

AI Literacy in the Age of AI

The New Role of Libraries and Librarians

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Welcome !!

A quick hello before we begin ~ Hello, dear librarians ☺



TODAY

This session won't cover everything — and that's intentional.

Think of it as a clear framework you can build on.

I spend every day thinking about how to bring meaningful, genuinely helpful products to researchers and libraries — and how we can all create win-win outcomes together.

Agenda

What we'll cover today

01

The Current Situation

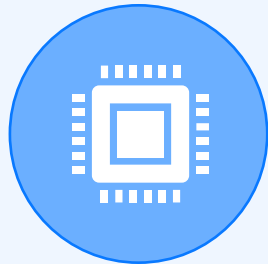
Why AI literacy matters right now



02

What AI literacy means

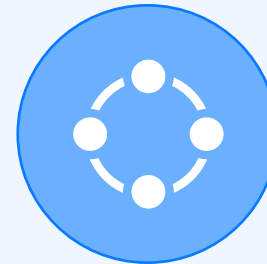
Defining the term for the library context



03

The four core domains

Understanding · Application
Evaluation · Ethics



04

Your new role

Becoming the trusted guide
in the age of AI



Welcome

Trusted Guides in the Age of AI

How information professionals can step into a new role as AI reshapes academia.



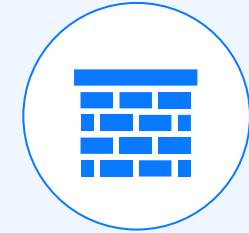
Libraries Always Adapt

From print to digital — and now to AI.
Each shift became an opportunity.



Guide, Transparently

Our commitment: active, honest
partners as AI reshapes your world.



Foundations First

Not because the basics are simple
— but because a strong foundation is
what makes everything else hold.

Whatever your experience level — **there is value in returning to the core.**

01

THE CURRENT SITUATION

AI adoption is already growing

In everyday life and in academic libraries — the shift around AI is happening quietly but quickly.

THE CURRENT SITUATION

AI use is growing — quietly, but steadily

AI in Everyday Life

ChatGPT, Copilot, Gemini
— AI has become an everyday tool like search. Students, professionals, and researchers alike are expanding how they use it.



AI in Research — Starting Small

The most common use? Grammar correction and polishing English.
But slowly, researchers are exploring more — literature search, summarizing papers, generating ideas. The range is expanding, even if unevenly.



Libraries Are No Exception

AI-related questions and requests from patrons are increasing. Libraries are being pulled into this shift whether ready or not.



Libraries are **feeling it too**



**What's
happening
in libraries
right now**

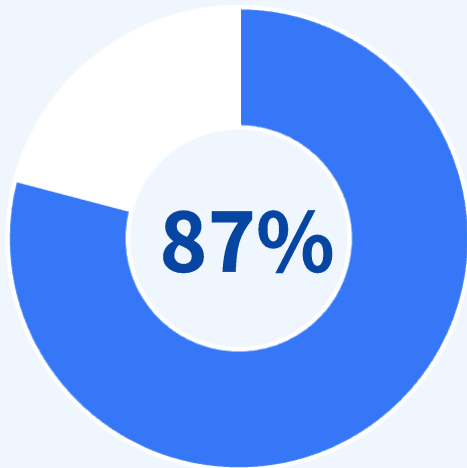
Requests to evaluate and adopt AI tools
are coming in steadily

By the time one tool is assessed, another
has already emerged

Patrons are already using AI — and
starting to ask librarians for guidance

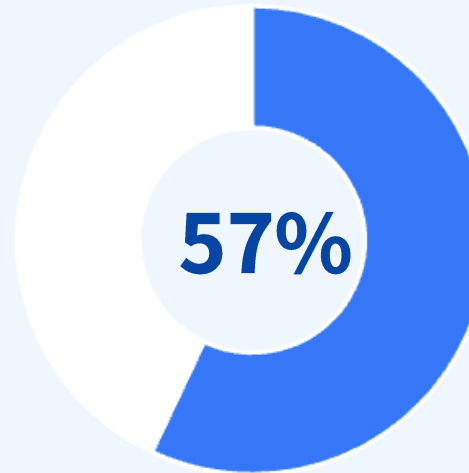
THE CURRENT SITUATION

Libraries are feeling it too



have concerns about AI models

Inaccuracy, hallucination, security, and privacy — nearly 9 in 10 say this holds them back from using AI as much as they'd like.



