

What Do We Need to Know about Artificial Intelligence?

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Oregon State University Libraries

OSU Critical AI Literacy Seminar – June 24, 2025



AI in the News

EA El Adelantado de Segovia

Goodbye to job security at Amazon—its CEO warns that artificial intelligence will put thousands of jobs at risk in the coming years



Jobs

NY The New York Times

A.I. Computing Power Is Splitting the World Into Haves and Have-Nots



Equity

PT Psychology Today

How to recognize AI “hallucinations.”



Trust

SD ScienceDaily

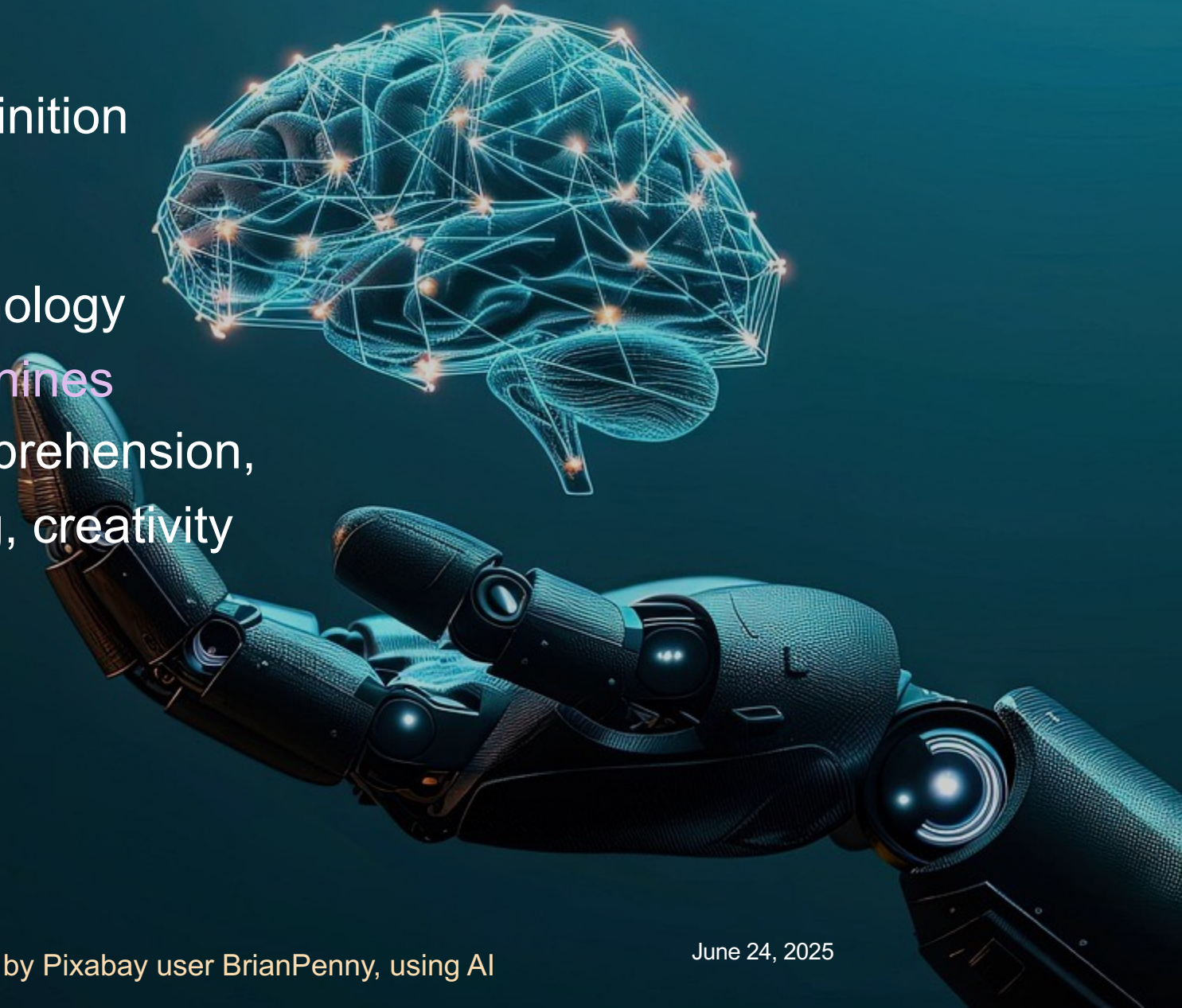
Artificial intelligence isn't hurting workers—It might be helping



Wellbeing

What is AI?

