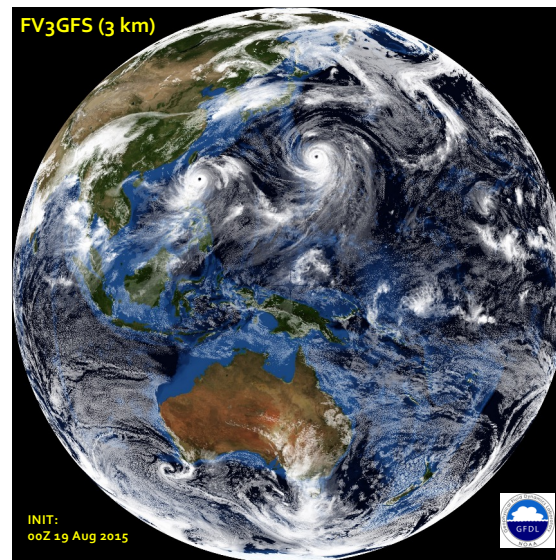
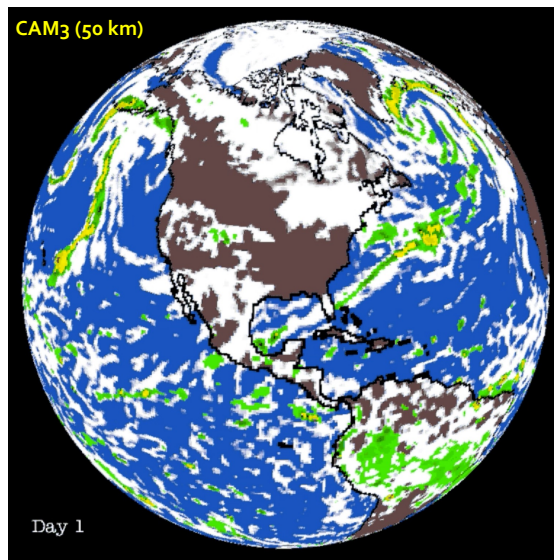


SOURCE: University Corporation for Atmospheric Research (UCAR)

InsideClimate News



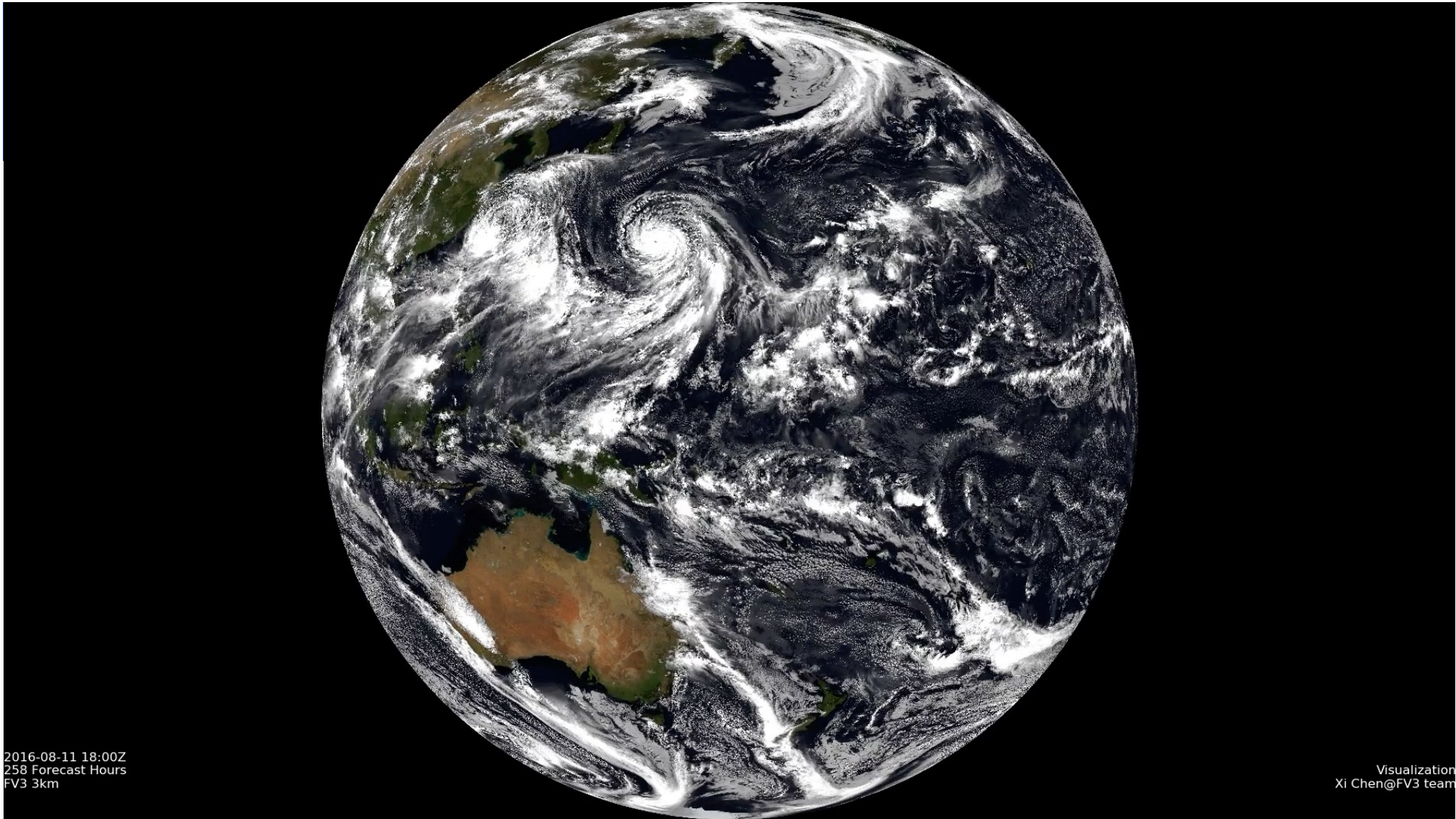
# 'Digital twins'



Beautiful but expensive:

- Electrical consumption for 1 simulated year @ 3 km ~ same as 300 US residents for one year





2016-08-11 18:00Z  
258 Forecast Hours  
FV3 3km

Visualization  
Xi Chen@FV3 team

# The ML revolution in weather forecasting

Challenges and design choices for global weather and climate models based on machine learning

Peter D. **Improving Data-Driven Global Weather Prediction Using Deep Convolutional Neural Networks on a Cubed S<sub>2</sub>**

Jonathan A. V. **FOURCASTNET: A GLOBAL DATA-DRIVEN HIGH-RESOLUTION WEATHER MODEL USING ADAPTIVE FOURIER NEURAL OPERATORS**

Jaldeep K. **Forecasting Global Weather with Graph Neural Networks**

Pangu-Weather: A 3D High-Resolution System for Fast and Accurate Global Weather Forecast

Kaifeng F. **GraphCast: Learning skillful medium-range global weather forecasting**

Remi Lam<sup>\*1</sup>, Alvaro Ferran Alet<sup>\*1</sup>, Stephan Hoyer<sup>2</sup>, Peter Battaglia<sup>1</sup>

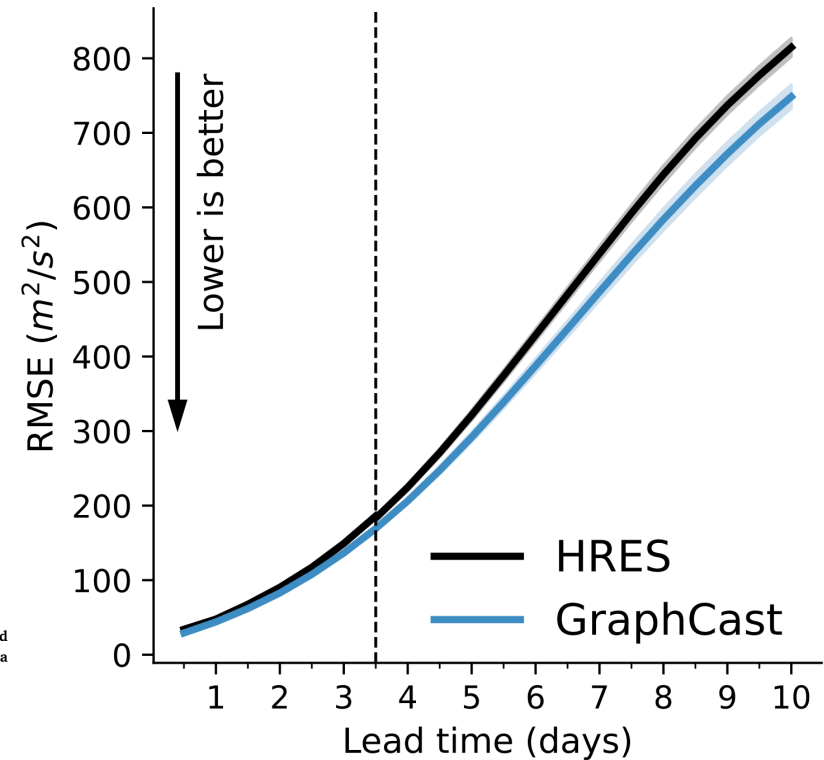
**GenCast: Diffusion-based ensemble forecasting for medium-range weather**

Ilan Price<sup>\*1</sup>, Alvaro Sanchez-Gonzalez<sup>\*1</sup>, Ferran Alet<sup>1</sup>, Timo Ewalds<sup>1</sup>, Andrew El-Kadi<sup>2</sup>, Jacklynn Stott<sup>1</sup>, Shakir Mohamed<sup>1</sup>, Peter Battaglia<sup>1</sup>, Remi Lam<sup>1</sup> and Matthew Willson<sup>1</sup>

<sup>\*</sup>Equal contributions, <sup>1</sup>Google DeepMind, <sup>2</sup>Imperial College, London

Probabilistic weather forecasting is critical for decision-making in high-impact domains such as flood forecasting, energy system planning or transportation routing, where quantifying the uncertainty of a

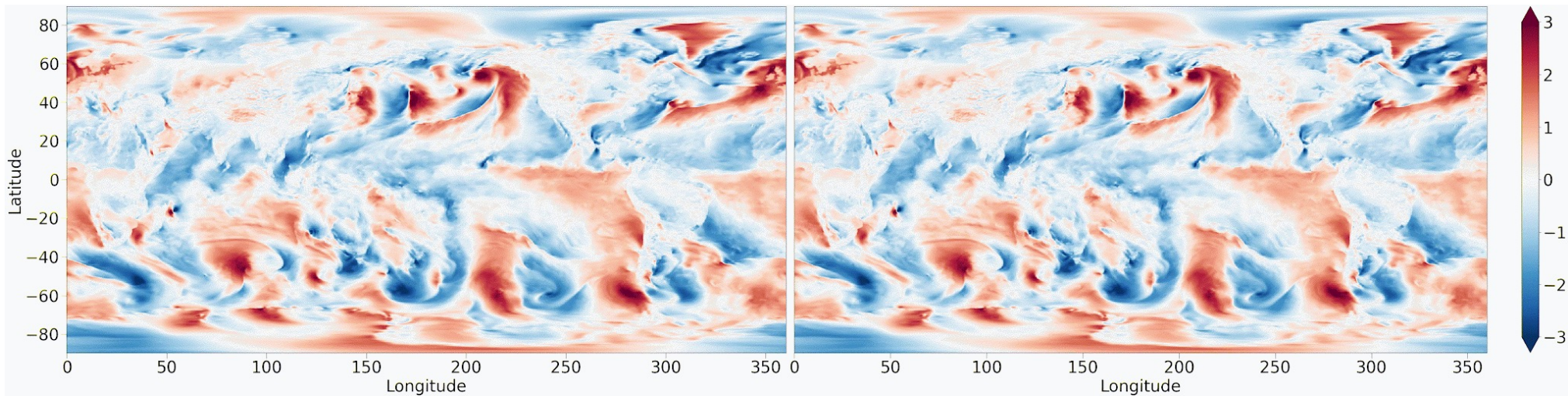
a) Skill (RMSE): **z500**



Lam et al. 2022

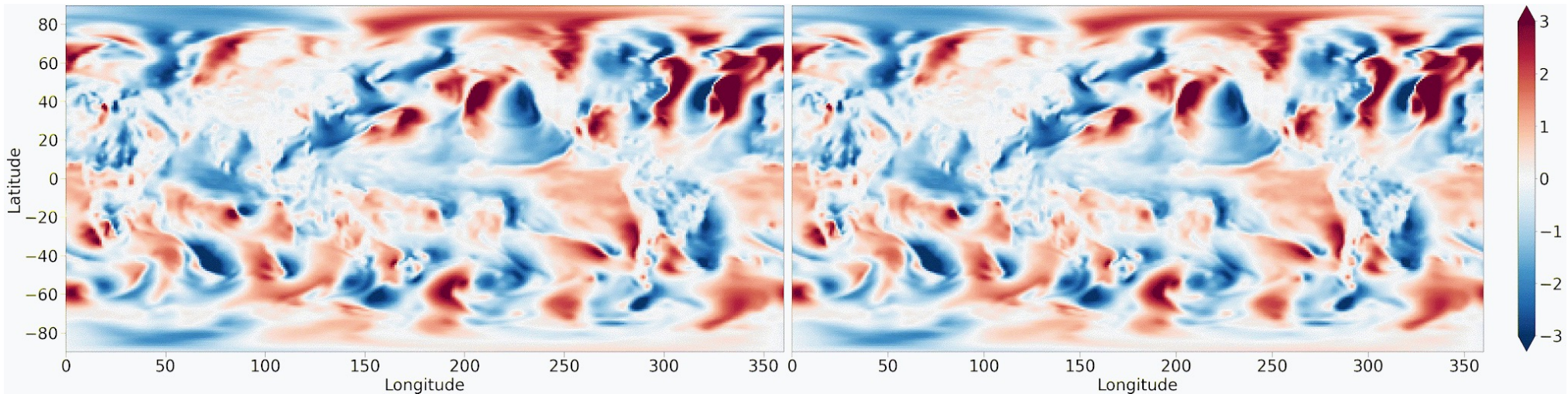
# From weather to climate - it's not so easy!

AI weather emulators have AI-specific quirks and failure modes



# The AI2 Climate Emulator (ACE) solves these issues

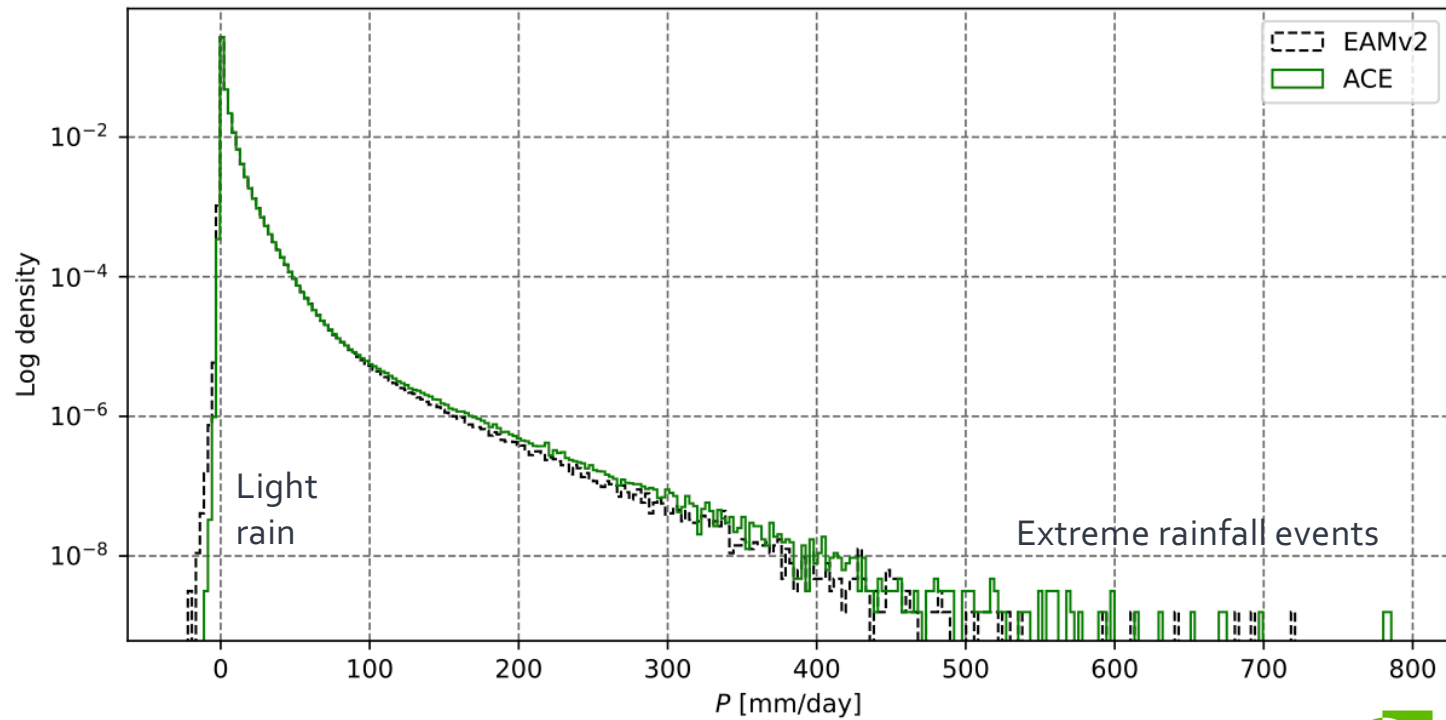
ACE includes new features to maintain physical realism over century-long simulations  
ACE (right) was trained to emulate NOAA's national weather forecast model (left)



