

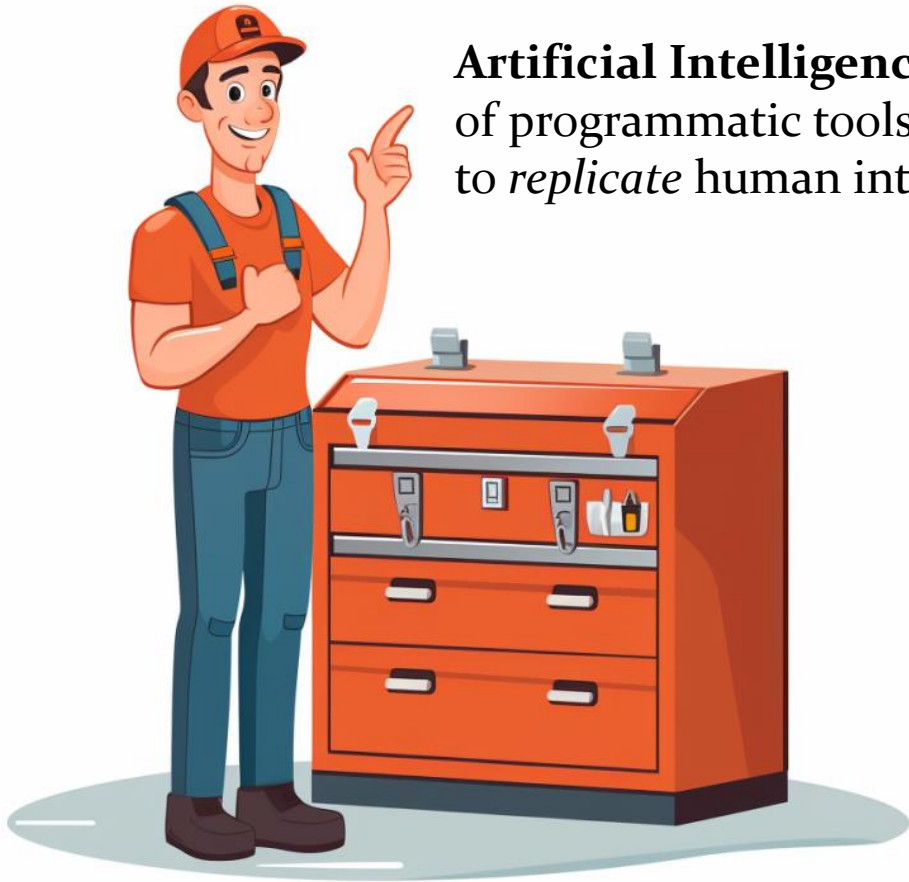
**AMPLIFYING REAL  
INTELLIGENCE  
WITH**

**A I**





# Defining AI



**Artificial Intelligence** is a suite of programmatic tools designed to *replicate* human intelligence



**Machine Learning** is the practice of teaching a computer to learn patterns from data without explicitly programming it