- There is no widely agreed-on definition
- “Artificial intelligence (AI) is technology that enables computers and machines to **simulate** human learning, comprehension, problem solving, decision making, creativity and autonomy.” – IBM



Artificial Intelligence

Search and plan

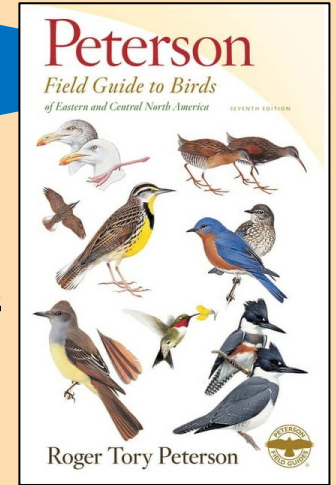


Generate driving directions
by consulting a map

Predict

Identify birds
by consulting a guidebook

- Check beak shape, crest, coloring...



Artificial Intelligence

Search and plan

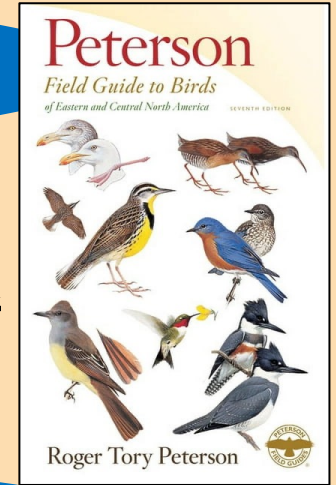
Generate driving directions by consulting a map



Predict

Identify birds by consulting a guidebook

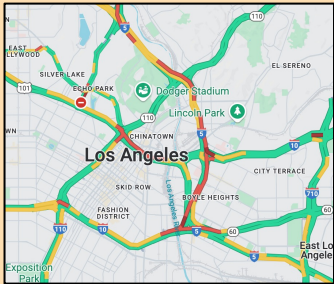
- Check beak shape, crest, coloring...



Machine learning

Search, plan, and predict using data
(When we can't write down all the information)

Generate driving directions using current traffic



Identify birds using example images



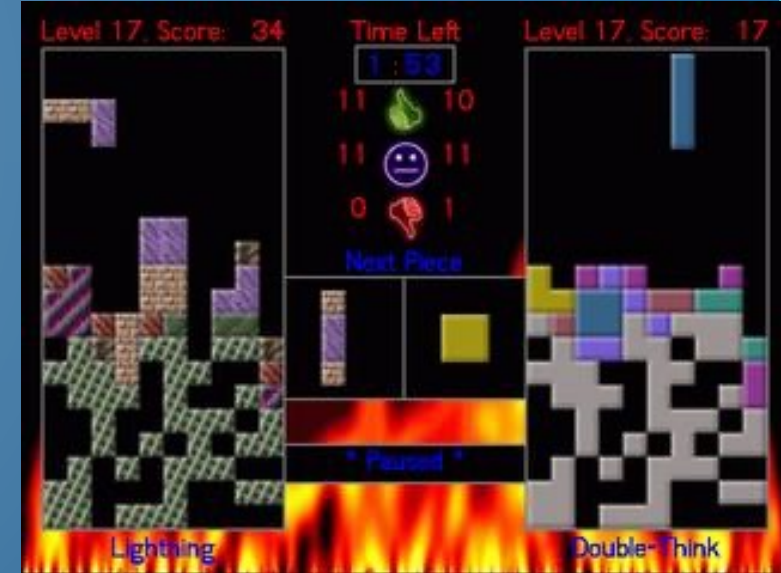
Kingfisher
(Photographer: taligar)



