

Demystifying AI: What it is and What it Can do for you

Ryan Nunez

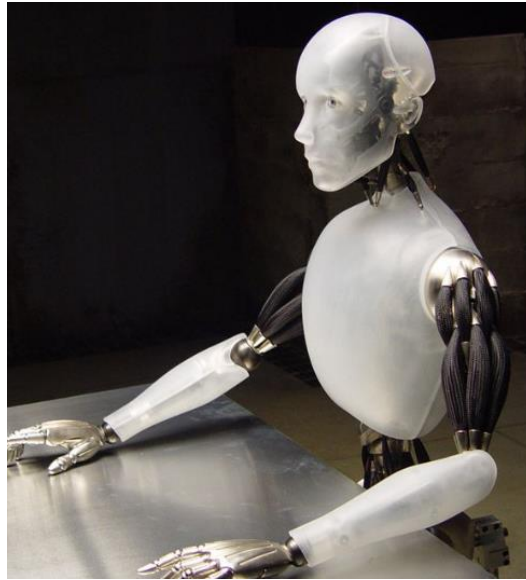
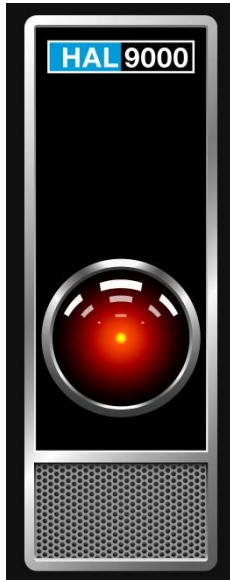
Librarian I of Info Services

AL Coordinator

@ Central Library



Gemini



AI in media

Definition of AI

- a digital computer or computer-controlled robot with the ability to perform tasks commonly associated with intelligent beings
 - Britannica 2026



Brief History of AI

- AI wasn't created by one person, instead, it evolved over decades.
- In 1950 development of the “Turing” test.
- In 1956, at the Darmouth Conference, the AI field was formally created.
- In the 1980s, AI was revived with the introduction of backpropagation by Geoffrey Hinton.
 - Trial and error, adjusting settings
- In 2017, Google researchers introduced the Transformer architecture which powers nearly all AI chatbots including ChatGPT, Gemini, etc.
 - Assign values to words and try to predict next words based on what it has been trained on, word by word
- In 2020's, more than one word can be done at a time



How does AI Learn

Data Input: AI learns from large amounts of data (text, images, numbers, etc.) to recognize patterns.

Training: Algorithms process this data and adjust internal “weights” to improve predictions or decisions.

Model: The trained system becomes a “model” that can take new inputs and give outputs (like answers, recommendations, or predictions).

Learning Types:

- Supervised: Learns from labeled examples (e.g., “this is a cat”).
- Unsupervised: Finds patterns without labels (e.g., grouping similar items).
- Reinforcement: Learns by trial and error with rewards.

Inference: When you ask AI a question, it uses what it learned to generate the best possible response.

AI learning: Image example



Data Input: You show thousands of pictures of cats and dogs.



Training: The AI starts noticing patterns—cats usually have pointy ears, dogs often have floppy ears.



Model: After enough examples, the AI can guess if a new picture is a cat or a dog.



Learning Types:

Supervised: You tell the AI each time, “This is a cat” or “This is a dog.”

Unsupervised: You just give pictures, and the AI groups similar ones together without knowing the names.

Reinforcement: The AI guesses, and you say “Yes” or “No,” so they learn by trial and error.



Inference: Later, when you show a new animal, the AI uses what they learned to make the best guess.

Types of AI and their uses

- Virtual Assistants
 - Siri, Alexa, Copilot, Gemini
- LLM
 - Focus on writing and text
 - Ex. ChatGPT, Gemini, Copilot, Mistrel, Claude, Llama
- Image generators
 - Generate images from prompts
 - Ex. ChatGPT, Gemini, Adobe Firefly, Midjourney
- Audio generator
 - Text to speech – Eleven Labs, Speech Easy
 - Music – Suno, Riffusion, Mubea

Virtual Assistant

Siri, Alexa, Copilot, Gemini



Gemini

LLM's – Chat GPT, Gemini, Mistrel, Claude, Llama, Copilot*

You got it — here's a **tight, clean one-page version** that keeps the seniority and tech focus without feeling crowded. This is optimized for hiring managers *and* ATS systems.