feel held back by a lack of guidance

They point to the absence of clear guidelines and training — a shortage of guides who can show how to use AI responsibly.

Source: Wiley ExplanAltions 2025 — survey of 2,450 researchers worldwide

This gap — **high usage, low confidence** — is exactly where librarians come in.

THE KEY QUESTION

So how should librarians respond to this change?

First, let's clarify one concept — AI literacy.

02

WHAT AI LITERACY MEANS

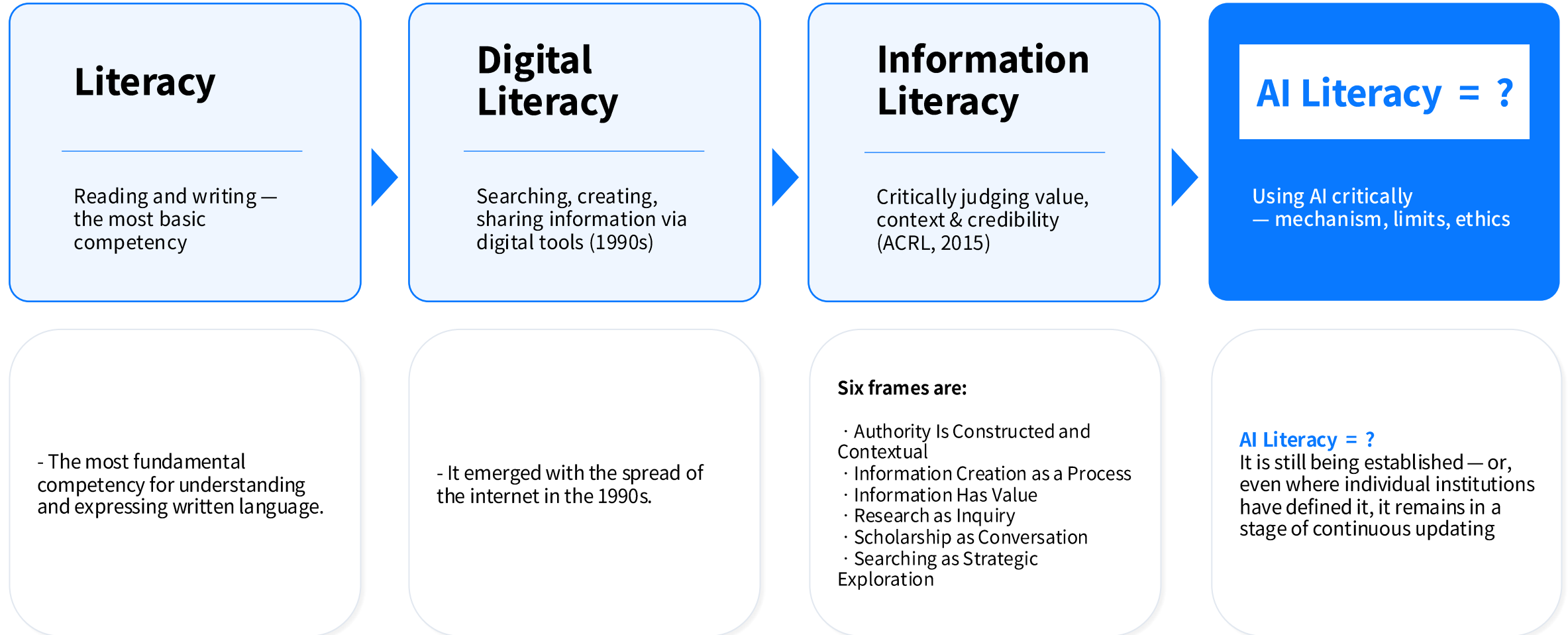
Defining the term

Literacy has expanded with every era. AI literacy is the newest chapter — and it builds directly on what libraries already do.