Heron
(Photographer: ambquinn)

Example: AI and ML for games

- Atris – a Tetris-like game with AI players
 - **Hand-written** scoring functions that guide AI search
 - Lightning: make decisions quickly to get next piece
 - Double-Think: take time to look ahead for best move
 - AI players playing against each other (static) ↔
- AlphaGo – an AI model that plays Go
 - **Machine-learned** scoring function that guides AI search
 - Maybe we don't know a good Go scoring function!
 - Trained on 30M recorded game moves, then played against itself to improve (dynamic) ↻



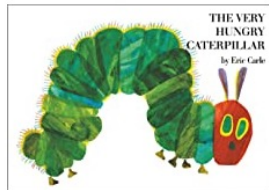
Where does the data for ML come from?

Shopping
recommendations

Frequently bought together



+



Total price: **\$17.30**

Total Points: **36 pt**

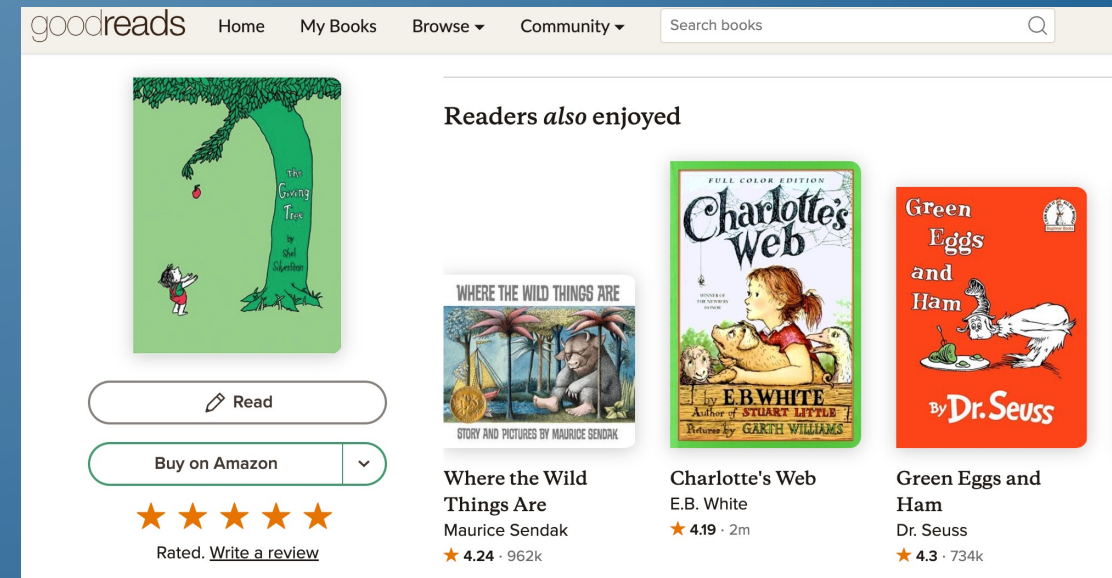
Add both to Cart

✓ **This item:** The Giving Tree by Shel Silverstein Hardcover **\$10.74 22 pts**

✓ The Very Hungry Caterpillar by Eric Carle Board book **\$6.56 14 pts**

Every purchase informs the model

Personalized book, movie, etc.
recommendations

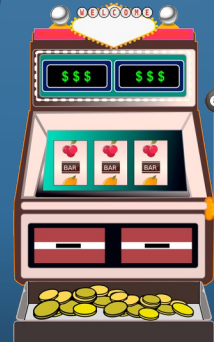
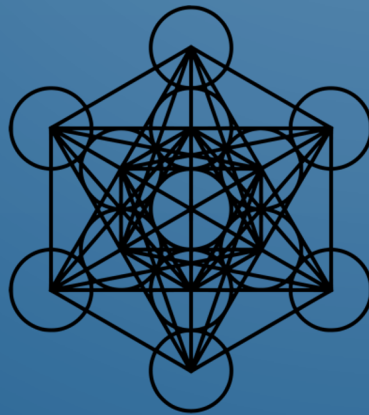


Every rating informs the model

We all use (and help train) machine learning models

What is generative AI?