[Your Full Name], MLIS

Public Library Leader | Digital Services & Technology

[City, State] • [Email] • [Phone] • [LinkedIn or Portfolio]

PROFESSIONAL SUMMARY

Public librarian with 15 years of experience in public libraries, including supervisory leadership and advanced digital services. MLIS-prepared specialist in digitization, memory lab development, and patron-centered technology services. Proven record of leading staff, managing complex projects, and expanding access to digital tools and community history.

CORE SKILLS

Public Library Operations • Staff Supervision • Digital Services • Digitization & Digital Preservation • Memory Labs • Technology Instruction • Project Management • Community Engagement

PROFESSIONAL EXPERIENCE

[Job Title] — [Library System Name], [City, State]

[Years]

- Supervise and mentor library staff; manage scheduling, training, and performance evaluations.
- Lead digitization and digital preservation initiatives, including scanning, metadata creation, and access workflows.
- Develop and oversee memory lab services supporting community digitization of photos, documents, and audiovisual materials.
- Serve as a technology specialist, assisting patrons with hardware, software, and emerging tools.

Ask anything

Attach

Search

Study

Create image

Voice

ChatGPT can make mistakes. Check important info.

Image Generators

- Gemini*,
- Adobe Firefly,
- Midjourney, Dalle-
- E, Canva



Recent



[Edit prompt](#) [Edit image](#)

Can you create a pirate themed image for me based on Van Gogh's "Starry Night"?

[📎](#)

Model

DALLE-3 [▼](#)