100 yr simulation in 3 hrs on a GPU that can be affordably rented from a cloud service  
50x faster and 1000x less energy than the NOAA model



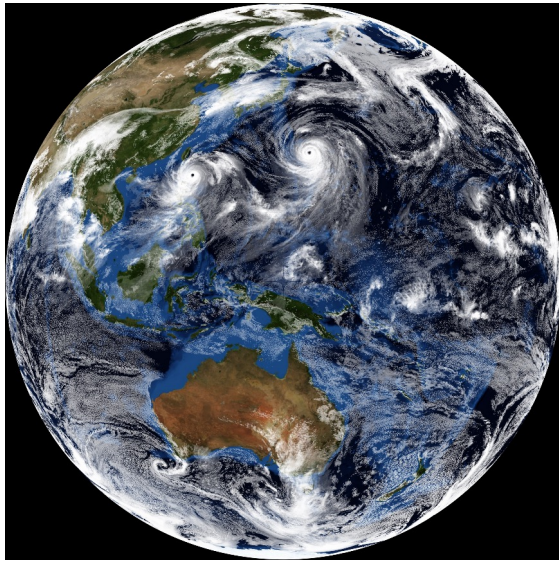
# ACE accurately emulates extreme rainfall frequency



Duncan et al. 2024



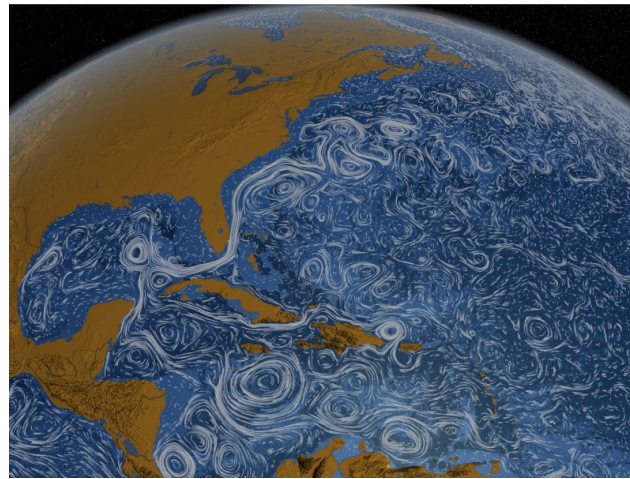
# The digital twin climate emulator we are striving toward



↓ ML emulator

1000x faster, 10000x more efficient

+



↓ ML emulator

almost 'free'

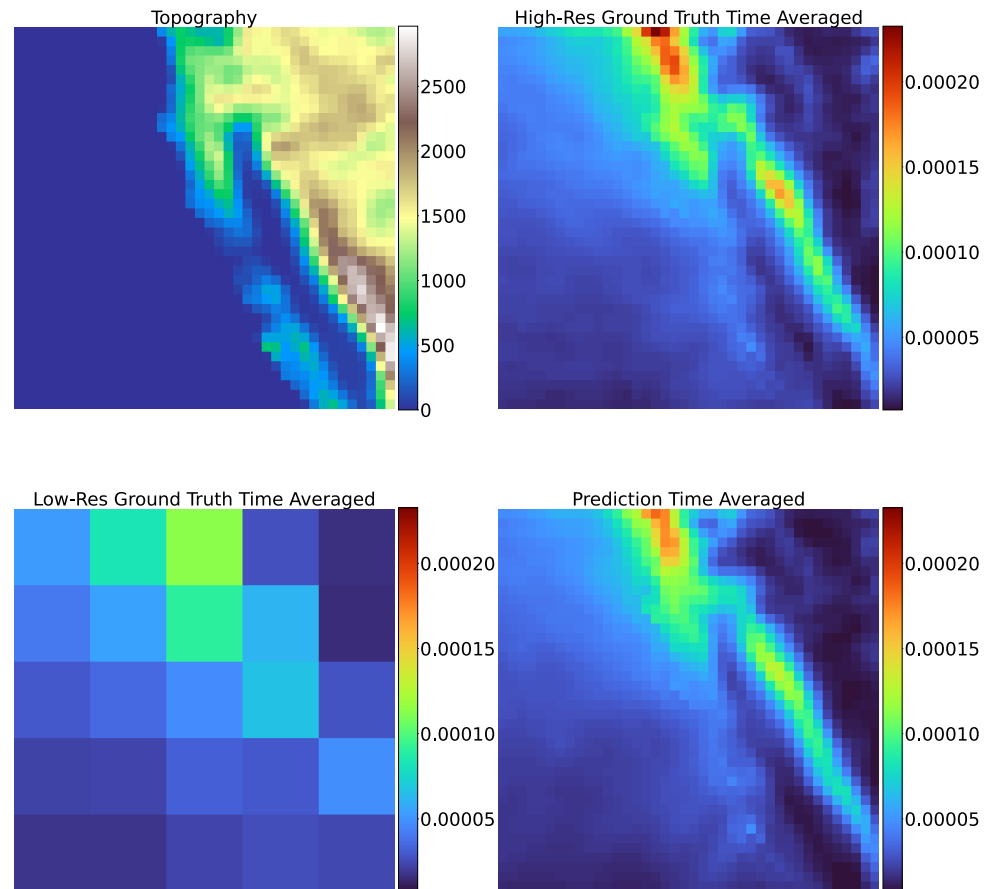
=

Fast coupled AI-based climate model trained for unparalleled realism across a broad range of climates at  $10^{-4}$  the computing cost of the ultrafine physics-based models



# ML can accurately downscale western US precipitation

- Trained on digital-twin simulations
- Works anywhere in the world
- Uses generative AI
- Will be used with ACE



*Srivastava et al. 2024*  
Related: *Mardani et al. 2023 (NVIDIA)*



# Outlook

- AI is poised to make climate model projections more versatile, affordable, and easier to use for stakeholder groups who understand its strength and caveats
- As with other forms of AI, achieving this impact will require public STEM literacy and high-quality, credible open-source software

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# How Human-AI Collaboration Will Improve Mental Health

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Tim Althoff  
University of Washington



@timalthoff



behavioral  
data science





Credit: [www.letstalkcampaign.com](http://www.letstalkcampaign.com)  
Charlie Clift & Kate Forrester

# The Mental Health Problem: Need vs Access

- More than **one in five U.S. adults** are affected by mental health conditions
- **Most do not receive any treatment**, even if they seek it (57% for US adults, 69% for children and teens)
- Pervasive shortage of mental health professionals & limited capacity to expand workforce



How can we improve access to mental health support?

# AI can help train the future mental health workforce we so desperately need

- Train counselors at Crisis Text Line (largest crisis line)

CRISIS TEXT LINE |

- Train peers at Talklike (largest peer support platform)



- Improve platform design at Supportiv



- Train individuals on navigating difficult conversations



- **Train individuals on mental health skills at Mental Health America (national mental health advocacy org)**



# Potential Partial Solution: Self-guided Support

- **Opportunity to improve access** as millions seek out self-guided resources to learn about mental health, treatment options, evidence-based mental health skills, e.g. through self-guided worksheets.
- **Critical limitation:** Self-guided engagement is challenging cognitively and emotionally, esp. during mental health challenges. Engagement and completion rates are low, limiting effectiveness.
- **Opportunity:** Human-AI collaboration to provide additional scaffolding and feedback required to effectively learn mental health skills.

The image shows a screenshot of a website for Mental Health America (MHA). At the top left is the MHA logo with the text "Mental Health America". At the top right is a search icon and a menu icon. The main heading is "Take a Mental Health Test" in large blue font. Below it is a paragraph: "Online screening is one of the quickest and easiest ways to determine whether you are experiencing symptoms of a mental health condition." Below that is another paragraph: "Mental health conditions, such as depression or anxiety, are real, common and treatable. And recovery is possible." At the bottom of the screenshot is a "Thought Record" worksheet. The worksheet has a title "Thought Record" and a table with five columns: "Situation", "Thoughts", "Emotions", "Behaviors", and "Alternate Thought". The table has five rows. At the bottom left of the worksheet is the text "© 2017 Therapist Aid LLC" and at the bottom right is "Provided by TherapistAid.com".

**MHA**  
Mental Health America

## Take a Mental Health Test

Online screening is one of the quickest and easiest ways to determine whether you are experiencing symptoms of a mental health condition.

**Mental health conditions, such as depression or anxiety, are real, common and treatable. And recovery is possible.**

### Thought Record

Situation	Thoughts	Emotions	Behaviors	Alternate Thought

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# Human-AI Collaboration for Reframing Negative Thoughts

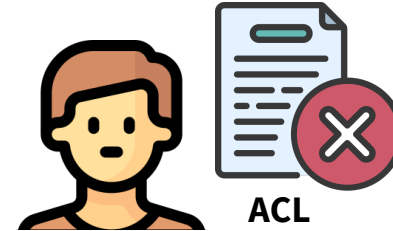
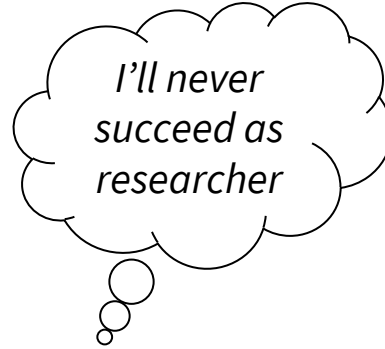
# Negative Thoughts

## Situation

I submitted a research paper and it got rejected



## Thought





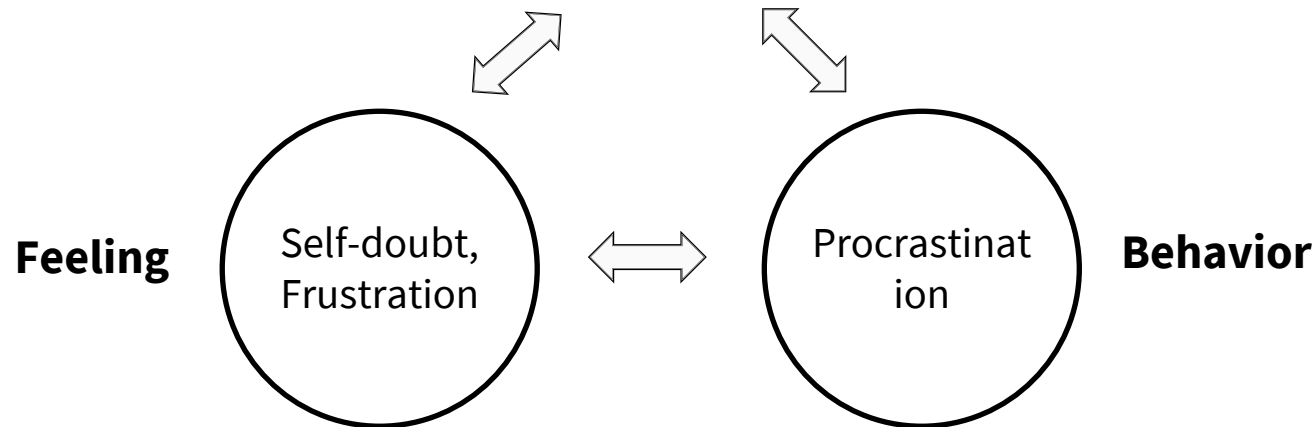
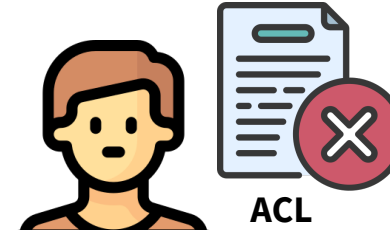
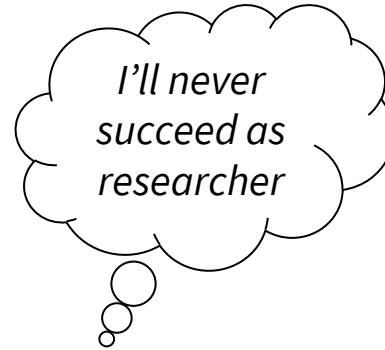
# Negative Thoughts

## Situation

I submitted a research paper and it got rejected



## Thought



Often entrenched, automatic, and emotionally triggering

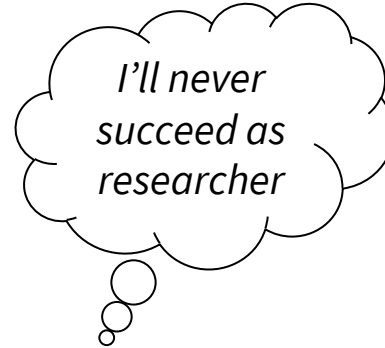
# Cognitive Reframing of Negative Thoughts

## Situation

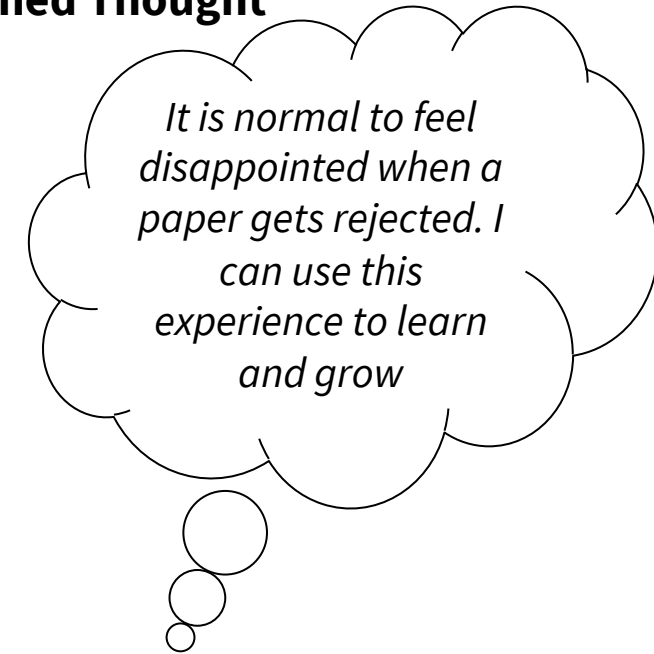
I submitted a research paper and it got rejected



## Thought



## Reframed Thought



Challenge negative thoughts with a different, more balanced "reframed thought"

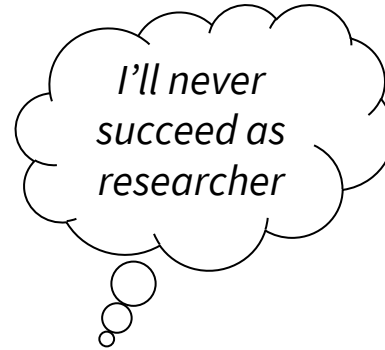
# Cognitive Reframing of Negative Thoughts

## Situation

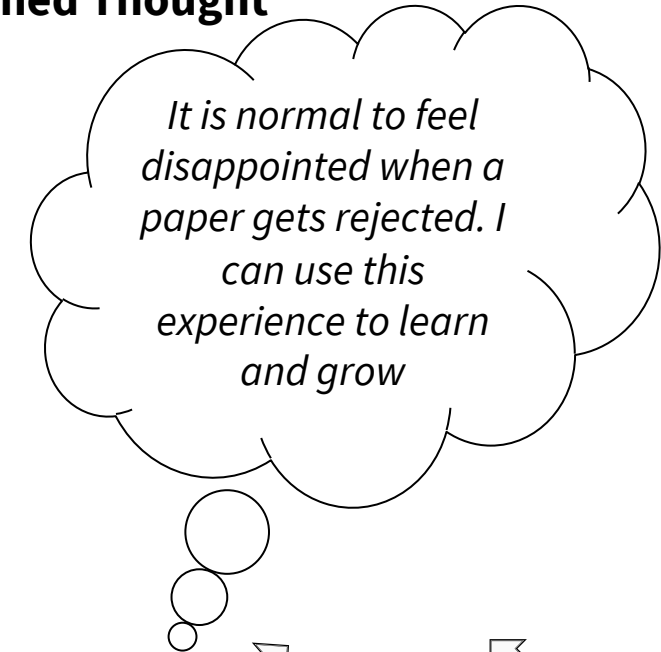
I submitted a research paper and it got rejected