WHAT AI LITERACY MEANS

Literacy has expanded with every era

Each new form of literacy did not replace the last — it extended it. AI literacy is no different.



WHAT AI LITERACY MEANS

A definition still being written

AI Literacy = ?

Still being established — and even where institutions have defined it, it stays in a state of continuous updating.

Not a replacement for Information Literacy — an extension of it.

HOW PLUTO LABS DEFINES IT

The ability to go beyond simply "knowing how to use" AI — to understand its mechanisms, limitations, applications, and ethics, and to use it critically.

It builds on the ACRL Framework librarians already know:

Authority Is Constructed

Information Has Value

Research as Inquiry

Creation as a Process

Scholarship as Conversation

Strategic Exploration

03

THE FOUR CORE DOMAINS

A framework for libraries

Of the many definitions out there, these are the four domains we believe libraries should keep as their benchmark.

THE FOUR CORE DOMAINS

Understanding · Application · Evaluation · Ethics

1

Understanding

KNOW & COMPREHEND

How does AI actually work?

2

Application

USE & ENGAGE

How do we use AI tools effectively — and what are the limits?

3

Evaluation

ASSESS & VERIFY

Can we critically judge and verify AI's outputs?

4

Ethics

REFLECT & RESPECT

Do we recognize the implications and use AI responsibly?

The heart of it all : the ability to **critically evaluate the source and credibility** of information.

CORE DOMAINS

1. Understanding

"How does AI actually work?" — Without a basic grasp of the technology, every other decision becomes guesswork.

UNDERSTANDING

When AI arrives, the library carries the weight



Tool Evaluation

Is it suitable for academic purposes?



License Review

Cost, scope of use, and legal responsibility



Security Review

Are student and research data safe?



Educational Support

Guiding faculty and students to use it correctly

Detailed, time-consuming work — and it must be done **carefully to prevent problems down the line.**

UNDERSTANDING

Generative AI: **the big picture**



AI is the broad umbrella. The form we meet most today is Generative AI
— and its flagship is the Large Language Model (LLM).

Everyday examples

Chat GPT

Claude

Gemini

UNDERSTANDING

How an LLM works



The key insight: an LLM does not search for facts — it generates a plausible next word.

HOW IT WORKS

Predicts & generates
the next word

OUTPUT

Plausible-sounding text

SOURCE TRACEABILITY

Difficult
— risk of hallucination

MAIN RISK

Hallucination

CORE DOMAINS

2. Application

"How do we use AI tools effectively — and what are their strengths and limitations?"

What generative AI does well

① Explaining Concepts

Rephrasing

- Trained on countless explanatory texts — eg. Wikipedia, blogs, textbooks, Q&A sites.
- Learned the same concept explained at many levels and in many ways.
- Matches style to requests like “explain simply” or “use an analogy.”
- Plain-language explanation is richly represented in its training data.

② Suggesting Structure

Pattern reproduction

- Trained on vast structured writing — books, reports, proposals, presentations.
- Genre patterns like “intro–body–conclusion” or “problem–cause–solution” are embedded in its parameters.
- Give it a topic and a “this usually flows like this” probability distribution automatically activates.
- Less creative invention than reproducing average best practice.

③ Polishing Expression

Reproducing

- The result of learning hundreds of millions of grammatically correct, natural sentences.
- Input awkward text; it predicts the statistically more natural next word and corrects automatically.
- Native-speaker editing quality because native-speaker texts made up its training data.
- Did not memorize grammar rules — absorbed patterns from countless normal sentences.