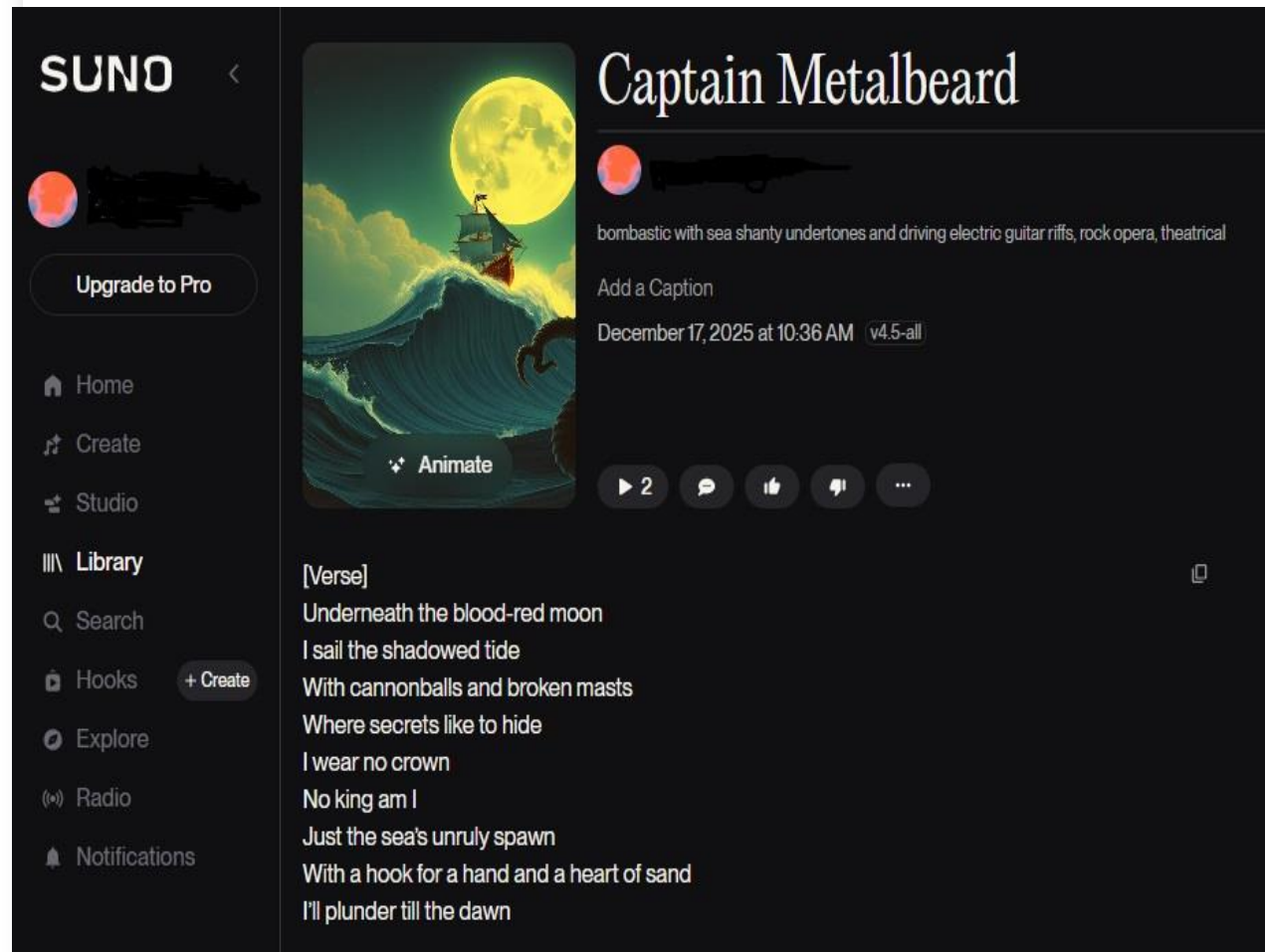
Aspect Ratio

☐ 1:1 (Square) [▼](#)

[Recreate](#)

Hide failed [🔍](#)

Audio Generation



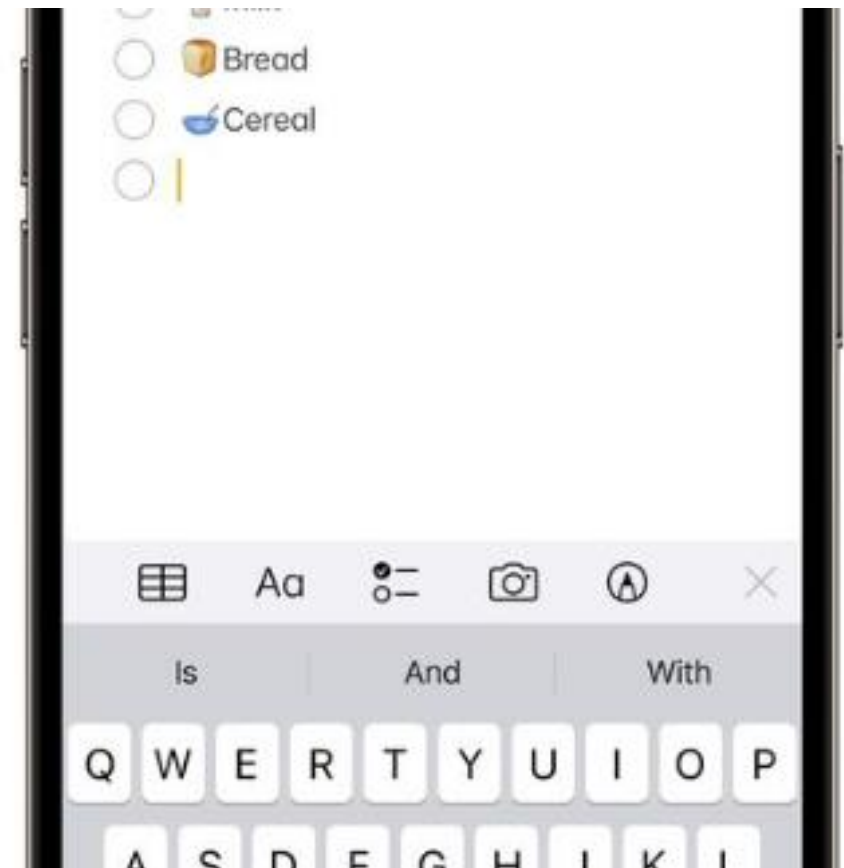


AI and You



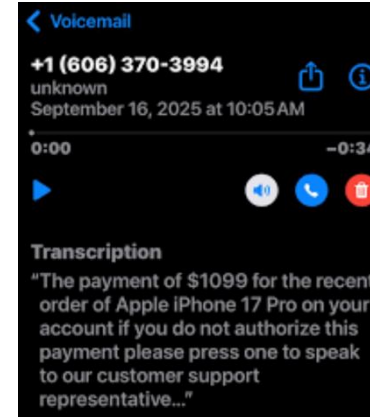
Daily Use of Ai

- Smartphone autocorrect and predictive text
- Google Maps traffic routing
- Email spam filters
- Face recognition on phones
- Creating Checklists
- Password Storage
- Set a reminder/alarm