## Thought



## Reframed Thought



Optimistic,  
Improved  
self-worth

Seeking  
feedback  
from friends

**Feeling**

**Behavior**

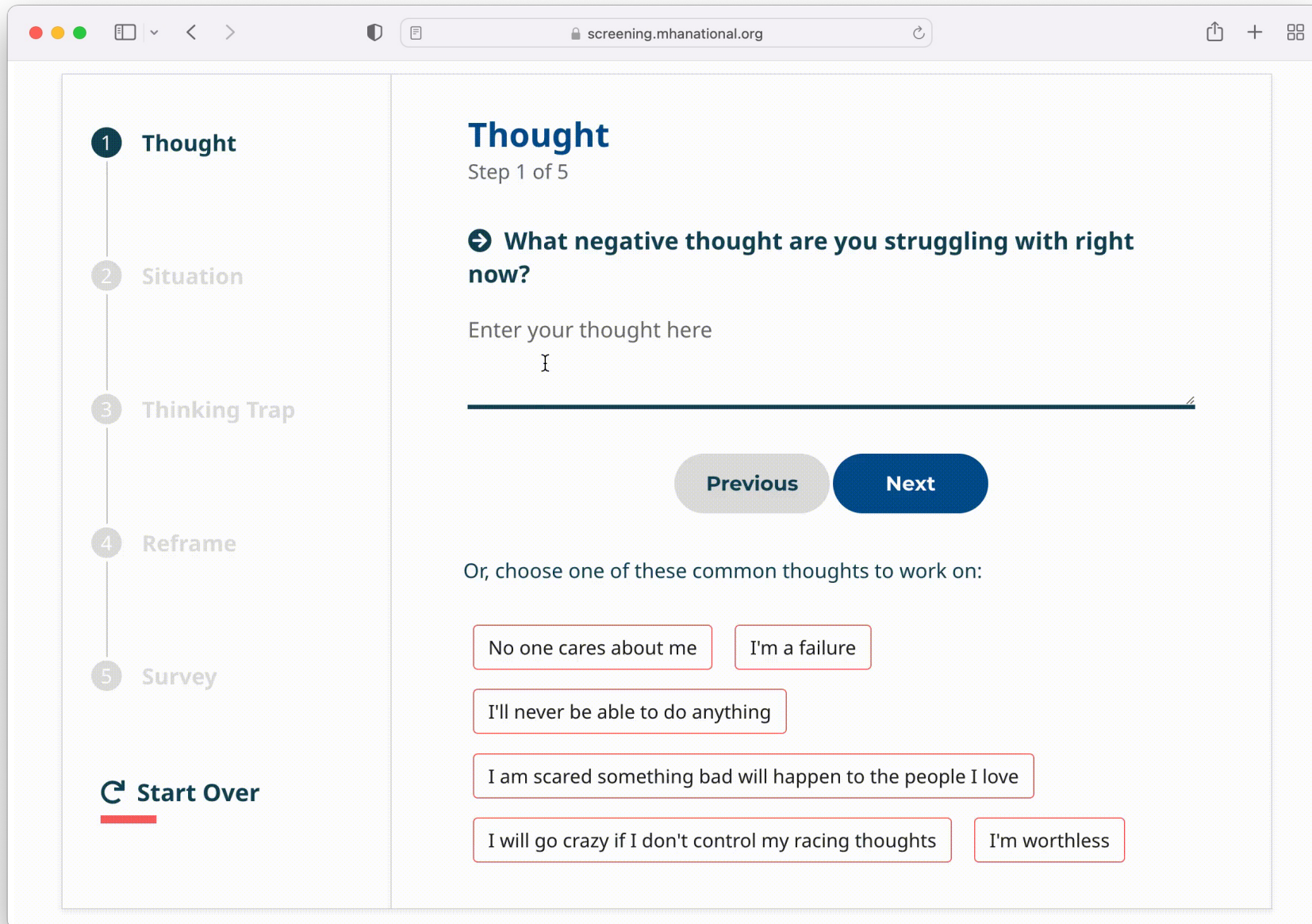
Evidence-based therapeutic intervention core to **Cognitive Behavioral Therapy** (Beck, 1976)



# Cognitive Restructuring Process

The screenshot shows a web browser window at [screening.mhanational.org](https://screening.mhanational.org). The interface is divided into two main sections. On the left is a vertical progress bar with five steps: 1 Thought, 2 Situation, 3 Thinking Trap, 4 Reframe, and 5 Survey. Step 1 is highlighted with a dark blue circle and a checkmark. Below the progress bar is a 'Start Over' button with a circular arrow icon. The main content area on the right is titled 'Thought' and is labeled 'Step 1 of 5'. It contains a question: 'What negative thought are you struggling with right now?' followed by a text input field with the placeholder 'Enter your thought here'. Below the input field are two buttons: 'Previous' (disabled) and 'Next' (active). Underneath, there is a prompt: 'Or, choose one of these common thoughts to work on:' followed by six buttons containing common negative thoughts: 'No one cares about me', 'I'm a failure', 'I'll never be able to do anything', 'I am scared something bad will happen to the people I love', 'I will go crazy if I don't control my racing thoughts', and 'I'm worthless'.

# Participant describes the *thought* they are struggling with



The screenshot shows a web browser window with the URL `screening.mhanational.org`. The page is a survey form with a progress indicator on the left side. The progress indicator consists of five numbered steps: 1. Thought (active), 2. Situation, 3. Thinking Trap, 4. Reframe, and 5. Survey. Below the progress indicator is a "Start Over" button with a circular arrow icon.

The main content area is titled "Thought" and is labeled "Step 1 of 5". The question is "What negative thought are you struggling with right now?". Below the question is a text input field with the placeholder text "Enter your thought here" and a cursor. Below the input field are two buttons: "Previous" (disabled) and "Next" (active).

Below the buttons, there is a prompt: "Or, choose one of these common thoughts to work on:". Below this prompt are five buttons, each containing a common negative thought:

- No one cares about me
- I'm a failure
- I'll never be able to do anything
- I am scared something bad will happen to the people I love
- I will go crazy if I don't control my racing thoughts
- I'm worthless

# Participant describes the *situation* that led to the thought

1 Thought

2 Situation

3 Thinking Trap

4 Reframe

5 Survey

[Start Over](#)

## Thought

Step 1 of 5

➔ What negative thought are you struggling with right now?

I will never achieve success as a researcher

---

[Previous](#) [Next](#)

Or, choose one of these common thoughts to work on:

No one cares about me    I'm a failure

I'll never be able to do anything

I am scared something bad will happen to the people I love

I will go crazy if I don't control my racing thoughts    I'm worthless

# AI identifies and suggests the possible *thinking traps*

The screenshot shows a web browser window with the URL `screening.mhanational.org`. The interface is divided into two main sections. On the left is a vertical progress bar with five steps: 1. Thought, 2. Situation, 3. Thinking Trap, 4. Reframe, and 5. Survey. Step 2, 'Situation', is currently active. Below the progress bar is a 'Start Over' button with a circular arrow icon. The main content area on the right is titled 'Situation' and indicates 'Step 2 of 5'. It contains a question: 'What's a recent situation that led to this negative thought?' with an example: 'For example, if your negative thought is "No one cares about me," the situation might be "My friend never texted me back."' Below this, the user has entered the text 'I submitted a research paper and it got rejected'. At the bottom of the main area are two buttons: 'Previous' (disabled) and 'Next' (active).

1 **Thought**  
I will never achieve success as a researcher

2 **Situation**

3 Thinking Trap

4 Reframe

5 Survey

[Start Over](#)

## Situation

Step 2 of 5

➔ **What's a recent situation that led to this negative thought?**

For example, if your negative thought is "No one cares about me," the situation might be "My friend never texted me back."

I submitted a research paper and it got rejected

[Previous](#) [Next](#)

# Participant selects the thinking traps that they most relate to

The screenshot shows a web browser window with the URL `screening.mhanational.org`. The page is titled "Thinking Traps" and is "Step 3 of 5". On the left, a vertical progress bar shows five steps: 1. Thought (I will never achieve success as a researcher), 2. Situation (I submitted a research paper and it got rejected), 3. Thinking Trap (highlighted), 4. Reframe, and 5. Survey. A "Start Over" button is at the bottom left. The main content area has a blue box titled "What's a Thinking Trap?" explaining that negative thinking often falls into common patterns called "thinking traps" and lists examples like "Mind reading", "All-or-nothing thinking", "Catastrophizing", and "Disqualifying the positive". Below this is a section "Select the Thinking Trap" with the instruction: "Here are some thinking traps that might be related to your negative thought. Select the thinking trap that you most relate to." The first option is "Overgeneralizing" with a radio button and a description: "Jumping to conclusions based on one experience. 'They didn't text me back. Nobody ever texts me back.'" A red progress bar below it shows 62%.

1 **Thought**  
I will never achieve success as a researcher

2 **Situation**  
I submitted a research paper and it got rejected

3 **Thinking Trap**

4 **Reframe**

5 **Survey**

[Start Over](#)

## Thinking Traps

Step 3 of 5

### What's a Thinking Trap?

Our negative thinking often falls into common patterns, called "thinking traps." We can learn to recognize when we're getting stuck in a thinking trap. This gives us more power over our negative thoughts.

Common thinking traps include: assuming what others think ("*Mind reading*"), thinking in extremes ("*All-or-nothing thinking*"), focusing on the worst-case scenario ("*Catastrophizing*"), focusing only on the bad ("*Disqualifying the positive*"), etc.

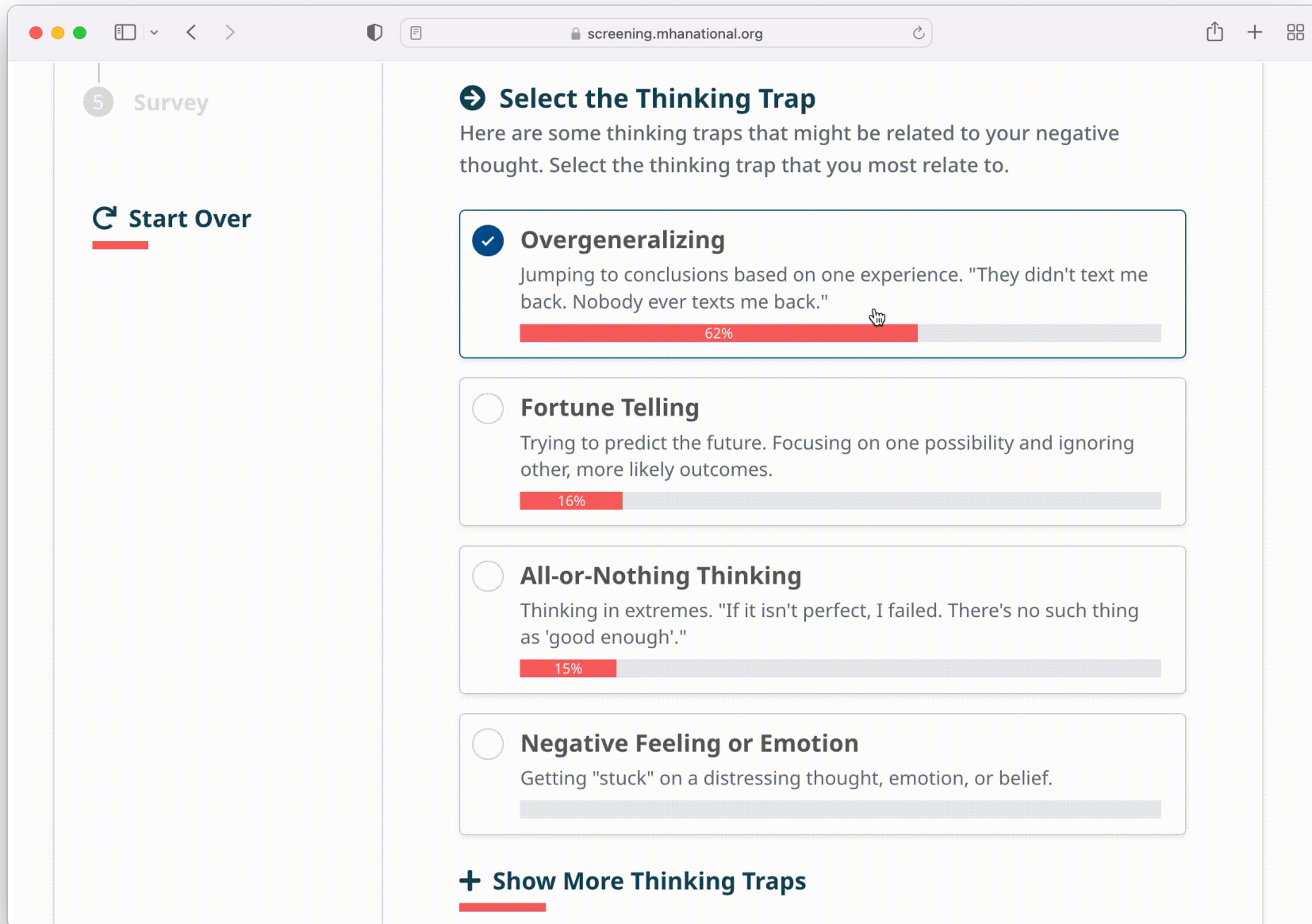
### Select the Thinking Trap

Here are some thinking traps that might be related to your negative thought. Select the thinking trap that you most relate to.

**Overgeneralizing**  
Jumping to conclusions based on one experience. "They didn't text me back. Nobody ever texts me back."  
62%



# AI generates and suggests the possible *reframes*



The screenshot shows a web browser window with the URL `screening.mhanational.org`. The page is titled "5 Survey" and features a "Start Over" button. The main content is a section titled "Select the Thinking Trap" with the instruction: "Here are some thinking traps that might be related to your negative thought. Select the thinking trap that you most relate to." There are four options, each with a radio button and a progress bar:

- Overgeneralizing**  
Jumping to conclusions based on one experience. "They didn't text me back. Nobody ever texts me back."  
62%
- Fortune Telling**  
Trying to predict the future. Focusing on one possibility and ignoring other, more likely outcomes.  
16%
- All-or-Nothing Thinking**  
Thinking in extremes. "If it isn't perfect, I failed. There's no such thing as 'good enough'."  
15%
- Negative Feeling or Emotion**  
Getting "stuck" on a distressing thought, emotion, or belief.  
0%

At the bottom, there is a "+ Show More Thinking Traps" button.

# Participant selects the reframe they find most relatable and helpful

screening.mhanational.org

**1 Thought**  
I will never achieve success as a researcher

**2 Situation**  
I submitted a research paper and it got rejected

**3 Thinking Trap**  
Overgeneralizing

**4 Reframe**

**5 Survey**

**Start Over**

## Reframing

Step 4 of 5

**i What is Reframing?**

We overcome thinking traps by coming up with new ways to think about the situation we are dealing with. This process is called **reframing**.

What can you tell yourself to think about this situation in a **more positive, realistic, or helpful way?**

**+ Show Tips to Overcome Overgeneralizing**

**↻ Reframe Your Thinking**

Here are a few reframes you may consider. Click on the reframe you find most relatable and helpful to start working on it or add your own reframe.

*Rejection is a part of the process. I will take the feedback I received and use it to improve my paper and submit it again.*

Flag inappropriate

Situation	Thoughts	Emotions	Behaviors	Alternate Thought

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Provided by TherapistAid.com

# Large-scale randomized field study deployment



Mental Health Information Resources About Us

LOG IN

TAKE A MENTAL HEALTH TEST

## Changing Thoughts with an AI Assistant

Sometimes life can feel overwhelming. We get stuck in patterns of negative thinking, called "*thinking traps*." Things can start to feel hopeless — but the truth is, there's always hope.

Breaking free from thinking traps is a skill that you can learn. You can replace negative, hopeless thoughts with ones that are **more positive, realistic, or helpful**. In this activity, you will practice doing just that.

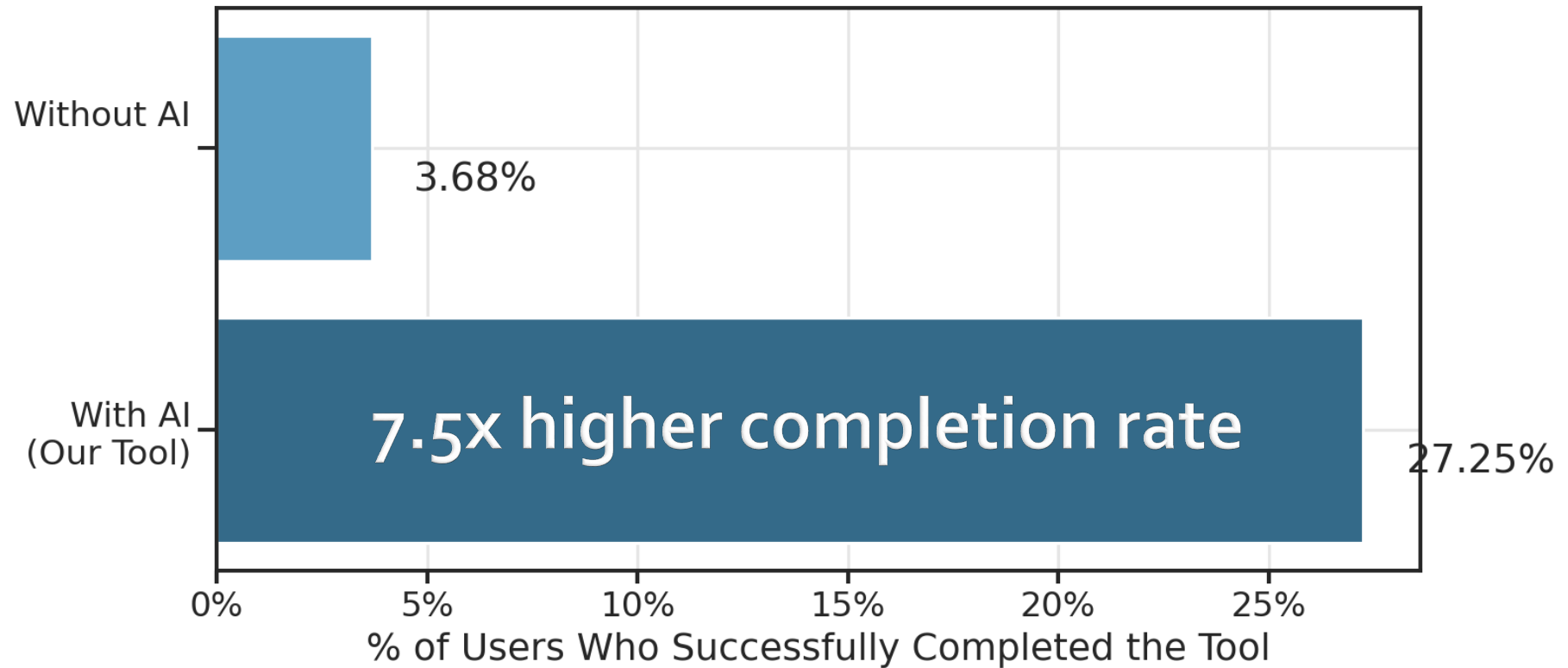
This activity uses artificial intelligence to help reframe your negative thoughts. **It isn't monitored by a human**. If you are thinking about death, suicide, or self-harm and need to talk to someone right away, please text MHA to 741741 or call or text 988.