The common thread: **reconstructing patterns** that already exist abundantly in the **training data**.

Three limitations — one common root

The root cause: an LLM predicts words — it does not search for facts.



Hallucination

It does not know true from false — it strings together plausible words, and states wrong answers with confidence.
It predicts words rather than searching for facts



Opacity of source & time

Training data is compressed into parameters — sources can't be traced, and knowledge stops at a fixed cutoff.



Bias

It reflects the biases of human society embedded in its training data (eg. majority viewpoints)

Example: “According to a 2023 study by Professor Kim published in Nature…”

— [the paper may not actually exist.](#)

APPLICATION

The golden rule



USE IT FOR



Expanding your thinking



Drafting and structuring



Polishing grammar and expression



BE CAUTIOUS WITH



Verifying specific facts



The latest information



Citation- and source-critical work



Minority languages & sensitive topics

Use it to **expand your thinking** — never as the final authority on facts.
Always **cross-check the original source**.

CORE DOMAINS

3. Evaluation

"Can we critically judge and verify AI's outputs?" — It is not difficult. It is just tedious — and that tedium is the last line of defense.

EVALUATION

The C-S-E-B verification checklist



Cross-check

Does it actually exist?



Source verification

Is the basis traceable?



Epistemic limits

How current? Whose view?



Bias awareness

Whose perspective is missing?

Run every LLM answer through these four checks **before you accept it.**

EVALUATION

Steps 1 & 2 — Cross-check & Source verification

C · Cross-check — "Does it exist?"

Verify cited papers, authors, and statistics in primary sources — search by DOI, author, or title in Scinapse, Google Scholar, PubMed.

Warning sign: a study that can't be found, or a DOI that doesn't work.

S · Source verification — "Is it traceable?"

Ask for the source — then open it yourself and confirm the claim is really there. No source means it cannot be cited.

Warning sign: broken links, wrong pages — the "fabricated citation."

REAL EXAMPLE

An LLM cited "Johnson & Lee (2021), 'Open Access Adoption in University Libraries' " — that title, author, year, and journal combination exists in no database, and no DOI exists. Every detail sounded natural. That is exactly what makes hallucination dangerous: it looks right, not wrong.

Steps 3 & 4 — Epistemic limits & Bias awareness

E • Epistemic limits

LLMs don't know anything past their knowledge cutoff.

- Supplement fast-moving fields (science, engineering medicine, law, AI, etc..) with primary sources from the last 1–2 years
- Beware the phrase "according to recent research" — the LLM doesn't know when "recent" is

e.g. a 2023-cutoff model misses revised WHO COVID-19 guidance.

B • Bias awareness

Answers skew English-speaking, Western, majority-view.

- Consciously look for the regions, scholars, and views the answer left out
- Use comparative prompts to draw out minority and dissenting perspectives

e.g. "most influential education scholar" omits Sato, Freire, and others.

EVALUATION

A checklist to apply every single time

#	Verification question	Tool
1	Does the cited material actually exist?	Scinapse, Google Scholar, DOI search
2	Does the material really contain that content?	Open the primary source yourself
3	Is the information current, and the time frame clear?	Check publication year / original report
4	Are other viewpoints or cultures missing?	Supplementary search in regional databases

An LLM's answer is a **starting point** — never an end point.