- “Generative” because it generates new data (text, image, music, etc.)
 - Learn probabilities from previous data and create new outputs
- “Large language model” = Generative model learned from (a lot of) text



Fill in the blank

“The cat sat on the _____.”



Possibly:

mat, hat, chair...

Unlikely:

xylophone, dream, golf...

What is AI literacy?

- “The essential knowledge and skills needed to **understand**, **interact** with, and **critically assess** AI technologies. AI literacy includes the ability to use AI tools effectively and ethically, evaluate their output, ensure humans are at the core of AI, and adapt to the evolving AI landscape in both personal and professional settings.” – Digital Education Council (2025)
- Not just the ability to **use** AI, but also the ability to decide **whether** to use it
 - Need not assume that use of AI is “inevitable and desirable”
 - Demystify AI to enable informed decisions
- Librarians are already masters of teaching information literacy
 - Build on the same skills to achieve AI literacy

(Dani Dilkes,
Western University)

Gaps in AI literacy cause harm

Air Canada Has to Honor a Refund Policy Its Chatbot Made Up

The airline tried to argue that it shouldn't be liable for anything its chatbot says.

Wired, February 2024

Two US lawyers fined for submitting fake court citations from ChatGPT

Law firm also penalised after chatbot invented six legal cases that were then used in an aviation injury claim

“We made a good-faith mistake in failing to believe that a piece of technology could be making up cases out of whole cloth.”

Kiri L. Wagstaff

The Guardian, June 23, 2023

AI Hallucination Cases

(generative AI issues mentioned in legal decisions)

157 as of June 2025 and growing

<https://www.damiencharlotin.com/hallucinations/>

June 24, 2025

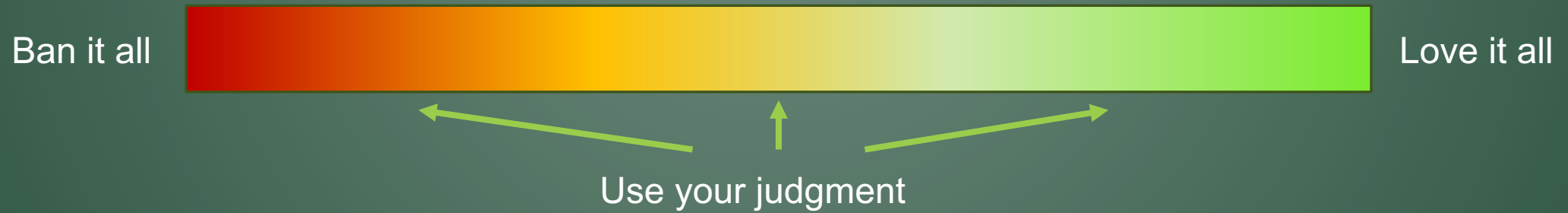
Three steps towards AI literacy

1. Decide when and where you want to use AI
2. Know your AI tools
(and how they compare to other information tools)
3. Set your expectations for generative AI