**Supervised Learning** (e.g., Classification and Regression)

**Unsupervised Learning** (e.g., Clustering)

**Deep Learning** (e.g., Neural Networks)

**Reinforcement Learning** (e.g., Optimized Agent Rewards)



**Natural Language Processing** is computational linguistics and the programmatic analysis of text

**Large Language Models** (e.g., GPT-4)

**Sentiment Analysis** (e.g., Emotion Detection)

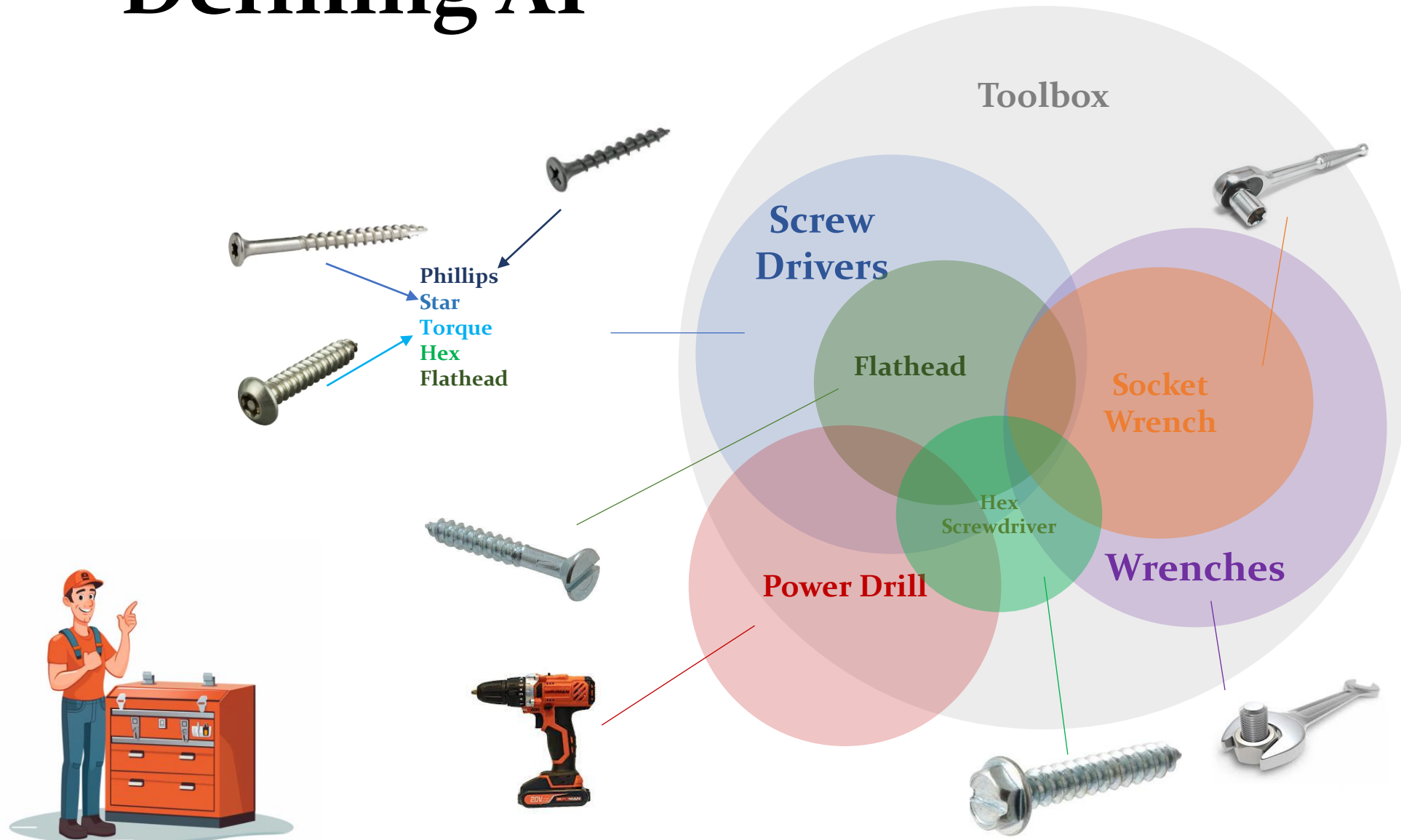


**Robotics**

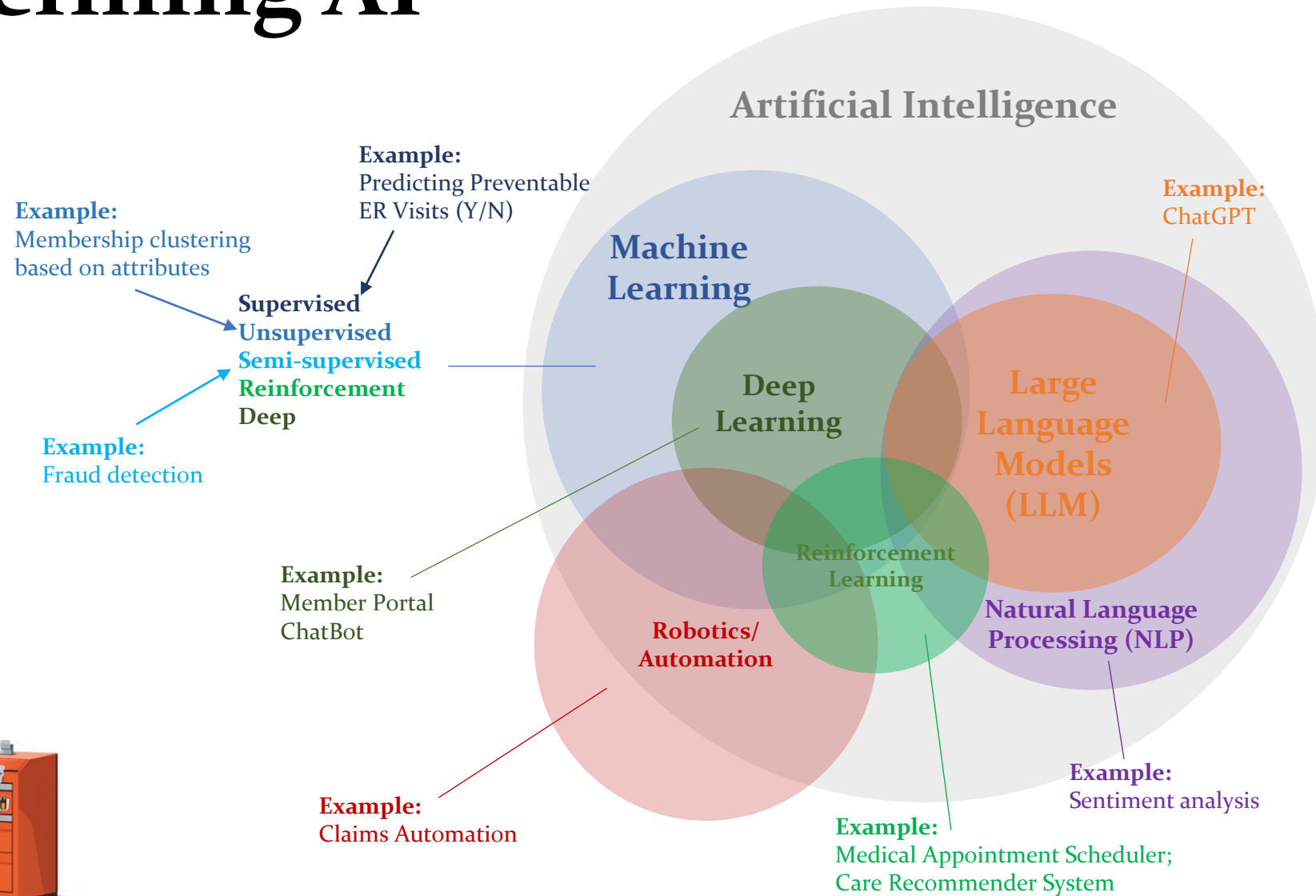
**Automation**

**Speech Recognition**

# Defining AI



# Defining AI



## White House tackles artificial intelligence with new executive order

By Arlette Saenz and Kevin Liptak, CNN  
Updated 7:25 PM EDT, Mon October 30, 2023