THE BOTTOM LINE

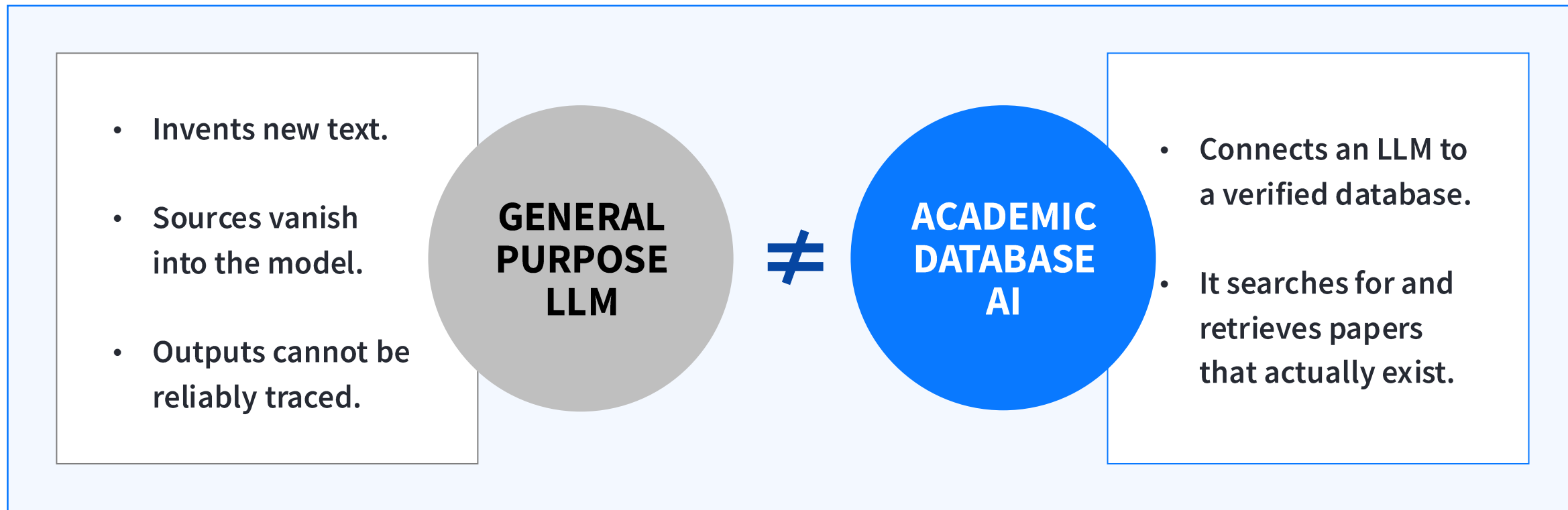
**Believe only what you have
verified yourself —
not simply what the AI says.**

Human review is essential — a human needs to review the output, even if you used generative AI only minimally.

EVALUATION

Why academic-database AI tools **work differently**

Because of these very risks, AI tools built on academic databases take a different approach from general-purpose LLMs.



The biggest difference: outputs whose sources **can be traced and verified**.

CORE DOMAINS

4. Ethics

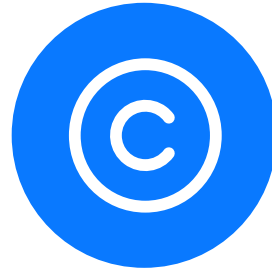
"Do we recognize the social and ethical implications of AI use — and use it responsibly?" Reflect & Respect.

Three core ethical issues



Academic Integrity

Disclose AI use transparently. AI is a tool
— never a co-author.



IP & Copyright

Keep the original author's contribution
visible all the way through.