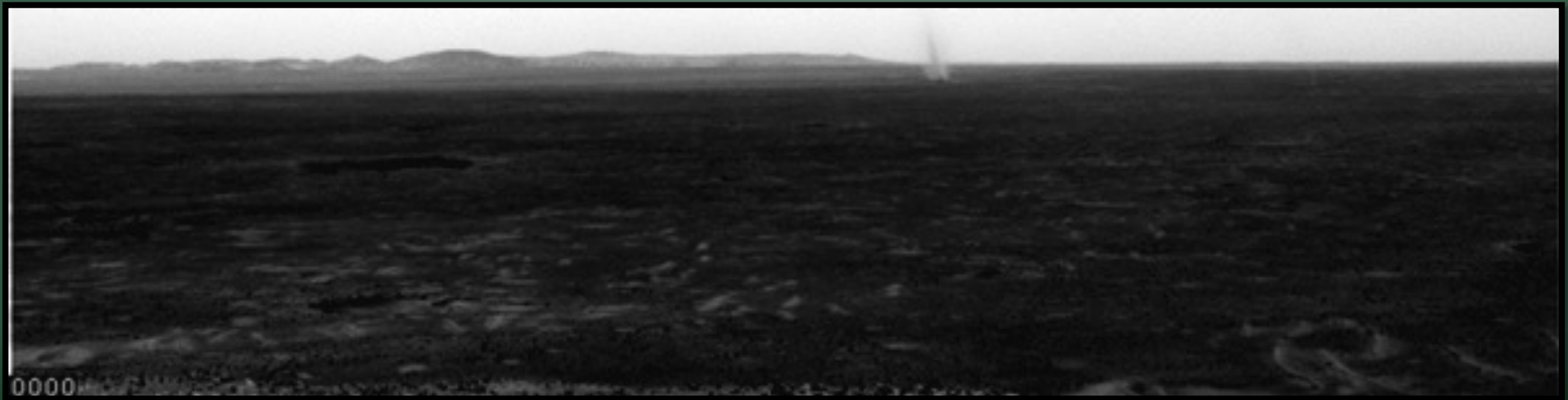
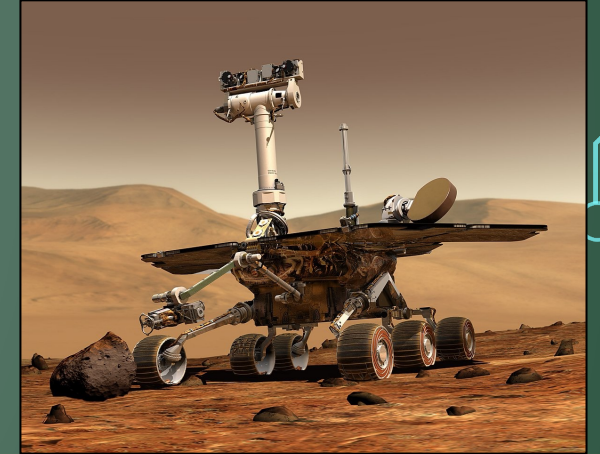
1. Decide when and where you want to use AI

- "... **critically assess** AI technologies."



Use AI in places humans can't go

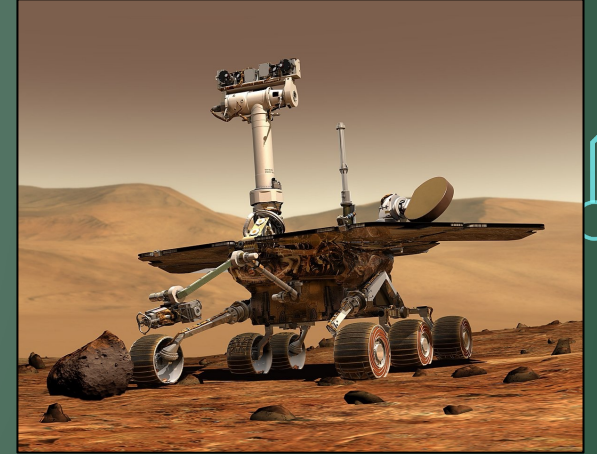
- A signal takes 20-40 minutes to go to Mars and back
- Meanwhile, exciting things are happening on Mars



Spirit Mars rover, Sol 568 (August 5, 2005) – Image credit NASA/JPL/Texas A&M

Use AI in places humans can't go

- A signal takes 20-40 minutes to go to Mars and back
- Meanwhile, exciting things are happening on Mars
 - Use AI to detect interesting events and capture data to send back to Earth – no other way to respond fast enough
 - Even so, we carefully weigh risks against benefits