## Sam Altman warns AI could kill us all. But he still wants the world to use it

By Samantha Kelly, CNN  
Updated 12:15 PM EDT, Tue October 31, 2023

## OpenAI unveils latest AI model, customizable GPTs and digital store

By Samantha Kelly, CNN  
4 minute read · Published 3:57 PM EST, Mon November 6, 2023

## This was a massive week for AI

By Samantha Kelly, CNN  
5 minute read · Published 4:00 PM EST, Sat November 11, 2023

## ChatGPT parent company OpenAI fires CEO Sam Altman

By Samantha Murphy Kelly, CNN  
5 minute read · Updated 11:58 AM EST, Sat November 18, 2023

## How OpenAI so royally screwed up the Sam Altman firing

Analysis by David Goldman, CNN  
5 minute read · Updated 7:42 AM EST, Mon November 20, 2023

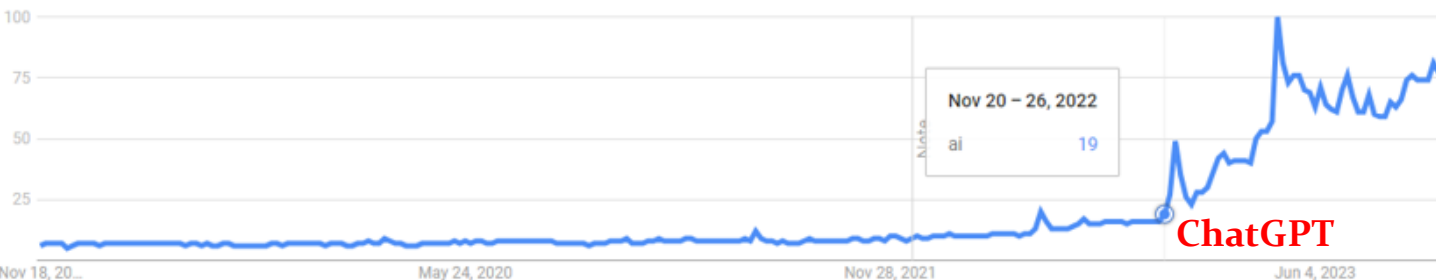
## Sam Altman joins Microsoft as OpenAI names its third CEO in 3 days

By Diksha Madhok and David Goldman, CNN  
5 minute read · Updated 7:54 AM EST, Mon November 20, 2023

## Sam Altman returns to OpenAI in a bizarre reversal of fortunes

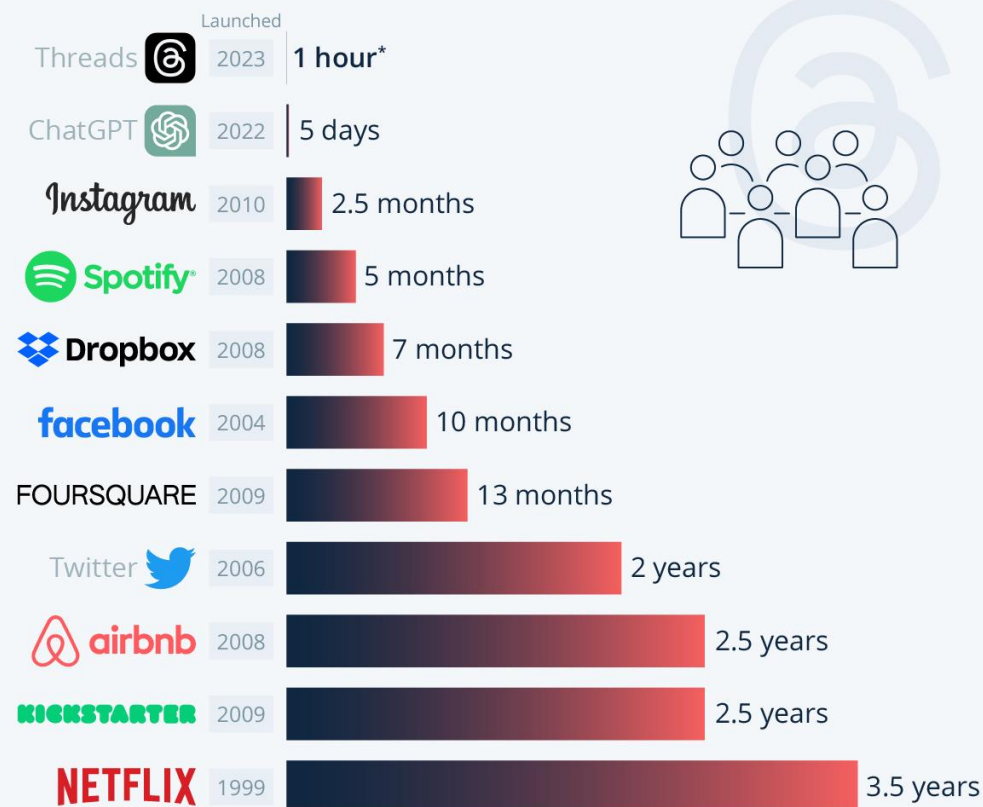
By Clare Duffy and David Goldman, CNN  
4 minute read · Updated 10:58 AM EST, Wed November 22, 2023

Interest over time ⓘ



## Threads Shoots Past One Million User Mark at Lightning Speed

Time it took for selected online services to reach one million users



Refers to one million backers (Kickstarter), nights booked (Airbnb), downloads (Instagram/Foursquare)  
\* Two million signups in two hours  
Source: Company announcements via Business Insider/LinkedIn