AI in Everyday Communication

- Email suggestions and grammar checks
- Text message auto-replies
- Voice-to-text and transcription
- Language translation
- Screen scam/spam calls to voicemail



AI in Everyday Communication (cont'd)

Subject: Request to Borrow Materials for Library Exhibition

Dear [Museum Contact Name],

I hope this message finds you well. I am writing on behalf of [Library Name] to inquire about the possibility of borrowing materials from your collection for an upcoming exhibition.

We are currently planning an exhibition titled "[Exhibition Title]" scheduled to run from [Start Date] to [End Date]. This exhibition aims to [briefly describe the purpose and educational value of the exhibition]. We believe that select items from your museum's collection would significantly enhance the educational experience for our patrons and complement our existing materials.

Specifically, we are interested in borrowing the following items, if available:

- [Item 1]
- [Item 2]
- [Item 3]

We understand the value and significance of museum collections and are fully prepared to meet all requirements regarding:

- Insurance coverage and liability
- Climate-controlled display conditions
- Security measures
- Handling and transportation protocols
- Documentation and condition reports

Our library has experience managing loaned materials and maintains professional standards for preservation and security. We would be happy to provide references from previous lending institutions upon request.

Would it be possible to schedule a meeting to discuss this request in more detail? I am available at your convenience and can be reached at [phone number] or [email address].

Thank you for considering our request. We look forward to the possibility of collaborating with your institution to bring these valuable resources to our community.

Sincerely,

[Librarian Name]

[Title]

[Library Name]

[Contact Information]



AI Chat

Hi I can help you create the best version of your writing. Get started by adding some text to the doc.

Grammarly Proofreader
Writing quality 100 / 100

Can you write up a bussiness email for a librarian to send to a museum to borrow some materials in a professional manner?

Inserted the result into the document.

I've created a professional business email template that covers all the essential elements: a clear purpose, specific details about the exhibition, a list of requested items, assurances about proper care and handling, and a polite call to action. The librarian can customize the bracketed sections with their specific information.

Ask AI



AI at Work



Resume and cover letter help



Scheduling and calendar tools



Data summaries and reports



Image generation for flyers or social media

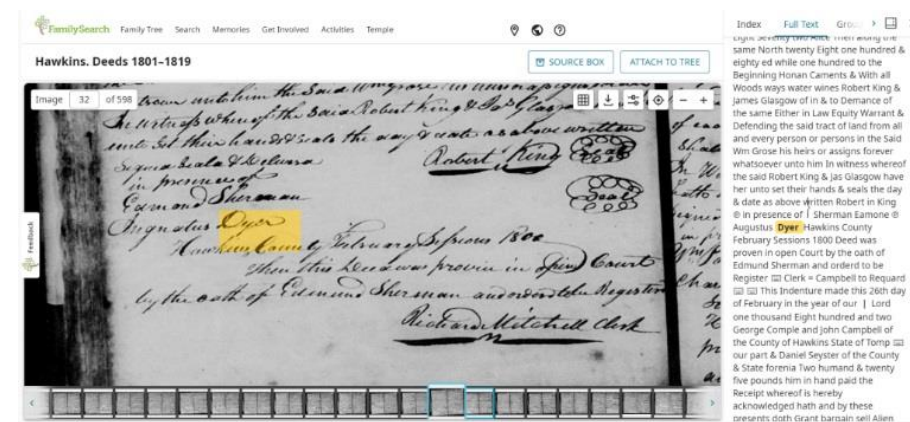
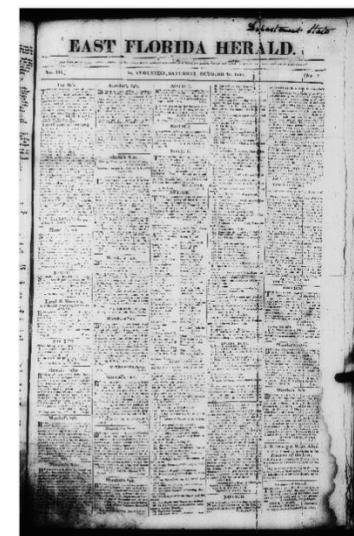