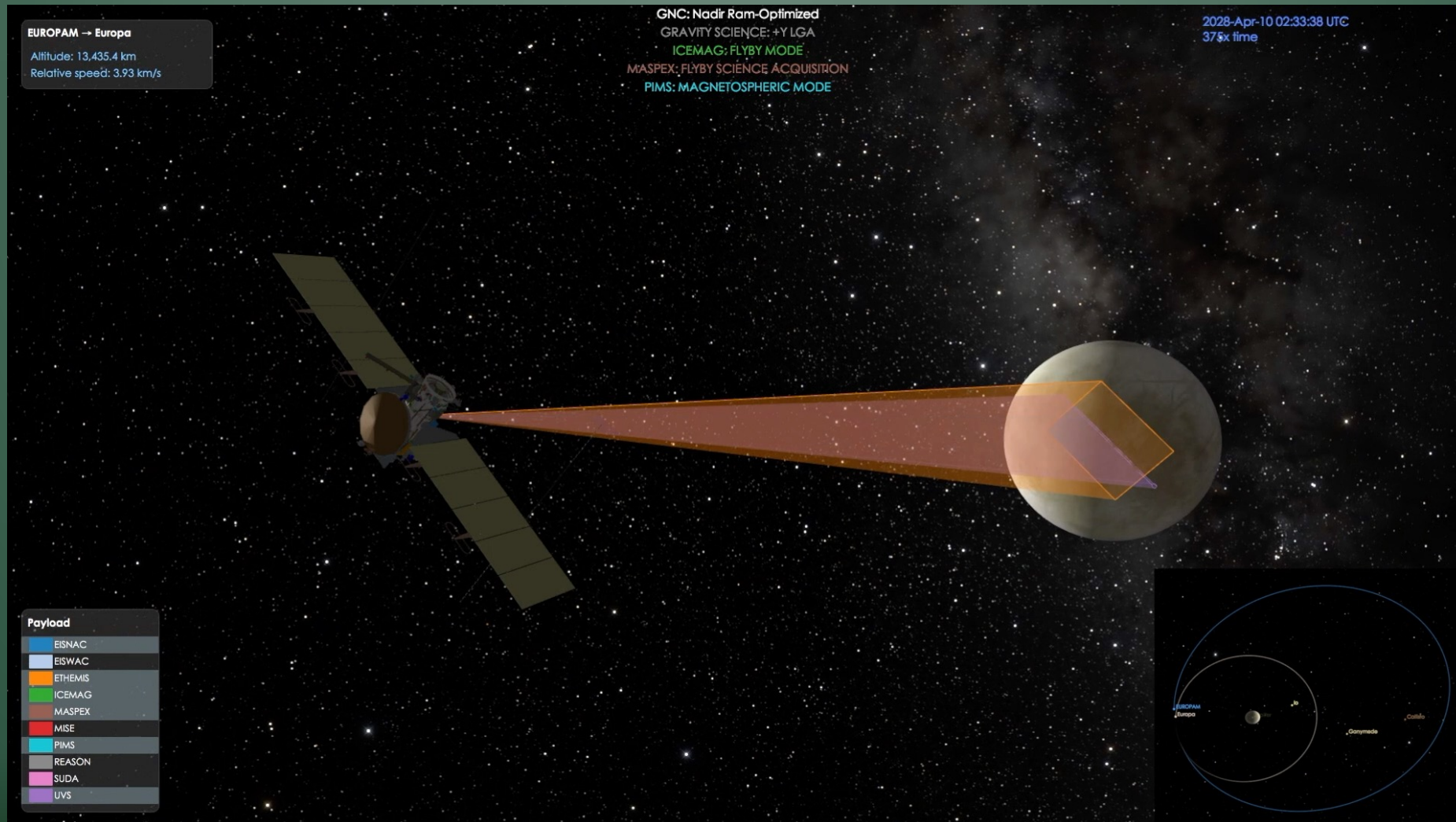


A. Castaño et al., 2007. *Machine Vision Applications* 19:467-482.

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Jupiter's moon Europa: Up to 1 light-hour from Earth!