Start

<https://screening.mhanational.org/changing-thoughts-with-an-ai-assistant/>

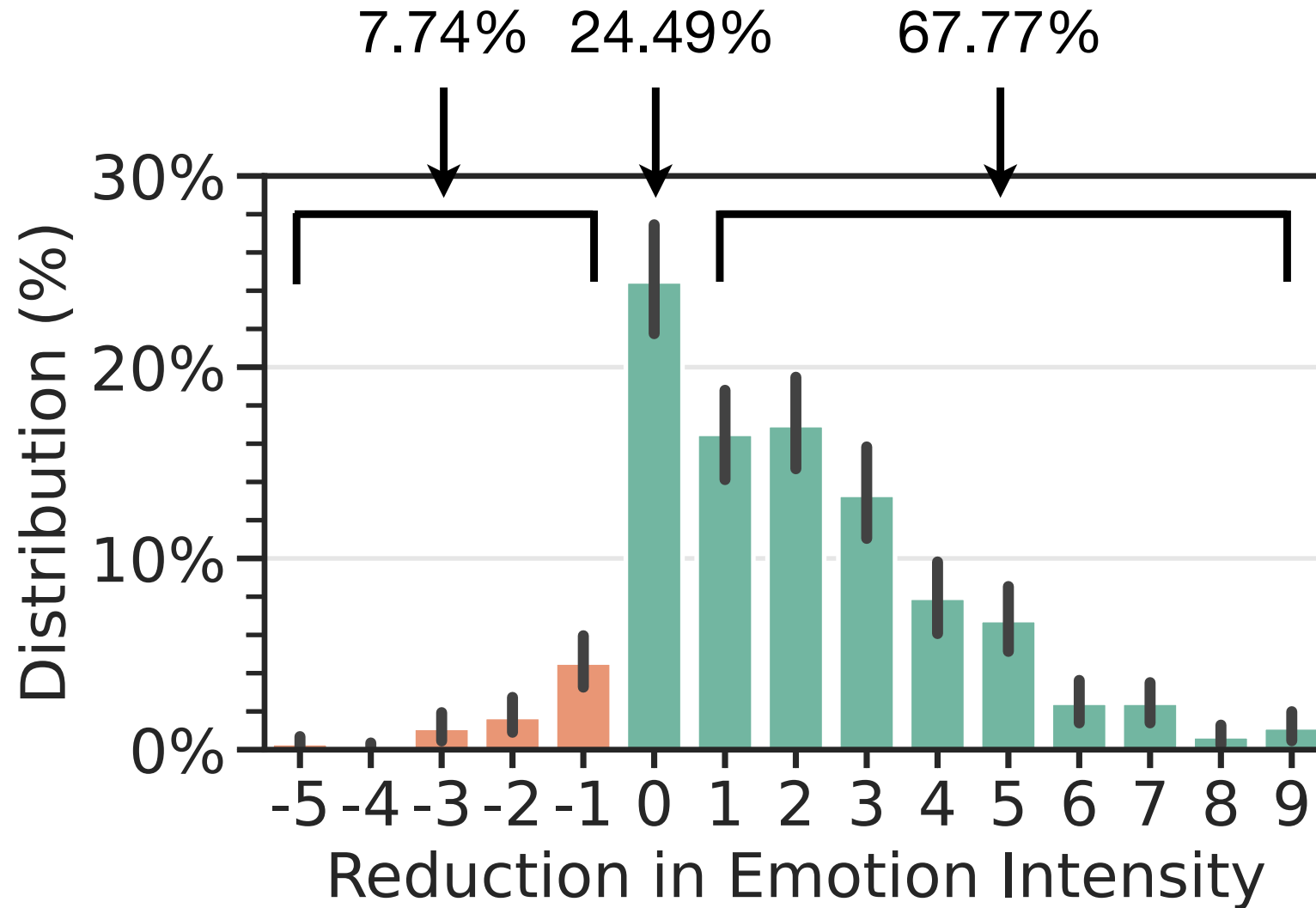
Over **120,000 participants** so far (since Dec'22)

# Engagement improves massively over non-AI-supported alternatives

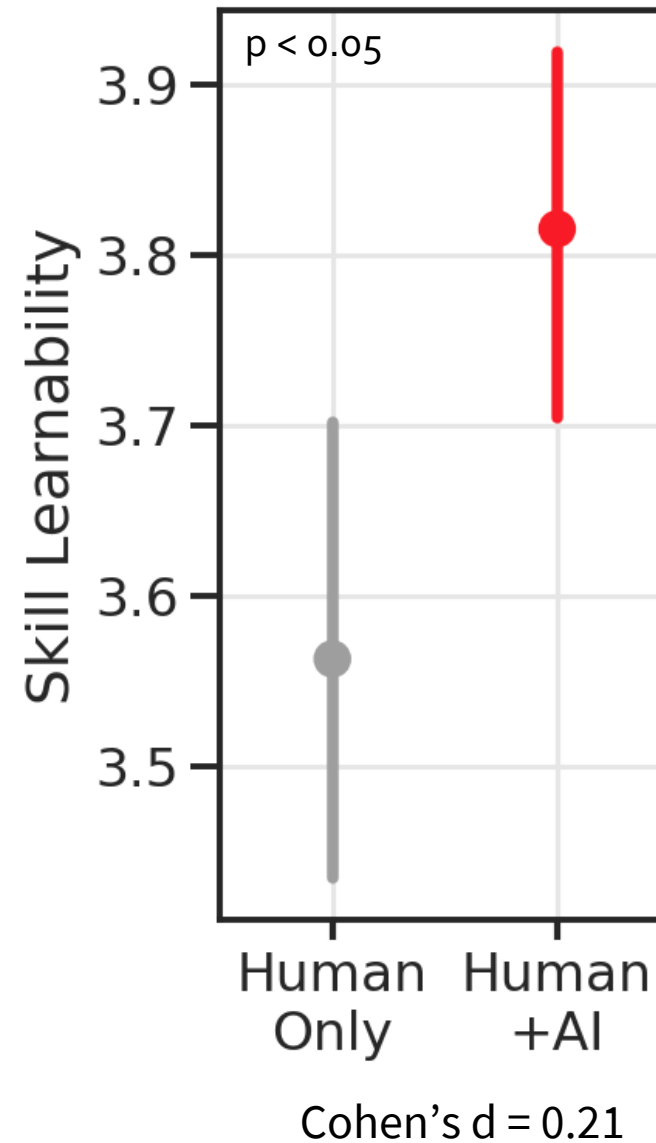
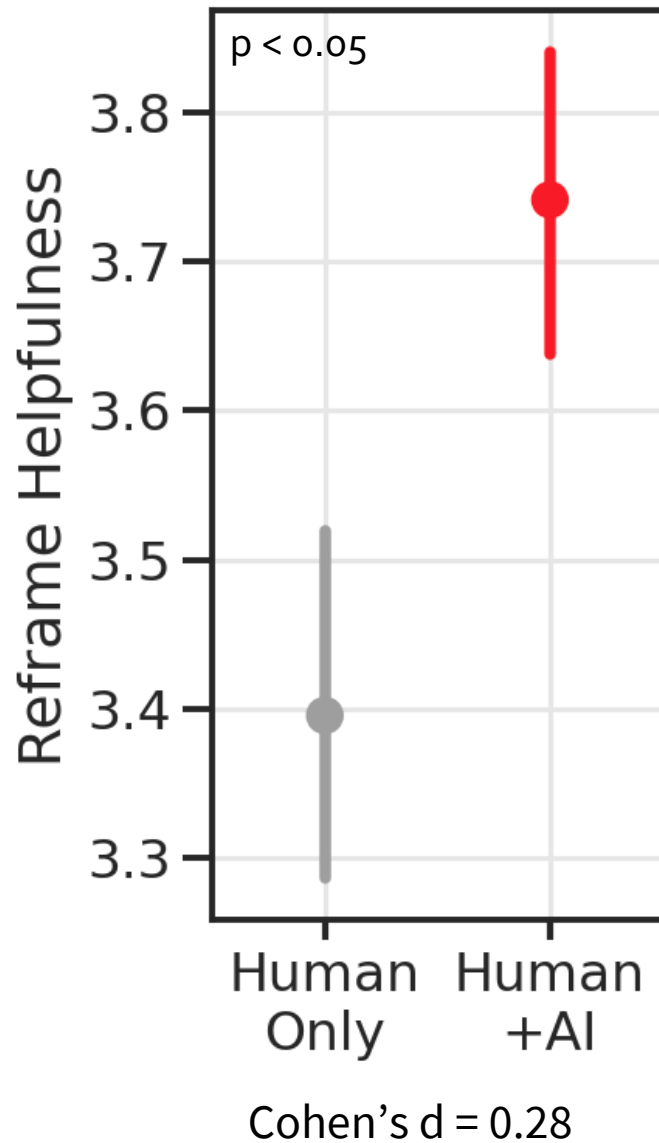


costs a few cents per use like printing a *single* worksheet

# Does it help people feel better?



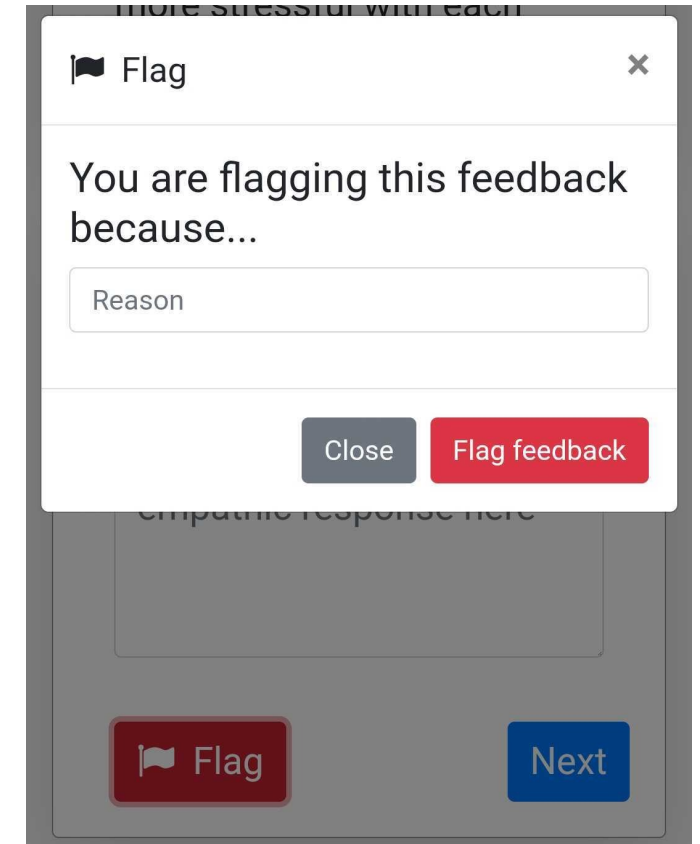
# Human-AI Collaboration Leads to Better Reframing Outcomes



## **(3) Ethics & Safety Considerations**

# CRITICAL: Ethics & Safety Considerations

- AI technology in mental health creates opportunity **and risks**
- Following established **principle-based ethics framework**, following Coghlan et al., 2023; Floridi & Cowls, 2019; Beauchamp & Childress, 2001





# Equity: Does it work equally well across demographics?

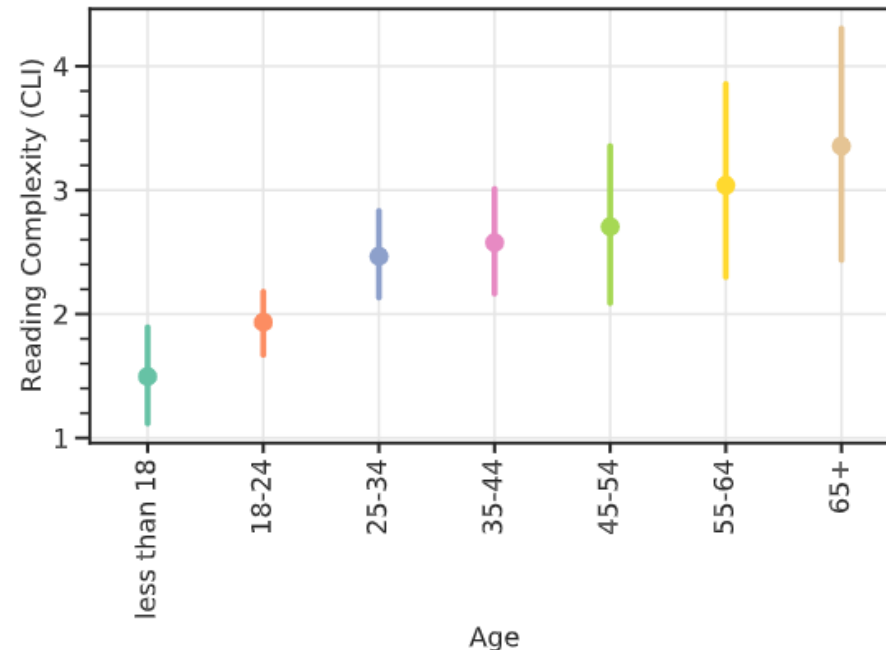
- Adolescents report consistently worse outcomes

Demographics	Reduction in Emotion Intensity	Reframe Relatability	Reframe Helpfulness	Reframe Memorability	Skill Learnability	N
<b>Age</b>						
13-14	1.84	3.64	2.94	3.03	2.99	146
15-17	1.64	3.50	2.68	3.07	2.83	149
25-34	2.00	3.89	3.32	3.70	3.40	179
35-44	2.15	3.97	3.40	3.69	3.51	109
45-54	1.64	3.96	3.32	3.64	3.56	71
55-64	1.88	3.96	3.46	3.96	3.21	32
65+	1.20	4.00	3.38	3.88	4.13	8
<b>Gender</b>						
Female	1.92	3.78	3.21	3.44	3.26	646
Male	2.19	3.74	2.95	3.38	3.04	258
Non-Binary	1.94	3.76	3.30	3.46	3.22	54
<b>Race/Ethnicity</b>						
AIAN	2.17	2.50	2.67	3.17	2.67	6
Asian	1.91	3.79	3.08	3.43	3.12	216
Black / African Am.	2.43	3.85	3.30	3.62	3.49	47
Hispanic or Latino	1.97	3.91	3.43	3.59	3.47	76
MENA	1.90	3.78	2.90	2.98	2.80	50
NHPI	2.00	4.40	4.00	3.60	3.20	5
White	2.05	3.73	3.12	3.47	3.22	438
More than One	2.83	3.84	3.29	3.24	3.16	38
Other	0.78	3.75	3.06	3.29	3.02	48
<b>Education</b>						
Middle School	1.80	3.58	2.89	2.96	2.79	120
High School	1.80	3.65	2.97	3.31	3.09	313
Undergraduate	2.04	3.79	3.19	3.54	3.28	239
Graduate	2.30	3.98	3.47	3.69	3.52	211
Doctorate	1.46	4.21	2.96	3.93	3.07	28

Table 2. Effectiveness of our system across different demographic population. Numbers highlighted in green indicate outcomes that are significantly better than the population mean ( $p < 0.05$ ). Numbers highlighted in red indicate outcomes that are significantly worse than the population mean ( $p < 0.05$ ). AIAN: American Indian or Alaska Native; MENA: Middle Eastern or North African; NHPI: Native Hawaiian and Pacific Islander. We found that adolescents, males, and those with middle school education reported worse outcomes. Moreover, adults (age  $\geq 25$ ) and those with graduate and doctorate education reported better outcomes.