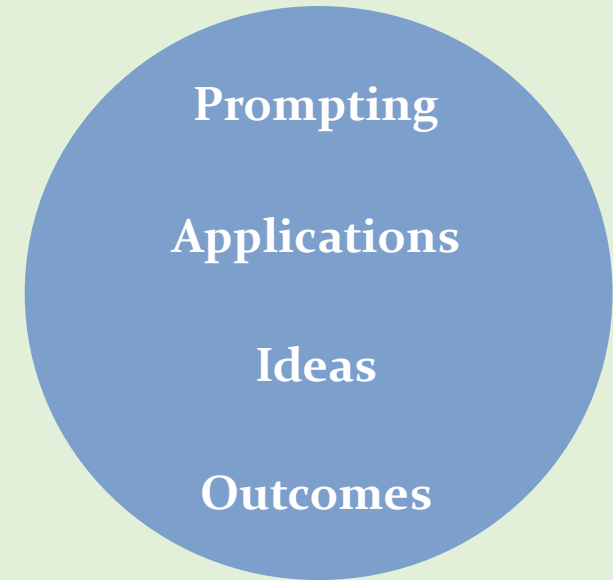
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# Discussion

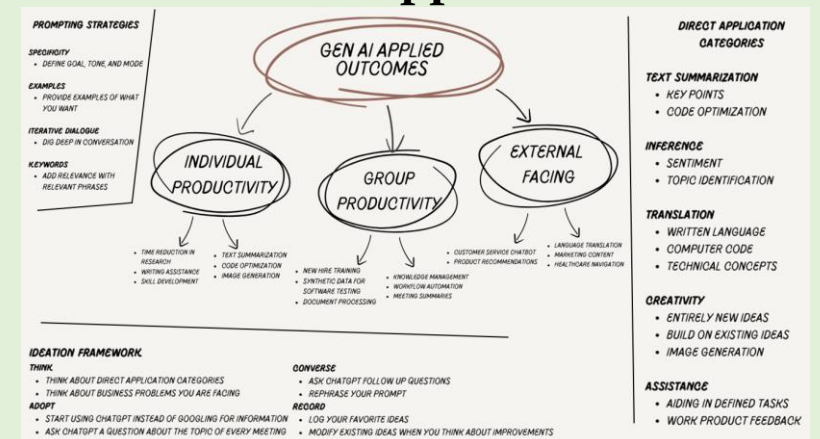


# Ways People are Using GenAI

- Language Translation & Cultural Sensitivity
- Decision Making & Confidence Building
- Creative Assistance & Empathy
- Educational Support
- Daily Life & Routine Management
- Programming & Technical Tasks
- Accessibility for the Elderly & Differently Abled
- Academic Aid for Parents & Students
- Health-Related Assistance



## More Detail in Appendix





# Artificial Illusions

**Hallucinations** – Confident generation of text that is either factually incorrect, irrelevant, or simply non-sensical.

**Bias** – Reflection of prejudices or partialities present in training data leading to skewed or unfair representations.

It gave me six references. Such as this one:

*Reference: Alexander, M., Duke, G., Carlson-Sabelli, L., & Allen, P. (2019). Teaching data literacy skills to undergraduate nursing students: The development and evaluation of an online tutorial. Journal of nursing education and practice, 9(5), 18-27.*

Problem is... **none** of them exist. Library searches confirmed the journal name, but no such titles.

I questioned ChatGPT about providing examples that were fake. It apologized and then provided three more that, it insisted twice, were absolutely real.

They were fake too.

Article [Here!](#)

**Prompt:** Create a cartoon image of a ballroom full of professionals from various fields including but not limited to healthcare, law, and science.

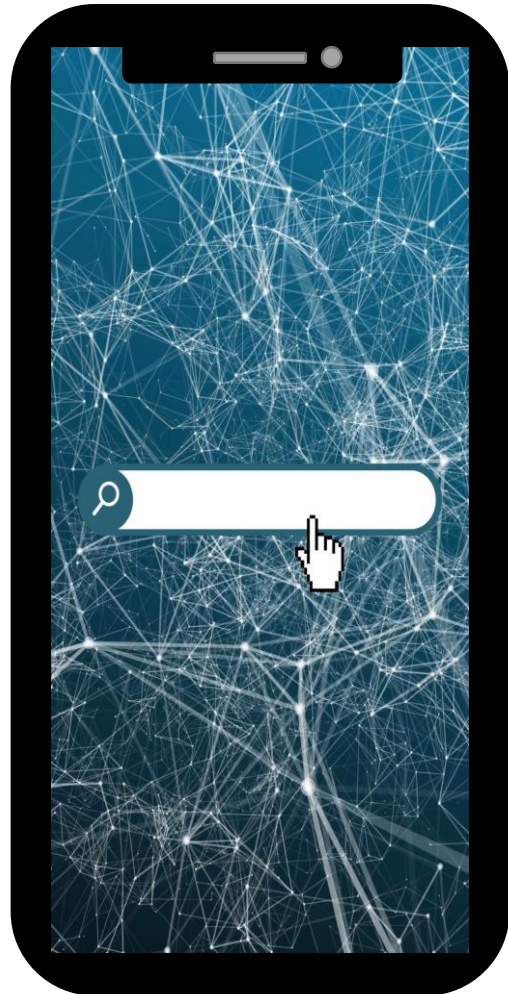


**Very little diversity!**

Trust, but verify!