Europa Clipper flyby simulation

AI use in daily life: You choose

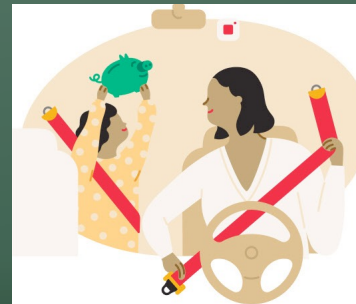
- What to watch / read / buy next: recommendations
 - Using your consumption history
- Unlock your phone, dictate messages
 - Using your face / fingerprint / voice
- Auto insurance discounts / “usage-based” insurance
 - Reward for sharing your driving activity / patterns



By Pixabay user prawnny



Progressive: [Snapshot](#)



State Farm: [Drive Safe & Save](#)

AI use in daily life: You choose

- Meeting transcription/summary in your doctor's office

 University of Alberta

AI scribe could help emergency docs save time and improve patient care



[University of Alberta](#) (Oct 23, 2024, updated May 20, 2025)

 Business Insider

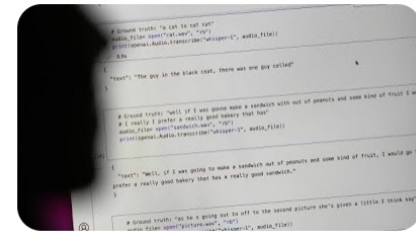
I'm a doctor who cautiously welcomes AI in medicine. It's helped me save hours on taking notes, but we need guardrails.



[Business Insider](#) (Sept. 25, 2024)

 AP News

Researchers say an AI-powered transcription tool used in hospitals invents things no one ever said



[AP News](#) (Oct. 26, 2024)

June 24, 2025


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By Pixabay user prawnpy

AI use in daily life: You choose

- Replace professionals with AI



Your AI Doctor Will See You Now

Hi, I'm Doctronic, your private and personal AI doctor. I've already helped people in **11,639,754 consults!** When we're done, you can have a video visit with a top doctor if you want for only \$39.

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Say goodbye to expensive legal consultation, long waits for appointments, and confusing legal texts.

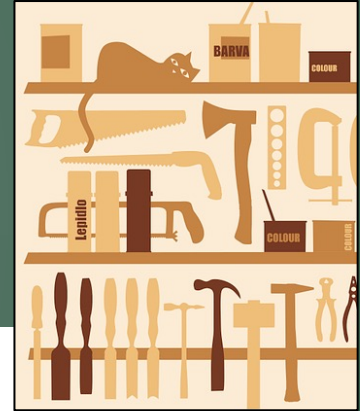
[AI Lawyer](#)



By Pixabay user prawnny

2. Know your AI tools







What are its strengths and weaknesses?



What can I help with?

Message ChatGPT

Factual Creative Factual Creative Factual

 Summarize text  Help me write  Code  Make a plan  Get advice  More

By messaging ChatGPT, you agree to our [Terms](#) and have read our [Privacy Policy](#).

chat.openai.com

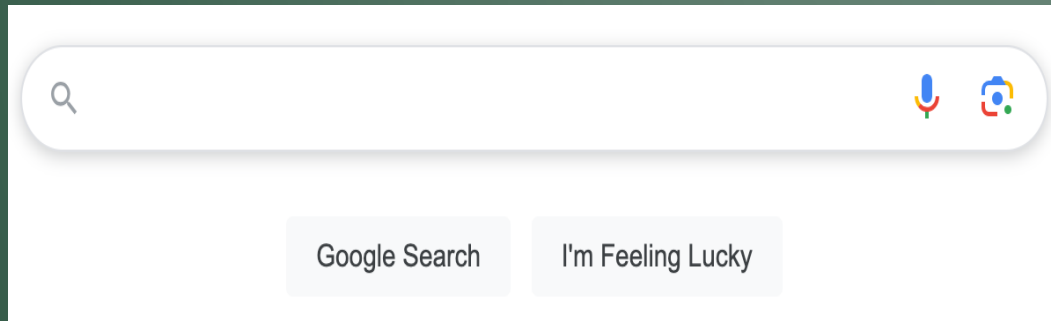
Tip: Use generative AI only when you have the skills to check the output

Example: When first learning to code Python, do you know enough to check it?
(Rebecca Hutchinson, OSU)

2. Know your AI (and other) tools

These tools look almost the same, but they aren't!