Uses in:

- Genealogy
- Education
- Libraries
- Business

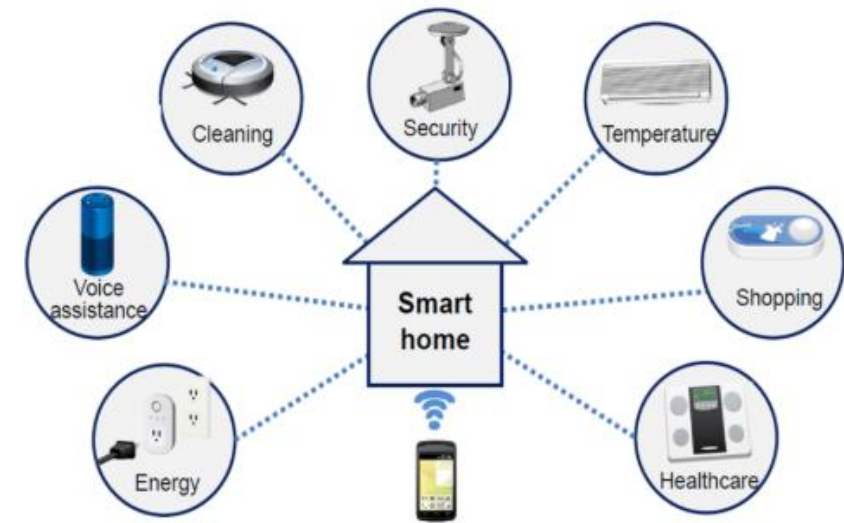


AI at work (cont'd)



AI at Home

- Smart assistants (Alexa, Siri, Google Assistant)
- Smart thermostats and lighting
- Robot vacuums
- Smart lock



AI at home (cont'd)



AI at home (cont'd)



Movie & music recommendations

AI for Entertainment



AI Shopping



olds, Epoxy
angle Cutting
Molds for...

ith

31 on \$35 of
on

art



Sponsored ⓘ

YOILES

3PCS Resin Molds Silicone,Epoxy
Resin Casting Craft Mold for Flower
Preservation Bookends DIY Art (3)

★★★★☆ 1,105

1K+ bought in past month

\$18⁹⁹

FREE delivery **Sun, Dec 28** on \$35 of
items shipped by Amazon

Add to Cart



IKEPAHOK

Resin Silicone Tray Molds, Ep
Casting Mold for DIY Large
Rectangle Serving Cutting B

★★★★☆ 1,716

500+ bought in past month

-26% \$8⁹⁹

List Price: ~~\$12.14~~

FREE delivery **Sun, Dec 28** on \$3
items shipped by Amazon

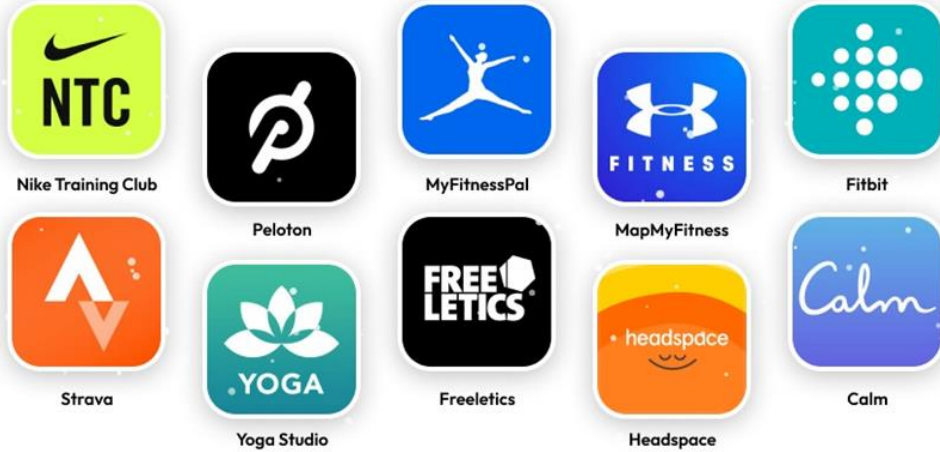
Add to Cart

AI in Health & Wellness

- Fitness tracking and step predictions
- Sleep analysis
- Symptom checkers (not diagnosis)
- Mental wellness chat tools (caution)