# Keeping Humans in the Mix

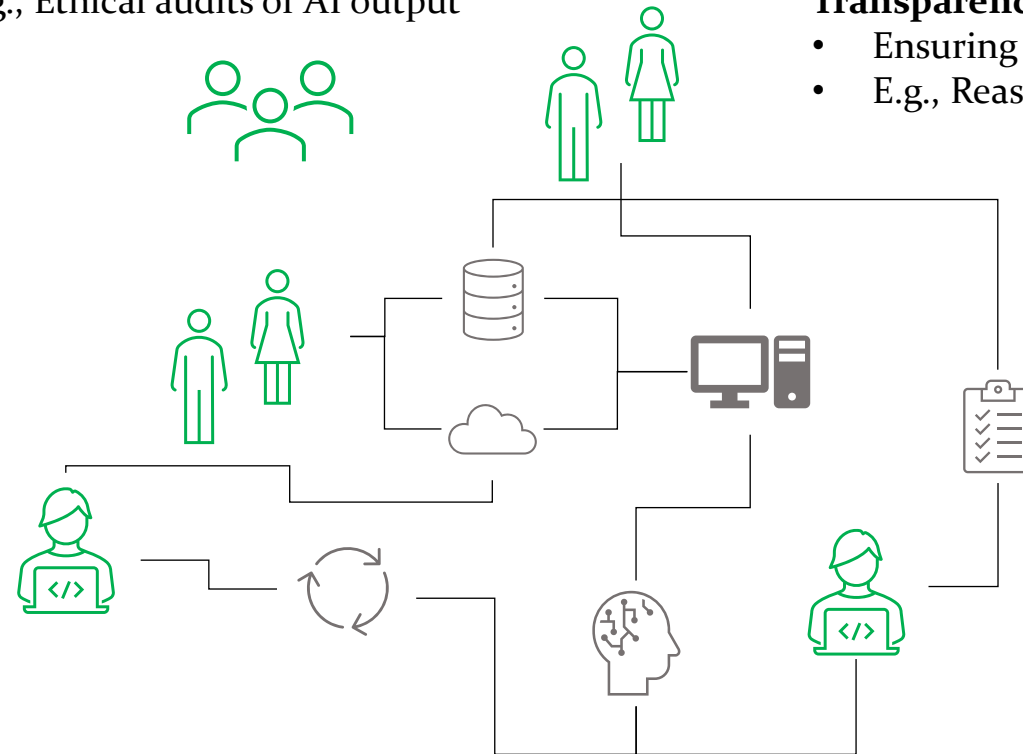


## Ethical & Bias Review Boards

- AI governance over data, algorithms, and implementation
- E.g., Ethical audits of AI output

## Transparency

- Ensuring all parties are aware of the full picture
- E.g., Reasons for AI recommendations



## Feedback Mechanisms

- Record outcomes and integrate back into training
- E.g., Emphasizing false negatives

## Training and Education

- Educate on appropriate use of output
- E.g., Decision support, not final decision