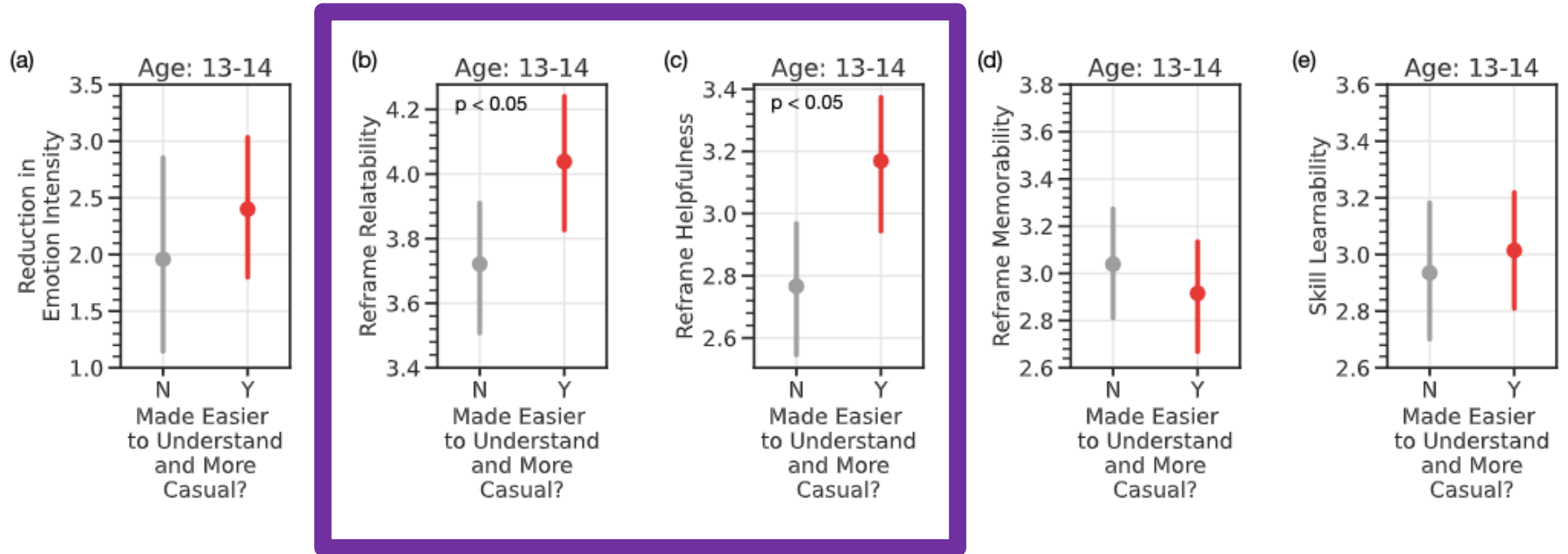
# What might be going on for adolescents?

- **Observation:** They write **simpler reframes** with shorter words and shorter sentences.



- **Hypothesis:** They might benefit from simpler generated reframes.

# Results: Adolescents find simpler reframes more relatable and more helpful.



Revise the following text to make it easy to understand for a 5th grader. Also, make it more casual: {reframe}

# Key Takeaways

**Human-AI collaboration can help improve access to and quality of mental health support**

**Potential to support individuals, train future mental health workforce, and more broadly to guide how we communicate with others and with ourselves (e.g. patient-clinician interactions, public health messaging, supporting healthy political discourse, management training)**

**Impact: Multiple mental health orgs serving over ten million people are using our tools & insights**

**Vision: Develop responsible AI technology that enables accessible/free mental health tools for ALL**

# Thank you 😊

althoff@cs.washington.edu

**Papers, code, models and data:**

- <https://bdata.uw.edu/empathy/>
- <https://github.com/behavioral-data/Cognitive-Reframing>



 @timalthoff



behavioral  
data science



UW Medicine



 BRiTE

## Team



Ashish Sharma



Inna Lin



Adam Miner



Dave Atkins



David Wadden



Jamie Druitt



Kevin Rushton



Khendra Lucas



Theresa Nguyen



## Funding



GARVEY INSTITUTE FOR  
BRAIN HEALTH SOLUTIONS

UW Medicine



Washington Research  
FOUNDATION



# AI in education 101: Empower educators to explore the potential of AI



**Mike Tholfsen**

**Group Product Manager, Microsoft Education**

Twitter/X: @mtholfsen

TikTok: @mtholfsen

Instagram: @mtholfsen

Threads: @mtholfsen

YouTube: @miketholfsen

Pinterest: @miketholfsen

# 2023 was the year of AI



New Bing with power of AI to search Engine



Microsoft Invest

SOFTWARE

A multibillion-dollar aims to bring artificial Microsoft tools and

AI is Shaping the of Higher Ed

ers the myriad ways transforming higher education's research practices.

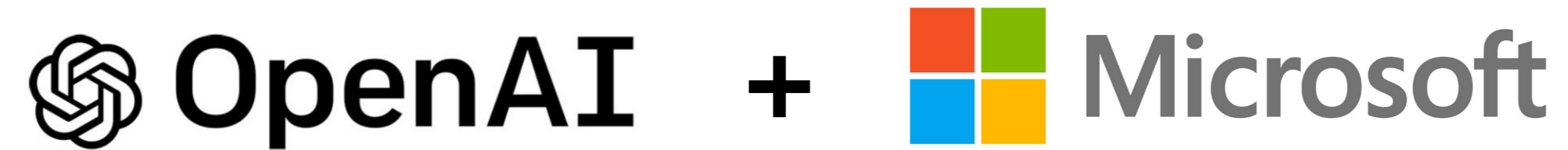
March 8, 2023

a 5th grade ChatGPT

I don't know how to put this... but... I'm kind of a big deal.



# Microsoft is fueling AI innovation



Decades  
of research &  
development

Committed to  
advancing  
Responsible AI

Secure from  
the start

Reliability &  
performance at scale  
for large AI models

Trusted by  
AI leaders  
like OpenAI

# Microsoft's AI Principles



# Microsoft Education and AI



## Copilot

Bing Chat Enterprise  
iOS and Android  
Windows



## Copilot for Microsoft 365



## Microsoft Education AI



## Your Copilot

# Microsoft Copilot



# Why Microsoft Copilot?

It's powerful and protective

## Powerful AI models



Copilot uses GPT-4 Turbo for text and DALL-E 3 for images

## Transparent about sources



Copilot cites the data sources behind its answers

## No knowledge cutoff



Copilot provides up-to-date answers. Answers are not limited by the date of the AI model

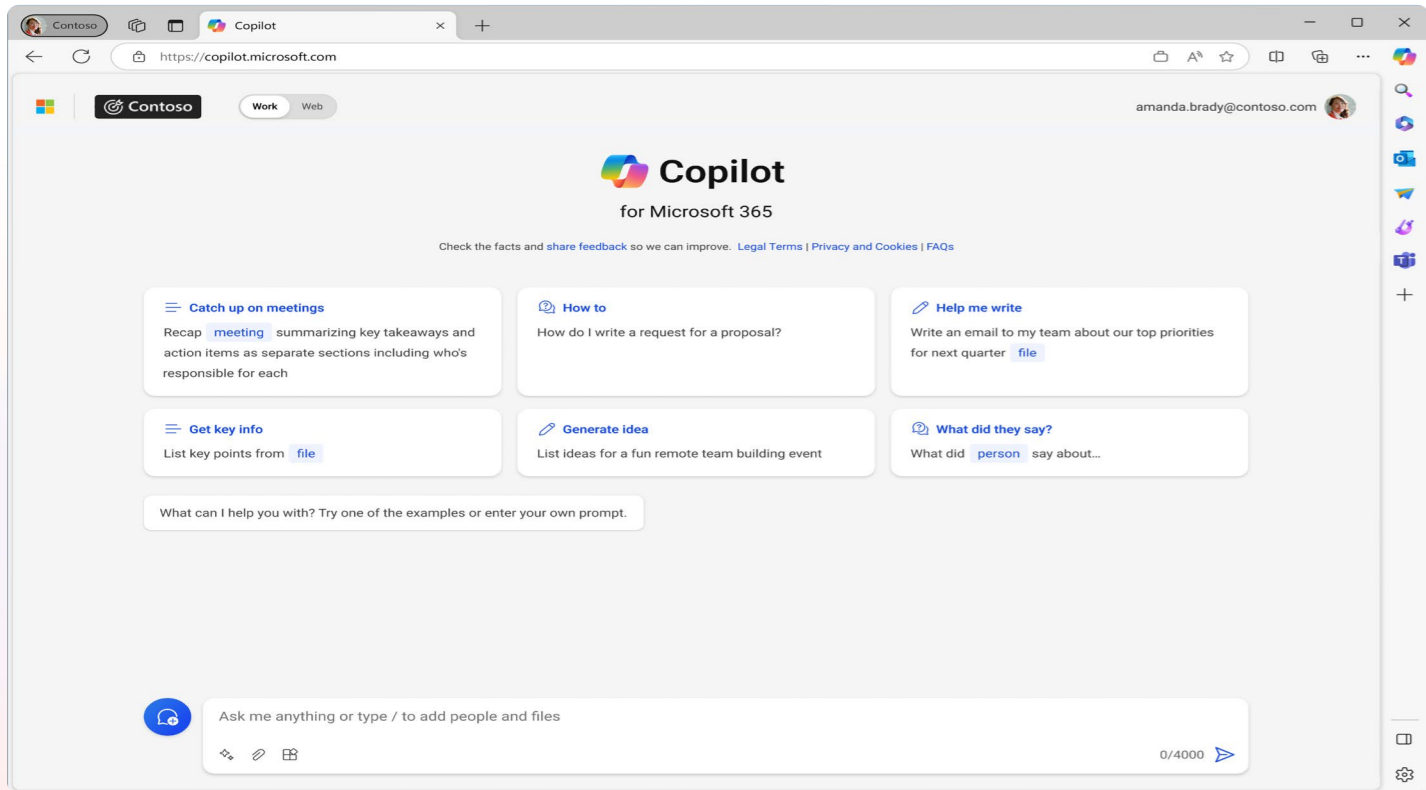
## Commercial data protection



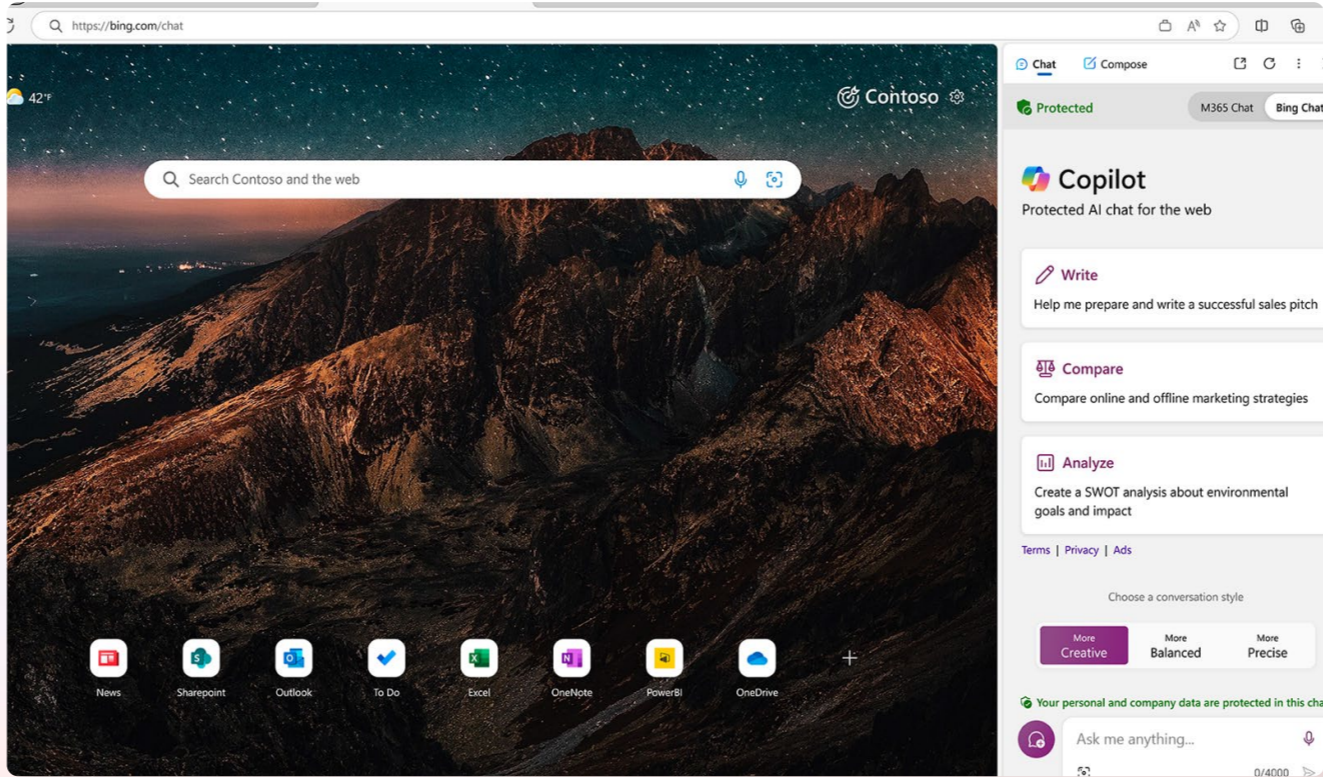
Copilot doesn't save prompts or answers, nor use them to train the AI model