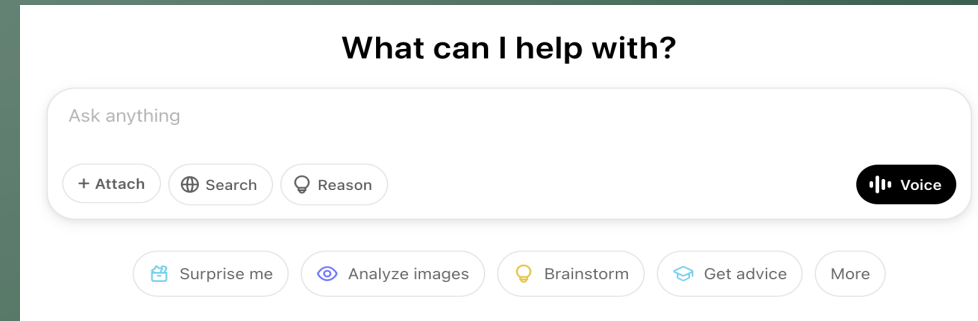
How can we make informed decisions?



Search engine - finds real matches



Detective



Generative AI (chatbot) - generates new content



Artist

Choose your tool to fit the task

3. Set your expectations for generative AI

- Don't expect truth or reality

- Generative AI learns from the data it is given, not from real-world experience

- Avoid anthropomorphizing to avoid frustration

- Generative AI does not reason, analyze, deduce (or think)
- Generative AI is not sentient, does not have ethics or emotions

- Don't expect consistency

- Generative AI has no “state” or memory (but may simulate it by invisibly feeding the whole conversation in as your “prompt” at each stage of the conversation)

... but do have fun 😊 and let's keep learning as the technology changes!



Cindy Moore's art
inspired by *Into the Woods*

Generative AI “Guardrails”



Generated with Microsoft Copilot

- Try to preclude undesirable behavior
- “Guardrails” better thought of as “filters”:
 - Input: Check for harmful or malicious prompts and refuse to answer
 - Output: Block or re-write AI outputs (offensive language, dangerous content, personally identifiable information, false information, ...)

Generative AI “Guardrails”

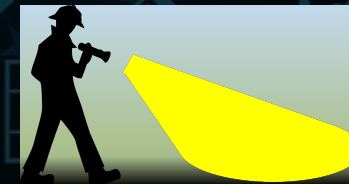
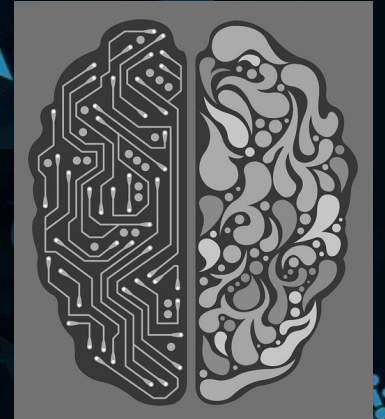


Generated with Microsoft Copilot

- Why they don't solve the problem
 - Generally **reactive**: add another new filter based on newly observed problems
 - What is “harmful”? “malicious”? “offensive”? “false”?
Do we all agree on these terms?
 - Fundamental mismatch with use of a “generative” system

What We Need to Know about AI

- AI technology simulates human intellectual activities
 - Much of AI is powered by machine learning – trained on data
 - Generative AI creates new content based on patterns in previous data
- AI literacy: **understand**, **interact** with, and **critically assess** AI technologies
 1. Decide when and where you want to use AI
 2. Know your AI tools – help people understand search engine vs. AI chatbot
 3. Set your expectations for generative AI



or



Thank you!

Contact: kiri.wagstaff@oregonstate.edu