## Human-in-the-Loop (HITL)

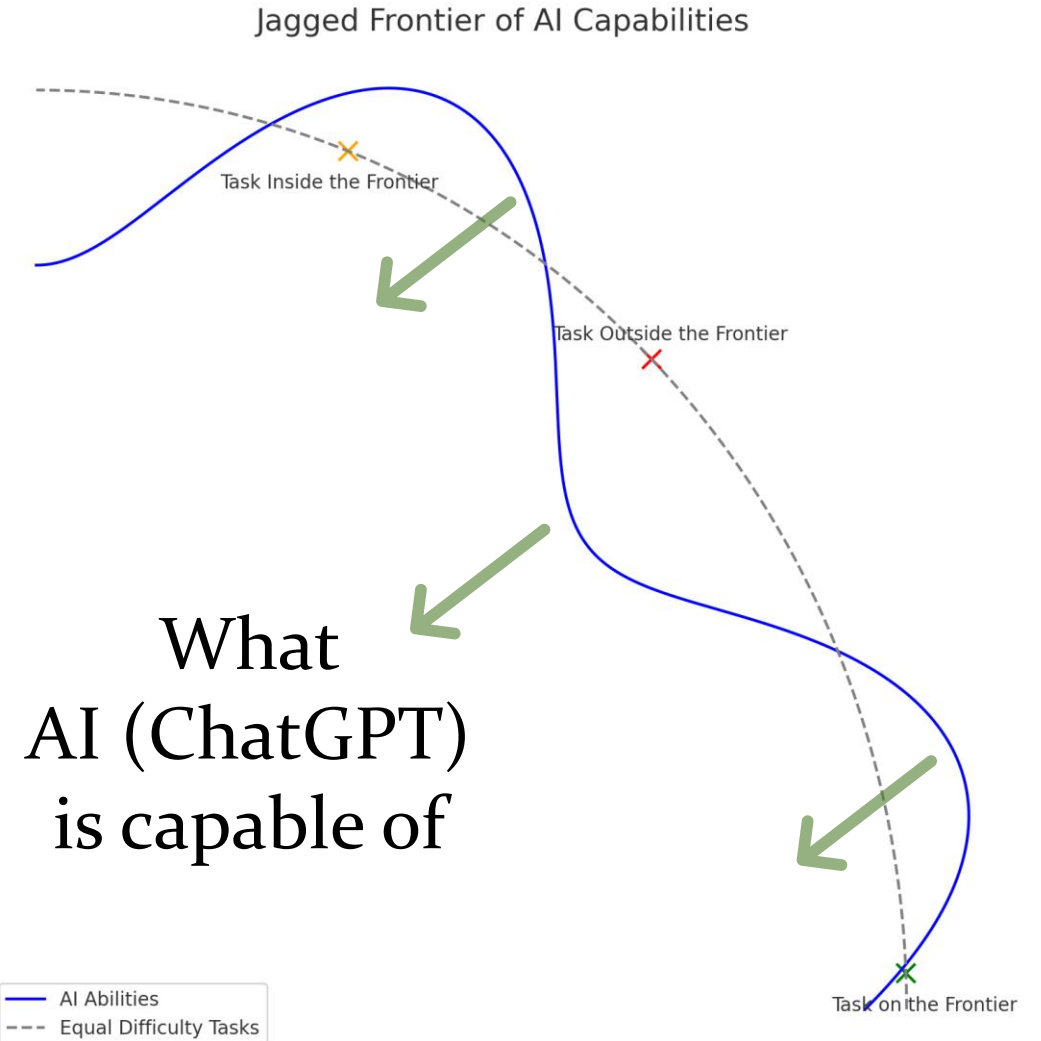
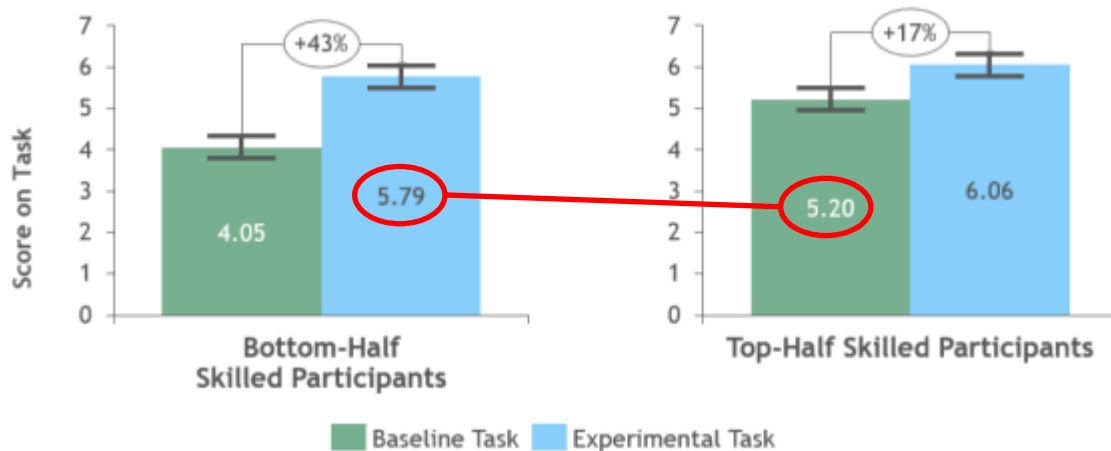
- Direct human interaction
- E.g., Review of ML recommendations

# GenAI's Added Value

Examining the “performance implications of AI on realistic, complex, and knowledge-intensive tasks”

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4573321](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4573321)

- 12.2% more tasks
- 25.1% quicker
- 40% higher quality
- Below median performers increased by 43%
- Above median performers increased by 17%





# Quick Value Example



Requires a ChatGPT Plus Subscription  
Link in Appendix



## Health Insider

News and insights cruncher for the healthcare industry.

By Jonathan R Wayland

Show me the news.

Give me an update on health insurance policies.

Summarize the latest news on healthtech startups.

What are recent developments in patient care?



Message Health Insider...



ChatGPT can make mistakes. Consider checking important information.



### Health Insider

#### Updates

1. **Digital Health:** Talkspace, an online therapy company, has signed a \$26M contract with New York City to provide free virtual mental health services to teenagers [?].
2. **Pharmaceutical Investment:** French President Emmanuel Macron announced a 2.1 billion euro investment by Novo Nordisk, a pharmaceutical company, in France [?] [?].
3. **Healthcare IT Budgets:** A 2024 Health System Digital & IT Investment Trends report reveals that more than 85% of health systems are increasing their digital and IT budgets, with nearly half expecting moderate to significant increases [?].
4. **Dry Mouth Treatment Development:** Scientists have developed a new aqueous lubricant technology aimed at providing long-lasting relief for dry mouth conditions [?].
5. **Antibiotic Consumption:** In Europe, antibiotic use has returned to pre-pandemic levels, aligning with the focus of this year's European Antibiotic Awareness Day [?].
6. **Bird Flu Outbreak in Japan:** The first case of highly pathogenic H5-type bird flu this season has been detected at a poultry farm in southern Japan [?].
7. **Alzheimer's Research:** Researchers are returning to the development of Alzheimer's vaccines, encouraged by recent successes in related drug development [?].
8. **Rising Medical Costs in the U.S.:** A significant increase in the use of weight-loss drugs is projected to drive up medical costs for U.S. employers in 2024 [?].



Getting  
the  
Most  
Out of  
GenAI



# WISER = Who + Instructions + Sub Tasks + Examples + Review

[Allie K. Miller](#), Former Global Head of Machine Learning  
Business Development at AWS

## W - Who is it?

Start your prompt with "you are a \_\_\_\_." You are a creative literature expert. You are a marine biologist. You are a ballet dancer who breaks the rules. **Give it an identity.** Give it an environment.