10 Popular Fitness Apps



AI Health (Cont'd)

- Important note: AI is a tool that helps to assist/track—it doesn't replace professionals

What AI Is *Not*

Myth vs. Reality

Not all-
knowing

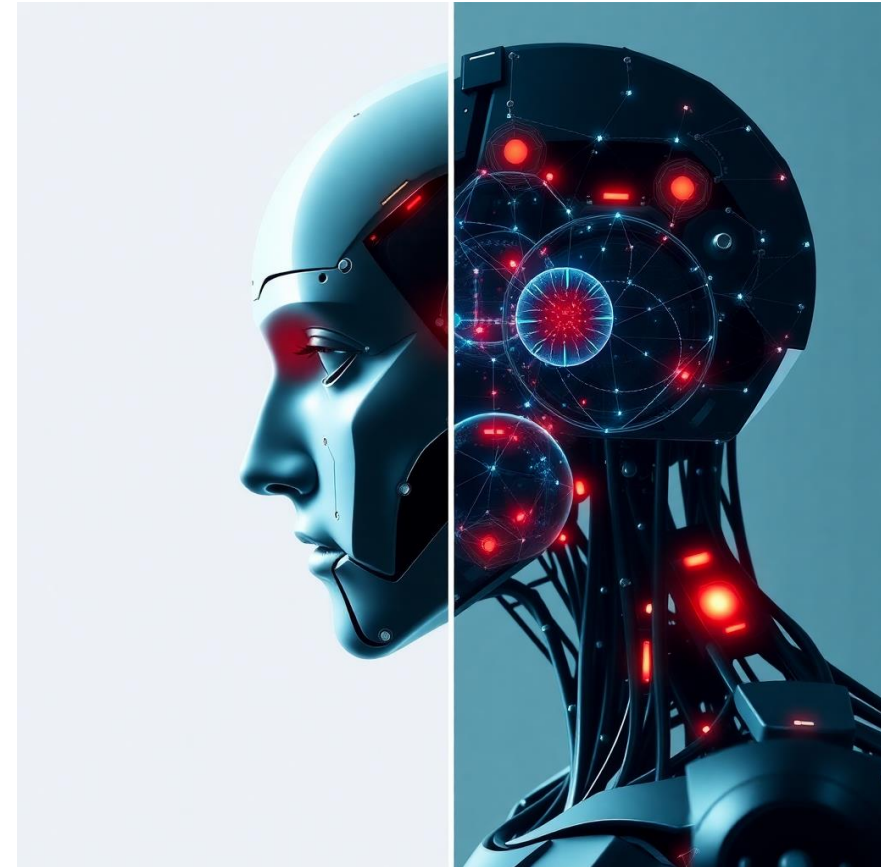
Wants to give
an answer

Is confident
even when
wrong

Can make
mistakes

Doesn't
“think” or
“feel”

Depends on
human-
created data



AI Pro's and Con's



Save Time



Save Money



Helpful tool



Make things easier



Try new things

- Loss of opportunity/jobs
- Less chance to learn
- Dependency
- Plagiarism
- Privacy
- Legal?
- Environmental problems



The Takeaway

- AI is already part of daily life
- It can help save time and free you up to do other things
- Understanding AI gives people more control/manage task
- Use AI like any other tool and find the right tool for the job

Sources

- **Karpathy, A.** 2025, December. 2025 LLM year in review. Karpathy Blog.<https://karpathy.bearblog.dev/year-in-review-2025>
- **McKinsey & Company.** *The State of AI in 2025*. McKinsey & Company, 2025. PDF file.
- **McKinsey Global Institute.** 2025, November. Agents, robots, and us: Skill partnerships in the age of AI. McKinsey & Company.<https://www.mckinsey.com/mgi/overview>
- **Meeker, Mary.** 2025. *Trends: Artificial Intelligence*. Bond Capital, 2025. PDF file.
- **OpenAI.** *The State of Enterprise AI: 2025 Report*. OpenAI, 2025. PDF file.
- **Vaccaro, M., Almaatouq, A., & Malone, T.** (2024). When combinations of humans and AI are useful: A systematic review and meta-analysis. *Nature Human Behaviour*, 8(12), 2293–2303.<https://doi.org/10.1038/s41562-024-02024-1>