# Access Microsoft Copilot in five places

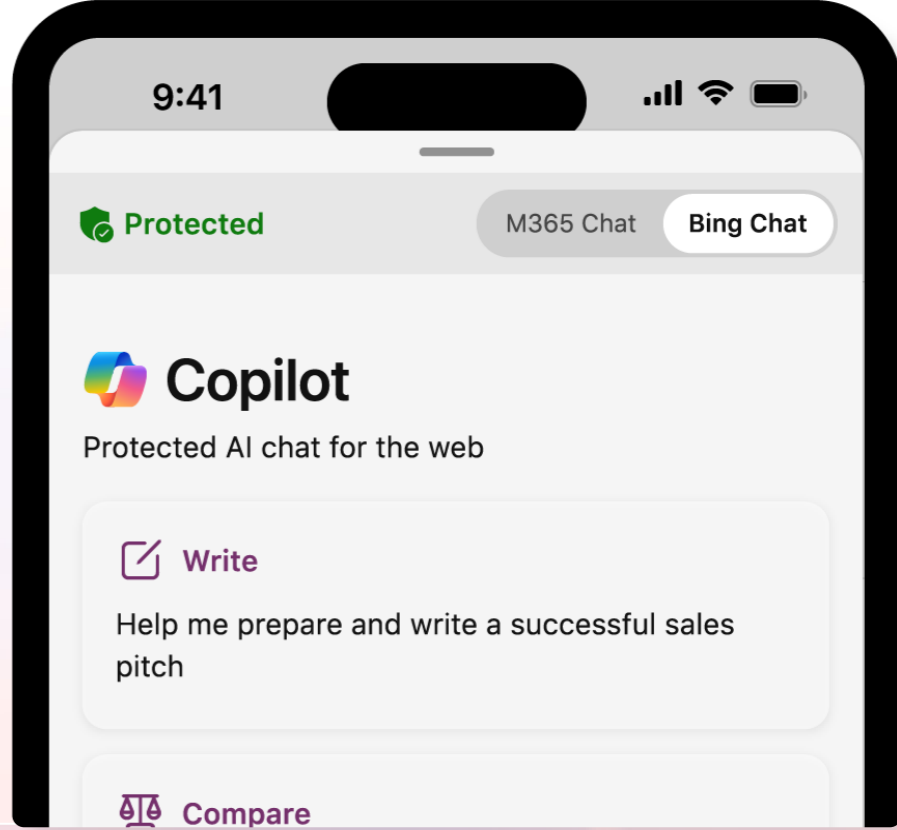
Copilot.Microsoft.com



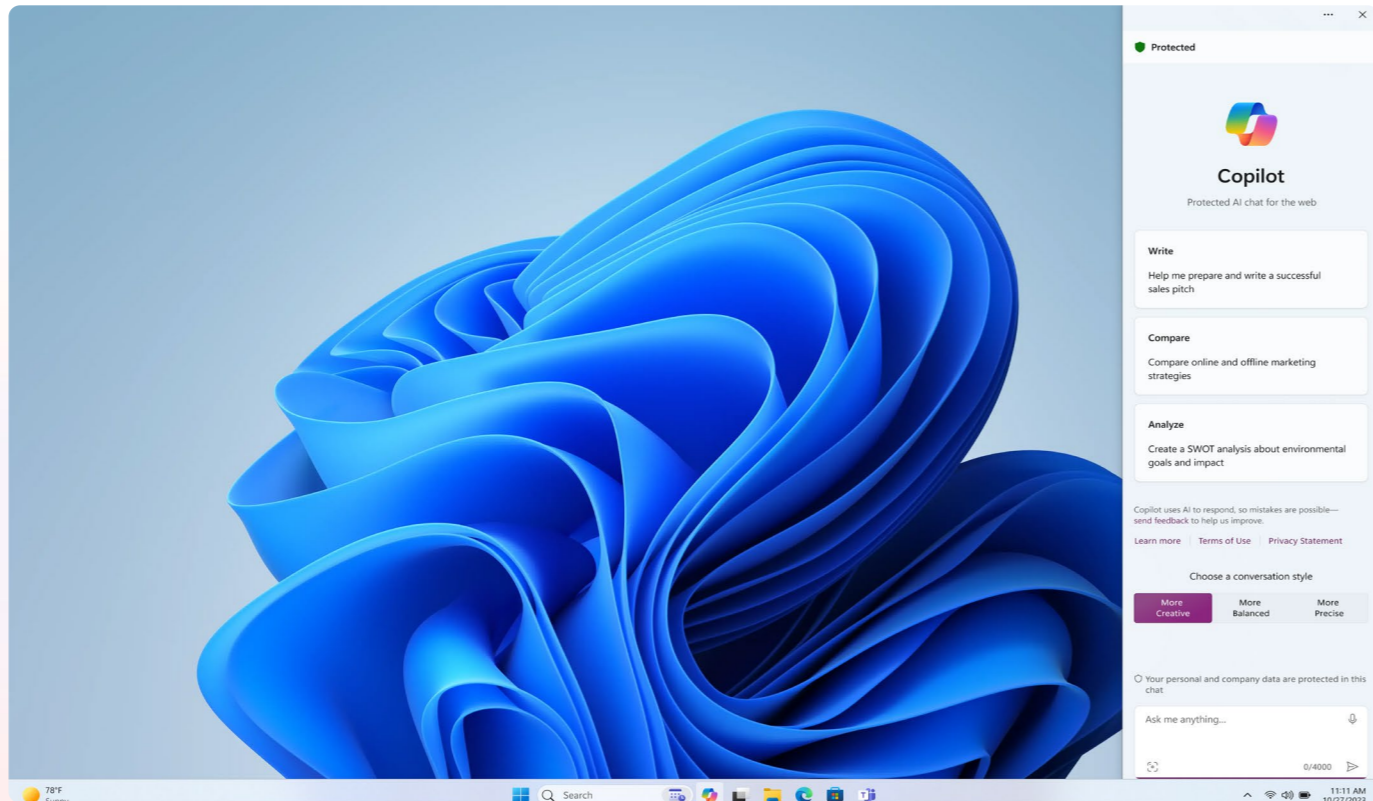
Microsoft Edge sidebar



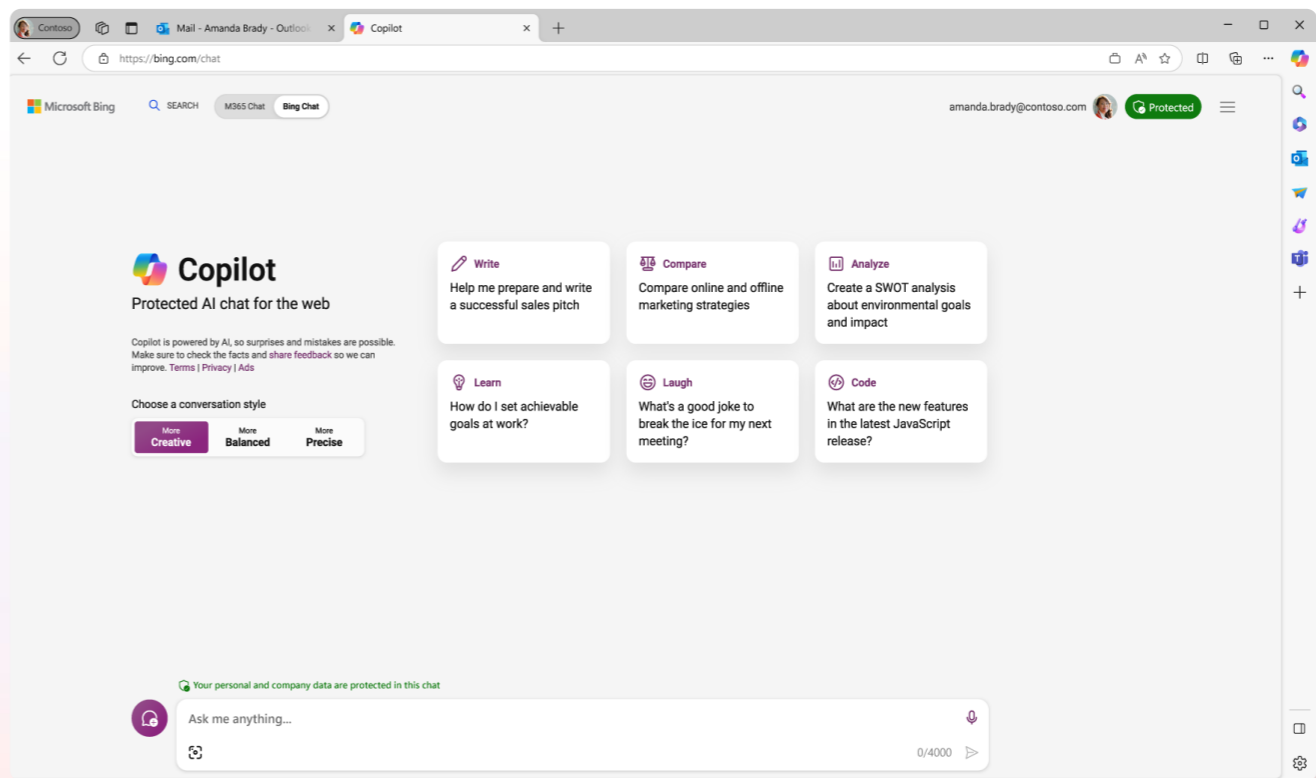
Copilot Mobile

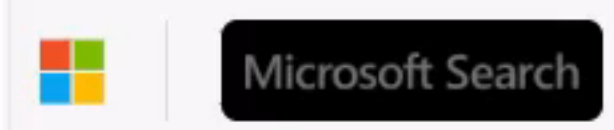


Windows



Bing.com/chat





# Copilot

Your everyday AI companion

with Bing

- Analyze**  
What are some reasons for the rising cost of college tuition?
- Templatize**  
Create a worksheet for 11th graders studying the US Civil War
- Write**  
Draft an email about diversity and inclusion on campus
- Create**  
Help me create guidelines for 7th graders on writing a persuasive essay
- Laugh**  
Know any funny jokes on the theory of relativity?
- Summarize**  
What are some current debates on student loan forgiveness?

Microsoft Copilot is powered by AI, so surprises and mistakes are possible. Please share feedback so we can improve! [Terms](#) | [Privacy](#)

Choose a conversation style

- More Creative**
- More Balanced
- More Precise

Your personal and company data are protected in this chat



Ask me anything...



0/4000

2:44

48



Copilot

Search







Recycle Bin



Temp



Images



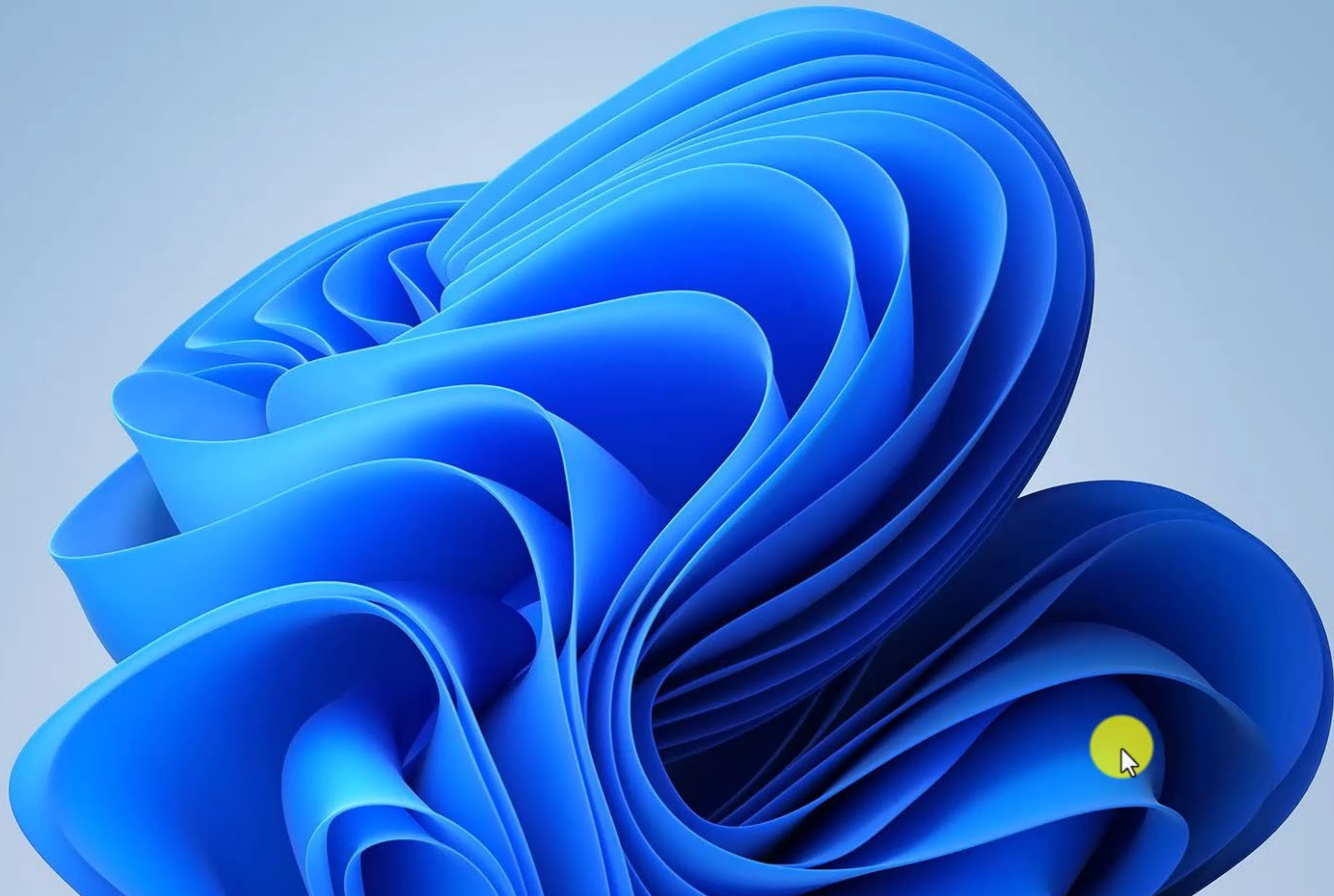
iPhone 14 Pro



Projects



PPT



# Microsoft Copilot for Educators course on Microsoft Learn

[aka.ms/CopilotforEducators](https://aka.ms/CopilotforEducators)



## Enhance teaching and learning with Microsoft Copilot

1 hr • Module • 8 Units

[Feedback](#)

Beginner

K-12 Educator

School Leader

Higher Education Educator

Bing

Microsoft Edge

Copilot

Explore using Microsoft Copilot in education by learning basic concepts, modes, and features and then applying that knowledge to design effective prompts and analyze results.

### Learning objectives

Upon completion of this module, you'll be able to:

- Summarize the basics of Microsoft Copilot and how they can help educators
- Use Copilot and use the basic functionality provided in all its features
- Design prompts that support teaching and learning
- Judge the responses produced by Copilot for overall quality and credibility

[ISTE Standards for Educators](#) <sup>↗</sup>:

- Educator - Designer
- Educator - Learner

900 XP

Generally available for educators



# Copilot for Microsoft 365

No minimum license requirements!



# Microsoft 365 Copilot

Natural Language



Large Language  
Models



Microsoft Graph  
- Your Data -



Microsoft 365  
Apps



The  
Web



# Microsoft 365 Copilot

Built on Microsoft's **comprehensive approach**



Security



Compliance



Privacy



Responsible AI

MICROSOFT 365

# Copilot in Word

The screenshot shows the Microsoft Word interface with a document titled "Go to Market Plan - Saved". The ribbon is set to "Home" with the font set to "Aptos (Body)" and size "11". The document content includes a paragraph about target audience segments and a section titled "Messaging and Value Proposition". A Copilot suggestion box is visible at the bottom right, offering to "Rewrite with Copilot" and showing a preview of the suggested text.

https://onedrive.live.com/?w:/t/EaCKkPs6AchlJwULn3060f4Bvb8jylAFWrkt2bSC8LlaZw?e=CMgqn1

Go to Market Plan - Saved

File Home Insert Layout References Review View Help

Aptos (Body) 11 B I U

Our target audience encompasses three key segments: h enthusiasts, contractors and builders seeking quality sup at large. By catering to these distinct groups, we aim to es hub for all home improvement needs in Maricopa.

**Messaging and Value Proposition**

Our grand opening messaging will be built upon three fur guidance, an extensive product selection, and unwaverir spotlight our proficient staff who are poised to provide es customers make well-informed decisions. The wide rang premium brands, will be showcased as a testament to o solution for home improvement. Moreover, we will emph community through collaborative partnerships and initia

Rewrite with Copilot Preview < 1 of 3 >

We plan to base our grand opening messaging on three key p broad selection of products, and a strong commitment to the staff will be highlighted as experts who can provide valuable a make informed choices. We will also showcase our extensive r brands, to demonstrate that we are a one-stop-shop for all hc we will emphasize our dedication to the local community thro

MICROSOFT 365

# Copilot in Excel

Northwind Traders Sales Analysis

File Home Insert Formulas Data Review View Automate Help

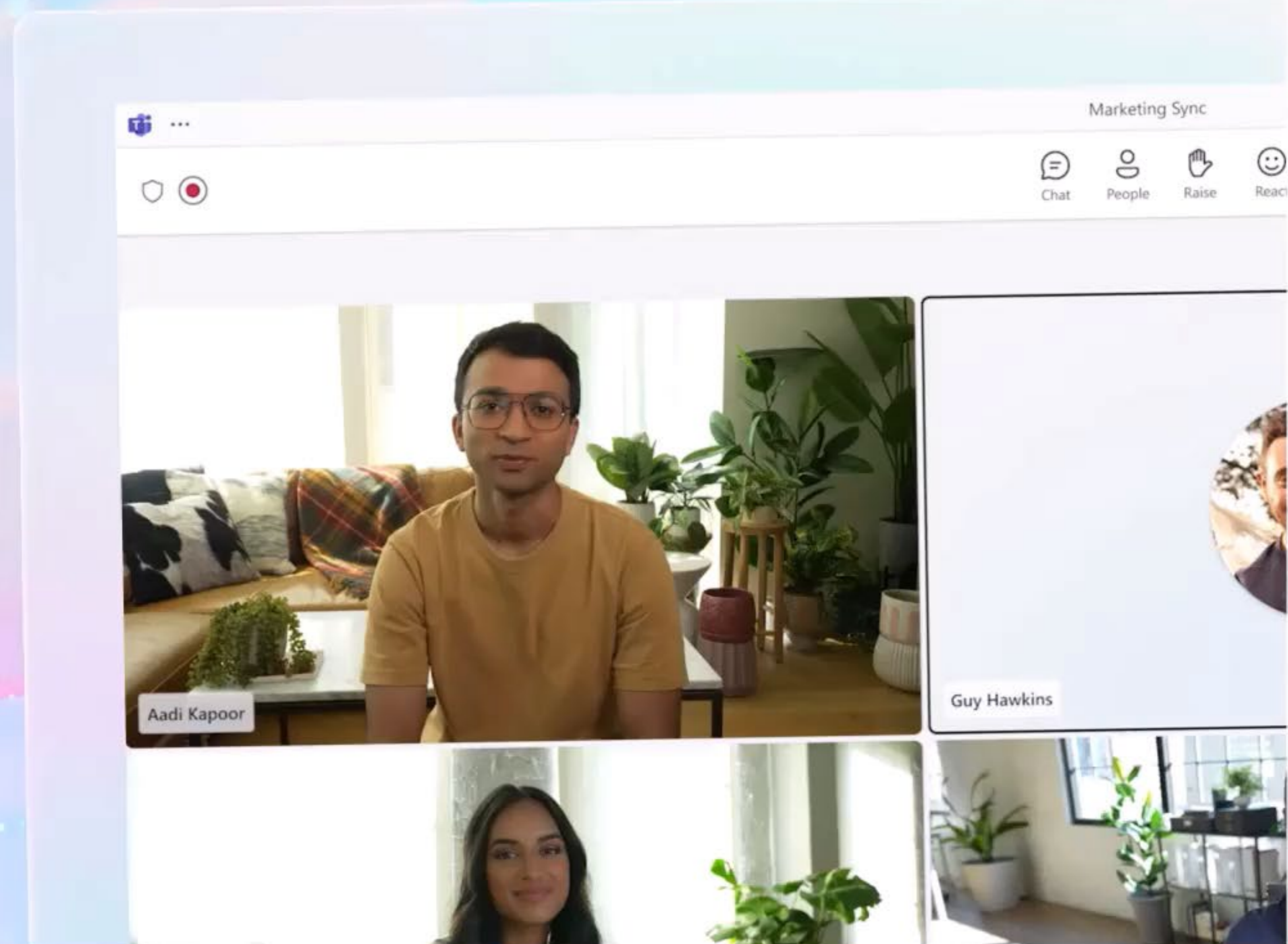
Undo Paste Font Alignment Number Styles Cells

merge = salesdata.merge(raindata, on=["Year", "Month"])