# WISER = Who + Instructions + Sub Tasks + Examples + Review

[Allie K. Miller](#), Former Global Head of Machine Learning  
Business Development at AWS

## I – Instructions

Provide clear instructions—what do you want the model to actually do? If it's a marine biologist, instruct it to explain a complex ocean phenomenon in simple terms. **Make your instructions explicit and easy to understand.**

# WISER = Who + Instructions + Sub Tasks + Examples + Review

[Allie K. Miller](#), Former Global Head of Machine Learning  
Business Development at AWS

## S - Sub Tasks

Break it down into smaller pieces, it'll perform better that way. For the marine biologist example, ask it to give you the ocean term, what it is, how it's changing, and why it matters. Or ask it to explain tides to a 5yo, then 13yo, then 21yo. Chunk it up. **Help it "think" step-by-step.**



# WISER = Who + Instructions + Sub Tasks + Examples + Review

[Allie K. Miller](#), Former Global Head of Machine Learning  
Business Development at AWS

## E - Examples

It's great at **mimicry**, so help it by **providing examples** or a template to follow. If you want a sonnet, provide an example sonnet. If you want a dance routine, describe a move to start from. Multiple, varied examples are best.

# WISER = Who + Instructions + Sub Tasks + Examples + Review

[Allie K. Miller](#), Former Global Head of Machine Learning  
Business Development at AWS

## R - Review

Is the output what you wanted? Did it fall short? Do you have a next step? Use the chat interface to your advantage; **ask follow-up questions, clarify, or expand on ChatGPT's initial response.** Ask it to be funnier, longer. Ask it to give you the results in a table. Ask it to break it down even further. Don't be afraid to start over or start a new chat thread.

# WISER Example w/ ChatGPT

JO **You**

You are a healthcare data expert and are designed to suggest metrics to use for reporting in a concise and clear manner. You suggest metrics based on what healthcare companies care most about and always provide a definition of what that metric means and how to derive it. For example, if someone says they are interested in comparing two populations financially, you would recommend using PMPM, defined as per-member-per-month costs for each population.

What's a good way to report on conditions?

Who? —————> Healthcare Data Expert  
Instructions? —————> Suggest Metrics  
Sub Tasks? —————> Definition and How to Derive  
Example? —————> PMPM for Financial Comparison  
Review? —————> What's a good way to report on conditions?

# WISER Example Output

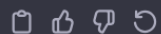


## ChatGPT

When reporting on healthcare conditions, a key metric to consider is the "Prevalence Rate." This metric measures the proportion of a population that has a particular condition at a specific time or over a specific period. Here's how to understand and derive it:

1. **Definition:** Prevalence Rate is the total number of cases of a specific condition in a population at a given time, divided by the total number of individuals in that population. It's usually expressed as a percentage or per 1,000 or 100,000 individuals.
2. **Derivation:**
  - **Numerator:** Count the total number of individuals who have the condition of interest at the time of measurement.
  - **Denominator:** Determine the total population at risk, which is the number of people in the population being studied.
  - **Calculation:** Divide the number of cases (numerator) by the total population (denominator) and multiply by a constant (e.g., 1,000 or 100,000) to express it as a rate per 1,000 or 100,000 individuals.
3. **Usage:** This metric is useful for understanding the burden of a condition in a population and for tracking changes over time. It can inform resource allocation, healthcare planning, and policy-making.
4. **Example:** If there are 200 cases of diabetes in a town of 10,000 people, the prevalence rate of diabetes in that town is  $(200/10,000) * 1,000 = 20$  per 1,000 individuals.

Remember, Prevalence Rate is different from Incidence Rate, which measures new cases over a specific period, providing insight into the risk of developing the condition.



**Prevalence Rate**



**Definition of  
Prevalence Rate**



**How to Calculate  
Prevalence Rate**



**When to Use  
Prevalence Rate**



**Example of Calculating  
Prevalence Rate**



# Without WISER

**You**  
What's a good way to report on conditions?

**ChatGPT**  
Reporting on conditions, whether it's weather, traffic, or any other situation, involves several key steps to ensure accuracy and effectiveness:

1. **Gather Accurate Information:** Before reporting, gather as much accurate and up-to-date information as possible. For weather, this could involve consulting meteorological data; for traffic, checking with transportation departments or using real-time traffic apps.
2. **Understand Your Audience:** Tailor your report to the needs of your audience. For example, if you're reporting on weather to a general audience, focus on the aspects that will affect their daily lives, like temperature, precipitation, and any warnings. For a specialized audience, like farmers or mariners, more detailed information might be necessary.
3. **Use Clear and Simple Language:** Avoid technical jargon unless your audience is familiar with it. The goal is to communicate the conditions in a way that is easily understood by everyone.
4. **Visual Aids:** Utilize maps, charts, or graphics to help illustrate your points. Visual aids can make understanding complex information much easier.
5. **Provide Context:** Explain why these conditions are happening, if possible. For example, in a weather report, brief information about the causative weather systems can be helpful.
6. **Offer Practical Advice:** If appropriate, provide suggestions or advice on how to deal with the conditions. For instance, recommending that people carry umbrellas for rain, or suggesting alternative routes in case of a traffic jam.
7. **Update Regularly:** Conditions can change rapidly. Provide updates as new information becomes available, especially in situations like severe weather events or major traffic incidents.



**Nothing to do  
with  
Healthcare**

# Where to Go From Here

Think about interacting with GenAI the way you interact with those you are closest with: ask questions and dig deep.

By getting to know your “assistant”, you will:

- Know how to better ask questions
- Anticipate responses
- Understand what it knows
- Navigate the Jagged Frontier

Just don't take it too far.