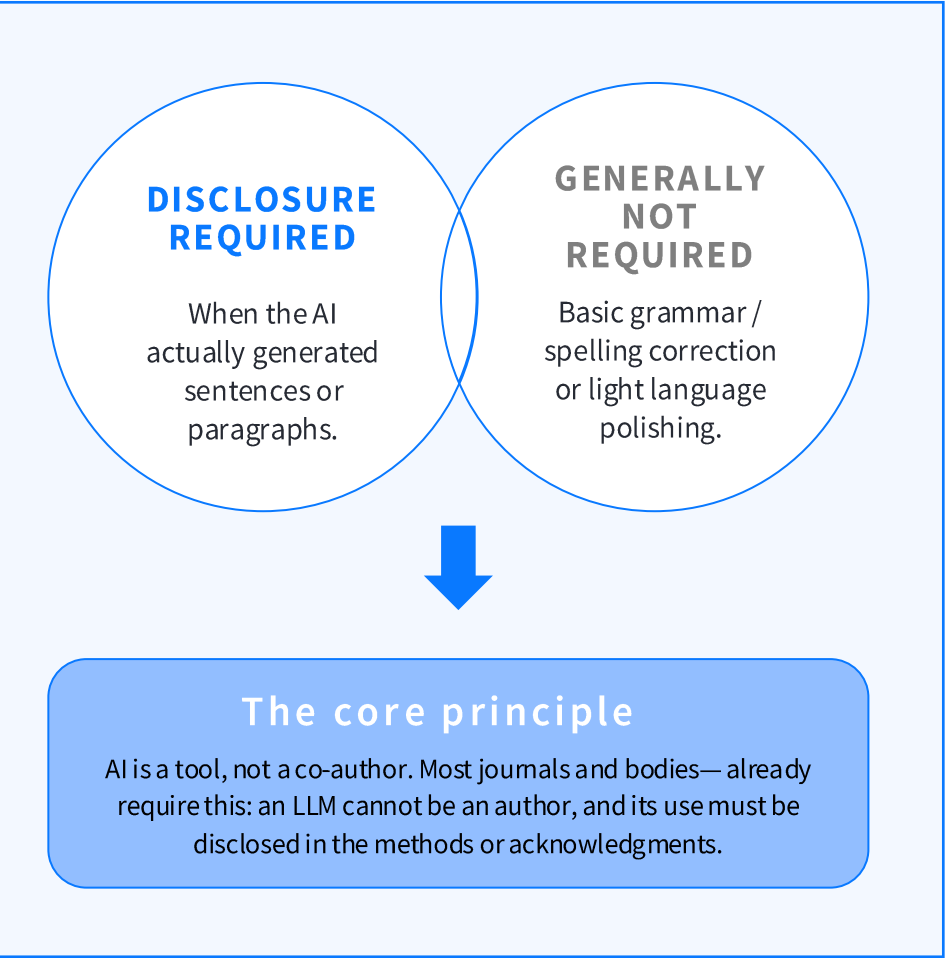
Privacy & Data

Never enter sensitive or unpublished
information into public LLMs.

Without ethical sensitivity, even strong skills **become a tool for greater harm.**

① Academic Integrity

"Is it okay to submit AI-written text as if I wrote it myself?"



What works well

-  Specifies the tool used (ChatGPT, GPT-4)
-  Limits the stated use case (language refinement)
-  Clearly assigns responsibility for the scientific content to the authors

Things to check

- Some journals (Nature, Science, etc.) require AI disclosure in a dedicated section with their own specified format — check the target journal's guidelines before submission
- If AI was used beyond language refinement (e.g., structuring arguments, summarizing literature), the description should reflect that accurately

② Intellectual Property & Copyright

The real question is not "did the AI use data" — but "does the original author's contribution stay visible?"



METHOD 1 · ABSORB & REGENERATE

The LLM absorbs text into its parameters. The output recombines originals — but source and author vanish.



The author's contribution disappears.



METHOD 2 · INDEX & LINK BACK

How search engines, indexes, and libraries have always worked — content is indexed, but it always links back to the original.