	Year	Month	Category	Product	Discount	Sales	Quantity	Rainfall (in)
7	2023	January	Shoes	Rain boots	No	\$ 31,363	174	4.11
8	2020	July	Accessories	Running sneakers	No	\$ 26,248	221	0.16
9	2020	July	Outerwear	Rain pants	Yes	\$ 7,304	95	0.16
10	2020	July	Shoes	Rain boots	Yes	\$ 8,399	166	0.16
11	2020	July	Shoes	Socks	No	\$ 5,979	239	0.16
12	2020	July	Accessories	Sunglasses	Yes	\$ 1,624	183	0.16
13	2023	April	Shoes	Rain boots	No	\$ 8,603	88	3.18
14	2020	April	Shoes	Rain boots	Yes	\$ 9,139	154	1.73
15	2020	April	Outerwear	Puffer jackets	Yes	\$ 18,087	654	1.73
16	2020	April	Shoes	Running sneakers	No	\$ 12,186	127	1.73
17	2020	April	Accessories	Visers	No	\$ 10,297	517	1.73
18	2020	April	Accessories	Baseball hats	No	\$ 6,560	234	1.73
19	2020	September	Outerwear	Rain boots	No	\$ 7,409	258	4.16

MICROSOFT 365

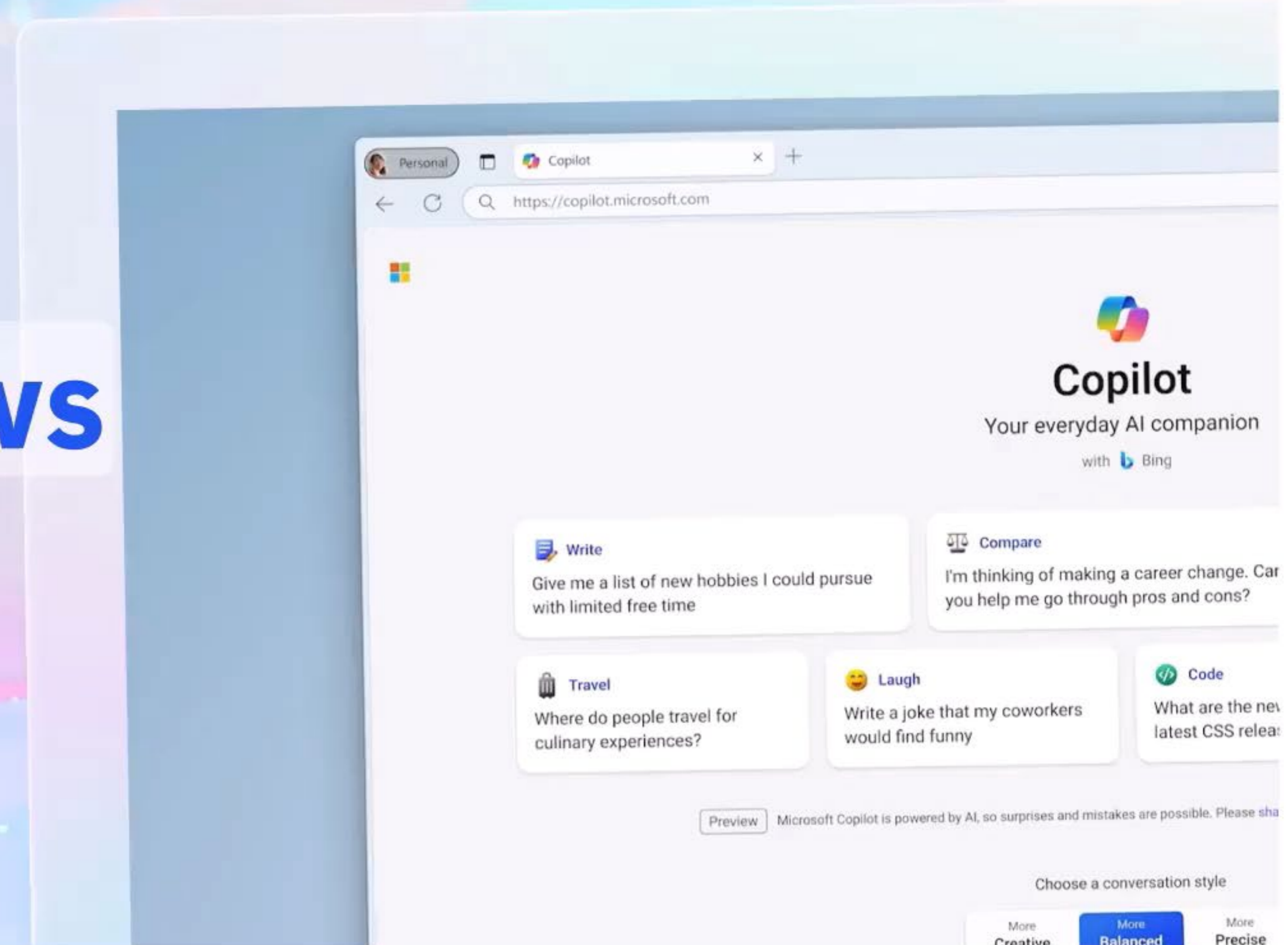
# Collab Notes in Teams





MICROSOFT 365

# Copilot in Web & Windows



# AI for Educators in Microsoft Teams



# AI - in context, where you need it, when you need it.

## In Context



Creates **context-aware** content, tailored to class profiles and age groups

## Educator in Control



**Educators retain control**, guiding AI to refine content while prioritizing effective student learning

## Productivity Booster



**Saving educators time** for increased student engagement and teaching

## Admin Control



Tenant **Administrators control** AI integration in Teams.

# Generate Rubrics with AI

Private preview

The screenshot shows the Microsoft Teams interface. On the left is a navigation pane with options like Activity, Chat, Teams, Assignments, Calendar, Files, Insights, Parents, and Channels. The main area displays an assignment titled "Understanding the Rock Cycle" with a due date of "Wed, Sep 20, 2023" and a time of "11:59 PM". The assignment content includes three numbered steps: 1. Watch a video about weathering, erosion, and deposition; 2. Choose one process and create an experiment; 3. Write a brief report. Below the steps are "Learning objectives". A blue dialog box titled "Add a rubric using AI" is overlaid on the right side of the assignment, with the text "Use AI to quickly generate a rubric for this assignment." and two buttons: "Maybe later" and "Try it". At the bottom right of the assignment area, there are buttons for "Add rubric" and "Add tag". At the bottom of the interface, there are buttons for "Cancel", "Save as draft", and "Assign".

# Generate Assignment Instructions

Private preview

Microsoft Teams

Search

Activity

Chat

Teams

Assignments

Calendar

Files

Insights

Parents

Channels

General

Help

All teams

Science

Home page

Class Notebook

Classwork

Assignments

Grades

Reflect

Insights

Parents

Channels

General

Assignments

Add to calendars: None ▾ Post notifications to: General ▾ Late turn in notifications: Off ▾ Options

Enter title (required)

Enter instructions

Wed, Sep 20, 2023 ▾

11:59 PM ▾

Late turn-ins allowed. [Edit](#)

Science ▾

All current and future stud... ▾

Select a module ▾

No points

Select a grading category ▾

Points ▾

[Add rubric](#)

[Add tag](#)

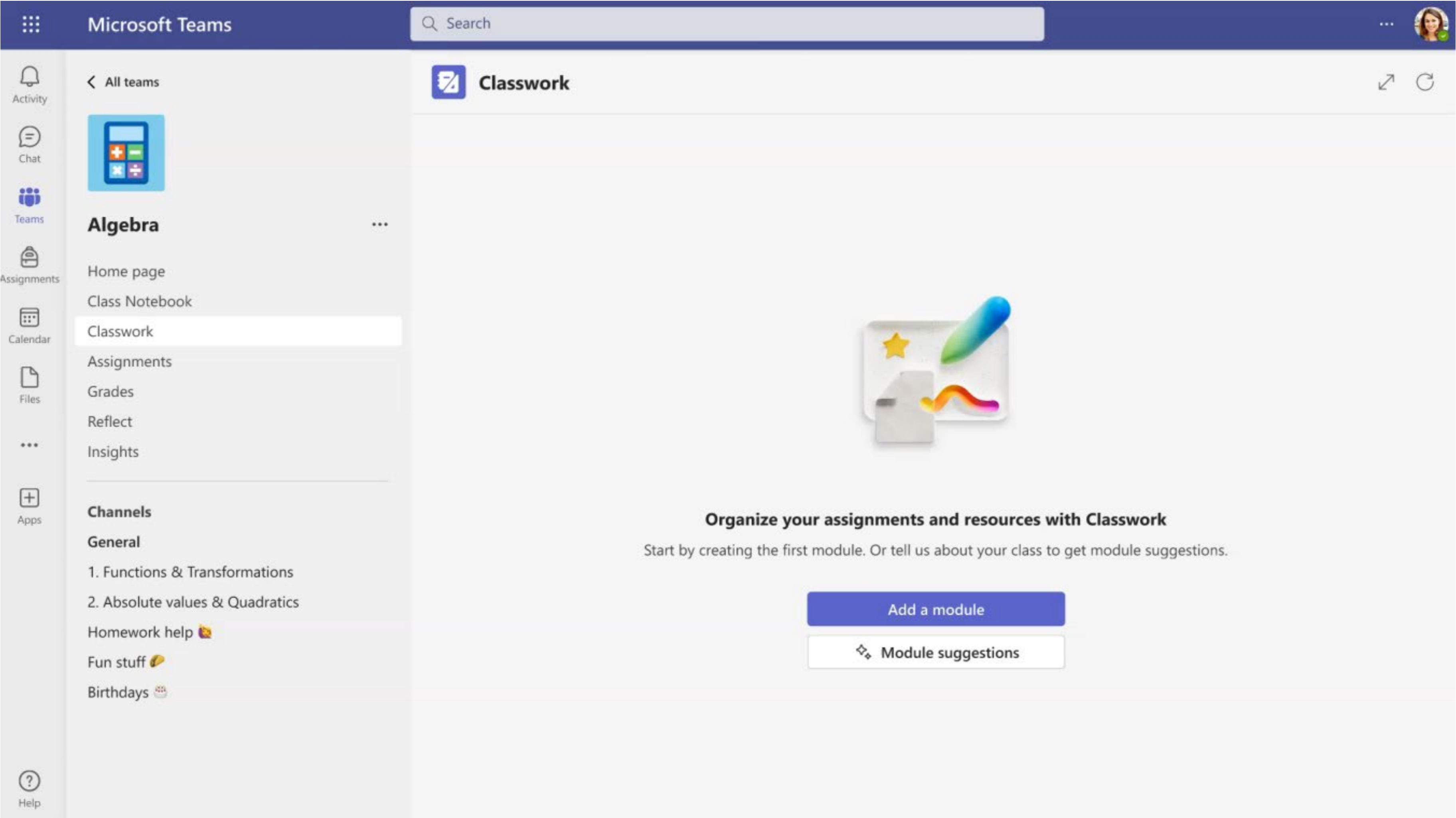
[Attach](#) [+ New](#) [Apps](#) [Learning Accelerators](#)

Student preview

Cancel Save as draft Assign ▾

# Generate Classwork Modules with AI

Private preview





# Learning Accelerators



# Introducing Learning Accelerators



## Foundational Skills

## Future-Ready Skills

## Insights



Reading

Math

Well-being

Speaker

Search

Insights

Progress &  
Reading Coach

Progress &  
Math Coach

Microsoft Reflect

Progress &  
Speaker Coach

Progress &  
Search Coach

Education  
Insights



## Learning Accelerators

### FOUNDATIONAL



Reading Progress and Coach



Reflect



Math Progress and Coach

### FUTURE-READY



Speaker Progress and Coach



Search Progress and Coach

### ANALYTICS



Education Insights

## Instructional Tools



Teams for Education



Microsoft Word



Microsoft Excel



Microsoft PowerPoint



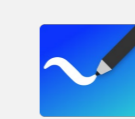
OneNote Class Notebook



Microsoft Forms



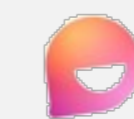
Microsoft Stream



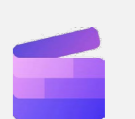
Microsoft Whiteboard



Minecraft Education



Flip



Clipchamp

## Accessibility Solutions



Immersive Reader



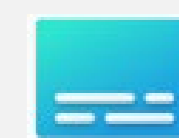
Translator



Narrator



Voice Typing



Live Captions

## Core Components

### Platform



Windows 11



Education Devices

### Management



Intune for Education



Azure Active Directory



School Data Sync

### Security



Microsoft Defender



Defender for Endpoint



Microsoft Sentinel



Microsoft Purview

# Microsoft 365 Education

# Reading Progress – Noise Suppression AI

Available today

The screenshot displays the Reading Progress interface for a student named Christie Cline. The interface includes a sidebar with navigation options (Activity, Chat, Teams, Assignments, Calendar, Files, Store, Help) and a main content area. The main content area shows the student's profile, a video player, and performance metrics: 41 Correct Words per Minute and 83% Accuracy Rate. A summary of errors is shown: 5 Mispronunciations, 2 Omissions, and 1 Self-correction. The text being read is about landforms and physical geography. A settings panel is overlaid on the right, showing 'Auto-Detect' (PREVIEW) with a toggle switch and a slider set to 'Medium', 'Background Noise Suppression' (PREVIEW) with a toggle switch, and 'Return full report to student' with an 'Edit' button.

Reading Progress

Christie Cline

Attempts: 2 Level: B Words: 207 Insights

41 Correct Words per Minute

83% Accuracy Rate

5 Mispronunciations  
2 Omissions  
1 Self-corrections

Auto-Detect <sup>PREVIEW</sup> ⓘ

Pronunciation sensitivity ⓘ

Low

The study of Earth's **landforms** is called p...  
can be mountains and valleys. They can a...  
Landforms are sometimes called physical...  
students to know about the physical geo...

The seasons, the **atmosphere** and all **the**...  
where people are able to live. Geography...  
factors that people use to decide where t...

The **physical** features of a region are ofte...  
nation, mountain ranges become natural borders for settlement areas. In...  
the U.S., major mountain ranges are the Sierra Nevada, the Rocky...  
Mountains, and the Appalachians.

Fresh water sources also influence where people settle. People need water

Auto-Detect <sup>PREVIEW</sup> ⓘ

Background Noise Suppression <sup>PREVIEW</sup>

Return full report to student

Medium

Edit

# Reading Progress – Generate passage with AI

Private preview

The screenshot shows the Reading Progress application interface. At the top, there is a dark blue header with a search bar containing the text "Search" and a user profile icon on the right. Below the header, the main content area is titled "Reading Progress" and includes "Close" and "Next" buttons. On the left side, there is a vertical sidebar with navigation icons for Activity, Chat, Teams, Assignments, Calendar, Files, and Apps. The central area features a colorful illustration of a book with a microphone, a bee, and a flower. Below the illustration, the text reads "Practice makes progress. Let's get going!". At the bottom, there are three buttons: "Browse sample library", "Generate custom passage" (with a "New!" badge), and "Upload Word or PDF".

# Reading Progress – Comprehension Questions and AI

Private preview

The screenshot displays the Reading Progress application interface. At the top, there is a search bar and a user profile icon. The main content area is divided into two panels. The left panel shows a passage titled "Geography of the Earth" with a word count of 209 words and the language set to French (Canada). The passage text is as follows:

The study of Earth's landforms is called physical geography. Landforms can be mountains and valleys. They can also be glaciers, lakes, or rivers. Landforms are sometimes called physical features. It is important for students to know about the physical geography of Earth.

The seasons, the atmosphere and all the natural processes of Earth affect where people are able to live. Geography is one of a combination of factors that people use to decide where they want to live.

The physical features of a region are often rich in resources. Within a nation, mountain ranges become natural borders for settlement areas. In the U.S., major mountain ranges are the Sierra Nevada, the Rocky Mountains, and the Appalachians.

The right panel is a dialog box titled "Add comprehension questions" with an icon of an open book and a pencil. It contains three buttons: "Generate questions", "Add my own", and "Cancel".

# Reflect Question suggestion

Private preview

Options for unpleasant emotions

I don't have enough time to do it ✕ Too much homework ✕ It's boring ✕

It doesn't seem useful ✕ I don't understand the homework ✕ It's too hard ✕

Instructions are confusing ✕ [+ Add option](#)

Options for pleasant emotions

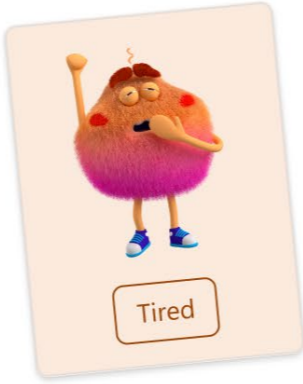
I have enough time to do it ✕ The amount is fine for me ✕ It's interesting ✕

It's helpful and worth doing ✕ Instructions are clear ✕ Doing it can help my grade ✕

[+ Add option](#)

1 Create ✨

How are you feeling about your homework?