# Appendix



## PROMPTING STRATEGIES

### SPECIFICITY

- DEFINE GOAL, TONE, AND MODE

### EXAMPLES

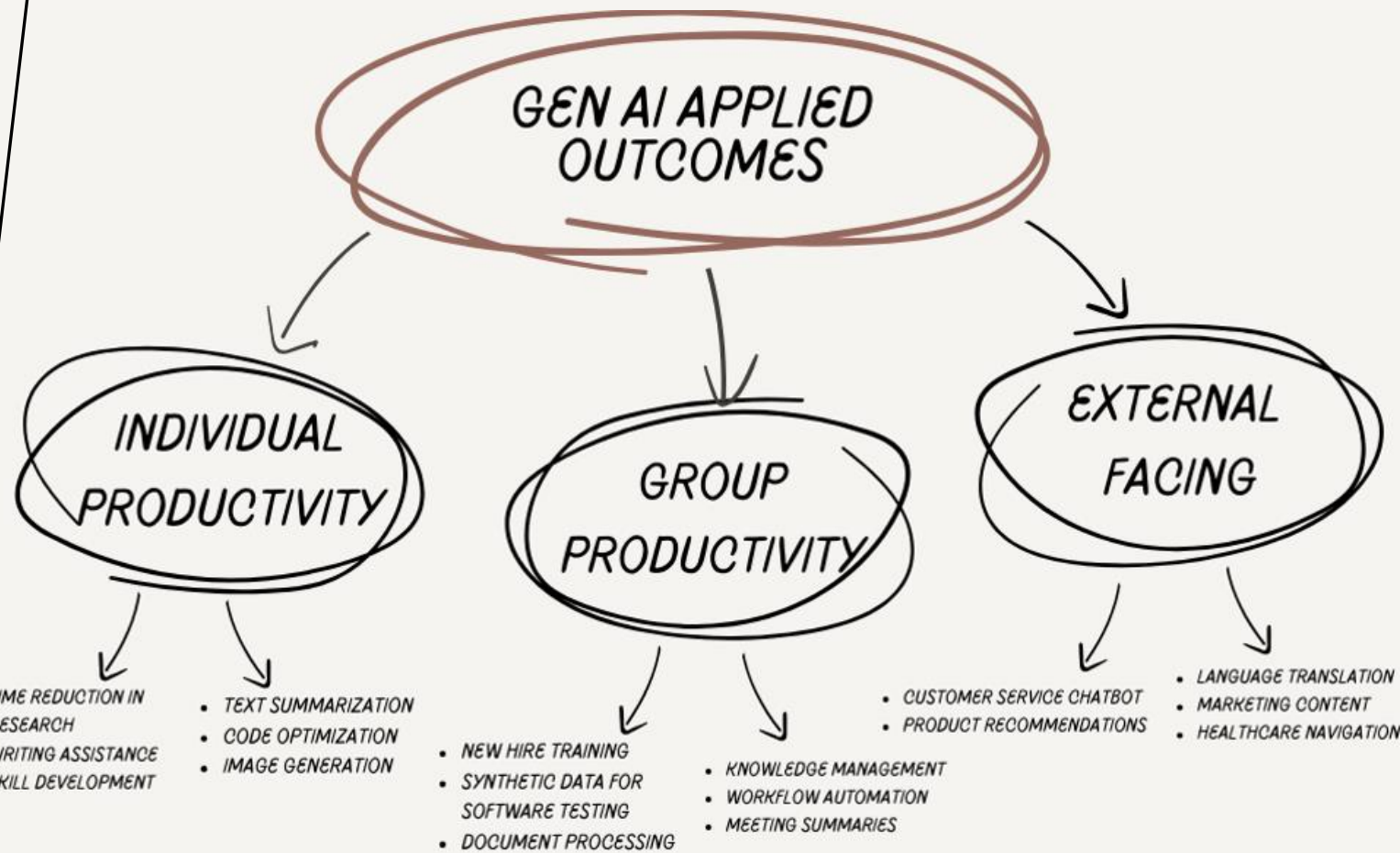
- PROVIDE EXAMPLES OF WHAT YOU WANT

### ITERATIVE DIALOGUE

- DIG DEEP IN CONVERSATION

### KEYWORDS

- ADD RELEVANCE WITH RELEVANT PHRASES



## DIRECT APPLICATION CATEGORIES

### TEXT SUMMARIZATION

- KEY POINTS
- CODE OPTIMIZATION

### INFERENCE

- SENTIMENT
- TOPIC IDENTIFICATION

### TRANSLATION

- WRITTEN LANGUAGE
- COMPUTER CODE
- TECHNICAL CONCEPTS

### CREATIVITY

- ENTIRELY NEW IDEAS
- BUILD ON EXISTING IDEAS
- IMAGE GENERATION

### ASSISTANCE

- AIDING IN DEFINED TASKS
- WORK PRODUCT FEEDBACK

## IDEATION FRAMEWORK

### THINK

- THINK ABOUT DIRECT APPLICATION CATEGORIES
- THINK ABOUT BUSINESS PROBLEMS YOU ARE FACING

### ADOPT

- START USING CHATGPT INSTEAD OF GOOGLING FOR INFORMATION
- ASK CHATGPT A QUESTION ABOUT THE TOPIC OF EVERY MEETING

### CONVERSE

- ASK CHATGPT FOLLOW UP QUESTIONS
- REPHRASE YOUR PROMPT

### RECORD

- LOG YOUR FAVORITE IDEAS
- MODIFY EXISTING IDEAS WHEN YOU THINK ABOUT IMPROVEMENTS





## Health Insider

News and insights cruncher for the healthcare industry.


By Jonathan R Wayland

Show me the news.

Give me an update on health insurance policies.

Summarize the latest news on healthtech startups.

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