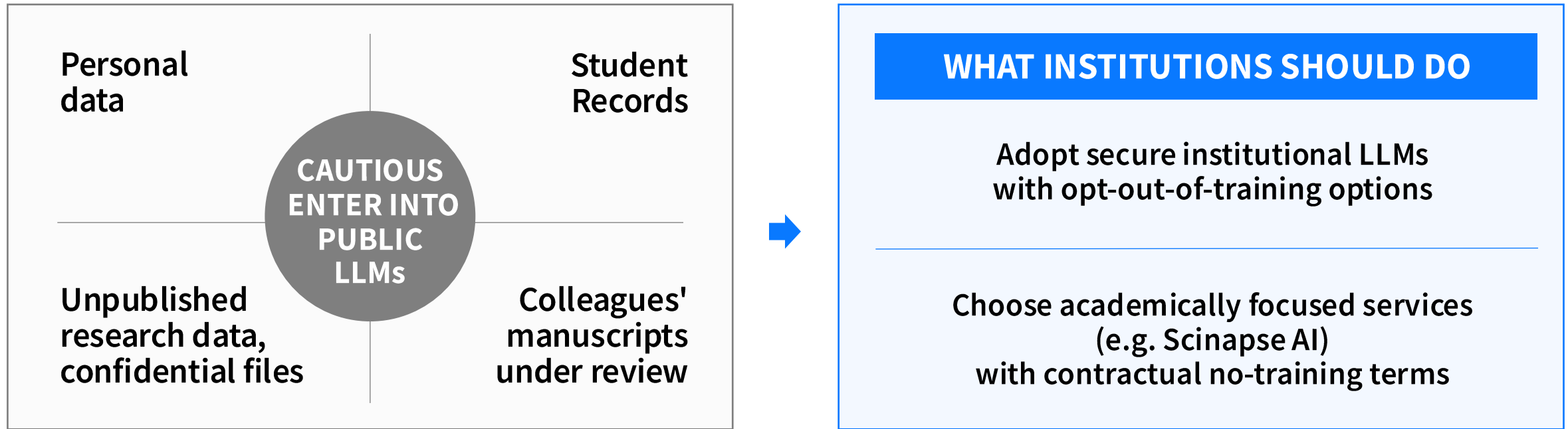


The author's contribution stays visible.

Infringement isn't "using information" — it's making the **author's contribution invisible**.

③ Privacy & Data Protection

"Where does the information I enter into an LLM actually go?"



In 2023 a Samsung employee **leaked source code into ChatGPT** — entering **unpublished academic data** carries the same risk.

Reflect, then Respect

REFLECT — ask yourself three questions

Can I disclose this use transparently?

Integrity

Does it infringe anyone's rights?

Copyright

Am I okay if my input is exposed?

Privacy

RESPECT — three principles for the community



Human Authorship

AI aids thinking — it is never the thinker. Judgment stays human.



Others' Intellectual Labor

Behind every answer are countless human authors. Cite them.



The Knowledge Ecosystem

One person's responsible use protects the whole community.

The final stage of AI literacy is not "how to use it well" — it's "how to take responsibility."

FOUR WORDS TO CARRY WITH YOU

The shape of scholarly citizenship in the age of AI



Understand

what AI is, how it works, and why it produces what it does



Use

its strengths — without ever forgetting its limitations



Evaluate

doubt the result, check the source, verify critically



Ethics (Reflect & Respect)

take responsibility; respect others and the knowledge ecosystem

Not a checklist — a new scholarly citizenship for students and researchers.

CLOSING

The work that remains human

“

AI gives answers. But teaching good questions, prompting people to doubt and verify those answers, and guiding them to take responsibility — this is still the work of people, and it is a role you can fulfill.

Pluto Labs is not simply a company that makes AI tools. We want to be your partner. Building, together with libraries, an academic environment that students and researchers can trust.

The values you have long upheld — trust, verification, academic integrity — we will support with our technology, so they carry on into the age of AI.

Q&A

We'd love to answer your questions.

1. We need to know how it can be used to enable us to do better, more and faster for our users, and what its limitations are; the ethical, legal and political aspects are important too - what do we need to guard against personally, in dealing with our vendors, and for our missions ?
(Emory University)
2. How to stem the tide of AI-generated slop invading library databases (Excelsior University)
3. Beyond learning about AI, what are the next steps for library staff to employ these tools?
(Oregon State University)

Thank You

A good tool delivers its true value only on the foundation of a good relationship.
I hope today is the start of one.

PRESENTER

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LinkedIn QR

Questions are welcome — during the session, or anytime afterward.



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An AI partner that thinks like a
researcher.