Select all the reasons that make you feel that way

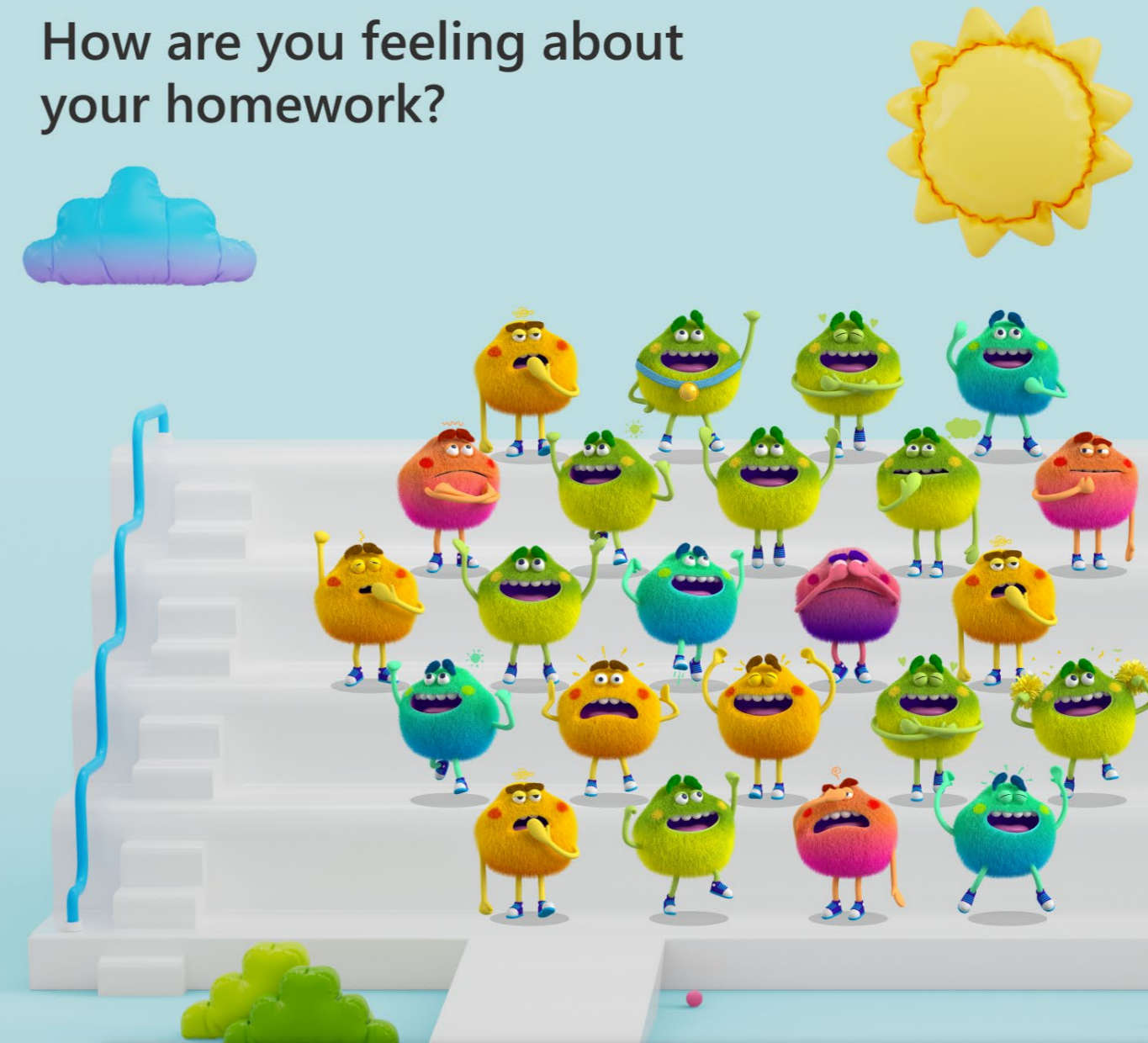
I don't have enough time to do it Too much homework It's boring It doesn't seem useful

It's too hard Instructions are confusing I'm worried about getting a bad grade

[← Back](#) I am not sure [▶ Done](#)

2 Respond

How are you feeling about your homework?



Quantity	Engagement
I don't have enough time to do it   12	It's boring   6
Too much homework   8	It doesn't seem useful   6
I have enough time to do it   7	It's interesting   14
The amount is fine for me   6	It's helpful and worth doing   11

3 Insights to action





# Speaker Progress



Develop confident presenters with tools that help reduce student anxiety and provide real-time coaching.

96%

Of businesses identify communication skills as essential, but only 42% of workers are proficient in this skill

<sup>1</sup> [National Association of Colleges and Employers](#)

# Speaker Progress (Educator Creation)

The screenshot shows the 'Speaker Progress' configuration window in Microsoft Teams. The interface is divided into several sections:

- Header:** Includes the Microsoft Teams logo, navigation arrows, a search bar, and user profile information with 'Close' and 'Done' buttons.
- Info Bar:** A message: 'Customize your student speaking experience Choose what your student will see during and after their speech.'
- Student View:** A toggle for 'Student view' is located at the top right of the main content area.
- Main Content Area:** Contains several configuration cards:
  - Pace:** 'Students will view their pace and receive suggestions based on their words per minute. Speaker Coach recommends that presenters speak at a rate of 100 to 165 words per minute.'
  - Pronunciation:** '\* Based on General American English. Students will receive a list of words to practice. A 'Practice' button is visible.
  - Filler words:** 'Students will view any filler words they used to fill the space between sentences during their speech.'
  - Sensitive phrases:** 'Students will view any areas where they can present inclusively. Speaker Coach listens for culturally sensitive phrases in these areas: disability, age, gender, race, sexual orientation, mental health, sensitive geopolitical topics, and profanity.'
  - Repetitive language:** 'Students will view a list of words that they repeatedly spoke. Speaker Coach uses a database of about 200 common words and phrases to count these instances.'
  - Pitch:** 'Students will view areas in their speech where they can adjust their volume and pitch.'
  - Speech refinements:** 'There are several areas of speech refinement that Speaker Coach can advise students on. These include: wordiness, euphemisms, possessive/plural forms, agreement within noun phrases, and informal language.'
  - Body language:** 'Students will receive suggestions for a more engaging presentation with their audience and minimize distractions. They will receive feedback for the following: Eye contact' (with a button).
- Settings Panel (Right):**
  - Presentation title:** Speaker Progress
  - Language:** English
  - Number of attempts:** Unlimited
  - Time limit:** Unlimited
  - Require video:**
  - Release rehearsal report:**
  - Speaker Coach:** Unselect all
  - Delivery:**
    - Pace:**
    - Filler words:**

# Speaker Progress (Student Work)

The screenshot displays the Microsoft Teams 'Speaker Progress' interface. On the left is a navigation sidebar with icons for Activity, Chat, Assignments, Teams, Calendar, Calls, Files, and Store. The main content area is titled 'Speaker Progress' and features a video player showing a student speaking, with a 9:01 duration. To the right of the video is a 'Your Rehearsal Report' card. The report includes a congratulatory message: 'Great speech! 🎉 Pay more attention to your repetitive language and fillers.' It also displays '9:01 speaking time' and '6 total feedback'. Below the report are two columns: 'Top strengths' and 'Top opportunities'. The 'Top strengths' column lists three items, each with a green checkmark: 'Pitch' (Keep going! You varied your pitch...), 'Pronunciation' (Good job! Your pronunciation sounded clear.), and 'Body language' (Great job keeping your gaze forward...). The 'Top opportunities' column lists 'Repetitive language' (Using the same words over and over can be distracting...) and 'Fillers' (To sound more polished and confident, pause and relax to avoid filler words:). Below the repetitive language section, there is a list of repeated words: 'awesome', 'beautiful', 'so', and 'ok'.

Activity

Chat

Assignments

Teams

Calendar

Calls

Files

Store

Speaker Progress

Search

Close

Your Rehearsal Report ⓘ

Great speech! 🎉 Pay more attention to your repetitive language and fillers.

9:01 speaking time

6 total feedback

Top strengths

**Pitch**

✓ Keep going! You varied your pitch, which can help keep your audience engaged and interested in what you were saying.

**Pronunciation**

✓ Good job! Your pronunciation sounded clear.

**Body language**

✓ Great job keeping your gaze forward, maintaining good distance from the camera, and giving the audience a clear view of your face.

Top opportunities

**Repetitive language**

Using the same words over and over can be distracting for your listener. You might not be aware of overusing certain words, so Speaker Coach helps you by counting instances of words that are commonly overused. To engage your audience, find synonyms for words you use repeatedly.

Below are the repeated words from your rehearsal:

awesome beautiful so ok

**Fillers**

To sound more polished and confident, pause and relax to avoid filler words:



# Speaker Progress (Educator Review)

**Speaker Progress** Close

**Delivery**

- Filler words**  
12 -6%  
occurrences
- Pitch**  
0 +18%  
occurrences
- Pronunciation**  
0 +32%  
occurrences

**Content**

- Sensitive phrases**  
0 +48%  
occurrences
- Repetitive language**  
6 -39%  
occurrences

**Audience engagement**

Body language		
Eye contact	Distance	Clear view
5 -4% occurrences	0 +18% occurrences	2 -14% occurrences

**Student work**  
Not turned in [View history](#)

**Getting to Know You** ...

**Feedback**  
Enter feedback

**Points**  
0 / 100

[Return](#) ▾

[Hide pane](#) [⌵]

# Speaker Progress Insights (Educator Review)

Speaker Progress

**Delivery**

- Filler words**: 12 occurrences (-6%)
- Pitch**: 0 occurrences (+18%)
- Pronunciation**: 0 occurrences

**Content**

- Sensitive phrases**: 0 occurrences (+48%)
- Repetitive language**: 6 occurrences (-39%)

**Audience engagement**

- Body language**:
  - Eye contact: 5 occurrences (-4%)
  - Distance: 0 occurrences (+18%)
  - Clear view: 2 occurrences (-14%)

### Filler words for AI Fredrickson

Measured in number of filler words per 100 words of speech

Filler words occurrence for the last assignment  
**10 / 100 words** +2 vs. previous assignment

Due Date ↓	Title	Occurrence per 100 words	Most used words
Yesterday	Analyze and critique a famous speech of your choice	10	Like Uh You know
Aug 25, 2021	Record and evaluate your own speech on a topic of...	8	Like Uh
Aug 18, 2021	Persuasive speech	14	Like Uh Okay You know
Aug 11, 2021	Compare and contrast two different styles of public...	20	Like Uh Okay You know

### Body language for AI Fredrickson

Body language in Speaker Coach provide feedback students can use to better engage with their audience and minimize distractions. The body language critiques have been modified for a stationary, seated position to help students prepare for their presentations.

Body language occurrences for the last assignment  
**7** -2 vs. previous assignment

■ Eye contact ■ Distance ■ Clear view

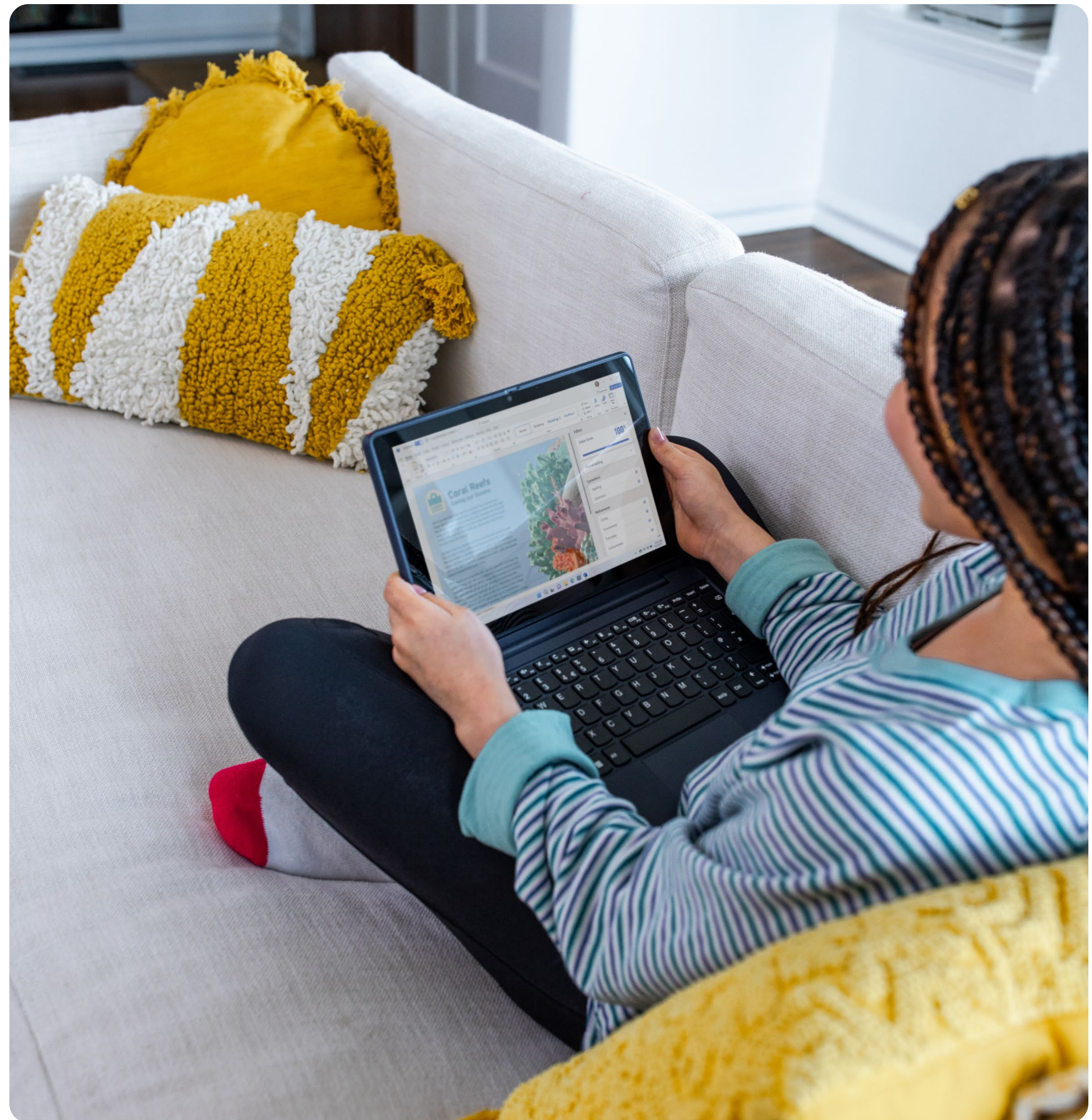
Due Date ↓	Title	Occurrence
Yesterday	Analyze and critique a famous speech of your choice	7
Aug 25, 2021	Record and evaluate your own speech on a topic of your interest	3
Aug 18, 2021	Persuasive speech	10
Aug 11, 2021	Compare and contrast two different styles of public speaking	20

# Reading Coach



What experts say is needed

**Personalized, highly engaging, consistent practice is the most effective approach for closing learning gaps**



# Reading Coach

AI-powered personalized practice at school and home

The screenshot displays the Reading Coach application window. At the top, a sun icon and the text "Good job! Now choose what happens next..." are visible. Below this, a list of practice words is shown: Mission, Mischievous, Shimmering, Wondrous, Cluster, and Artifact. Three story options are presented as cards with corresponding illustrations: a pirate ship, a child in space, and a robot on Mars. The second option is selected with a green checkmark.

Reading Coach

Good job! Now choose what happens next...

We've added these **practice words** to your next chapter:

- Mission
- Mischievous
- Shimmering
- Wondrous
- Cluster
- Artifact

Max and Lily are followed by space pirates.

Max and Lily go deeper into space.

Max and Lily's spaceship has a problem. They can't take off!

78°F Sunny

Search web and school

10/6/21 9:28 AM

An engaging  
**reading practice app**  
for students of all ages

Avery ↗



# Platforms supported



**WEB**  
**[coach.microsoft.com](https://coach.microsoft.com)**  
**Available now**



**LMS**  
**Available in spring**



**Windows**  
**Available in February**

# Reading Coach Availability

## Today

Available for home use on Windows or Web  
Get started at [coach.microsoft.com](https://coach.microsoft.com)

## February

Available for school use on Windows or Web

## Spring

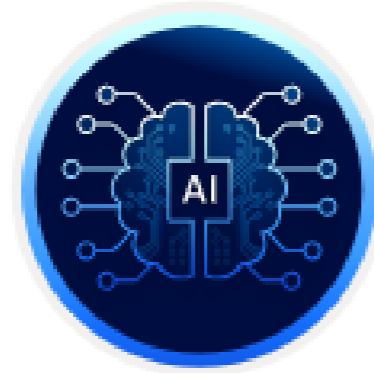
Available for use in Learning Management Systems





# AI for Educators course on Microsoft Learn

<https://aka.ms/aiforeducators>



1000 XP

## Empower educators to explore the potential of artificial intelligence

53 min • Module • 9 Units

★★★★★ 4.8 (614)

Beginner

K-12 Educator

Higher Education Educator

Bing

Microsoft Edge

Flip

PowerPoint

Navigate AI in education by looking at essential AI concepts, techniques, and tools, highlighting practical applications. AI can support personalized learning, automate daily tasks, and provide insights for data-driven decision making.

### Learning objectives

Upon completion of this module, you'll be able to:

- Describe generative AI in the broader context of AI in terms of how these systems work and what they can do.
- Explain what a large language model (LLM) is and the basics of how it works.
- Use generative and summative capabilities of LLMs (generate text, expand from main points, condense into main points, answer questions based on given text, etc.).
- Summarize potential impacts.
- Explain how AI can be used to improve learning outcomes, reduce educator workload, and increase learner engagement.

# Get this PPT deck



Link: <https://aka.ms/AIEduWA>

# Join a private preview!



**Sign up Form:** <https://aka.ms/Bett2024PrivatePreview>



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