

# The Promise and Peril of AI in Cultural Heritage: A Case Study Approach



**Universiteit  
Leiden**  
The Netherlands

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HOW ARTIFICIAL INTELLIGENCE CAN HELP THE CULTURAL HERITAGE SECTOR: SAINT GEORGE ON A BIKE



### AI4Culture - An AI platform for the cultural heritage data space

The project aims to develop the 'AI4Culture platform', an online capacity building hub for the application of artificial intelligence technologies in the cultural heritage sector.

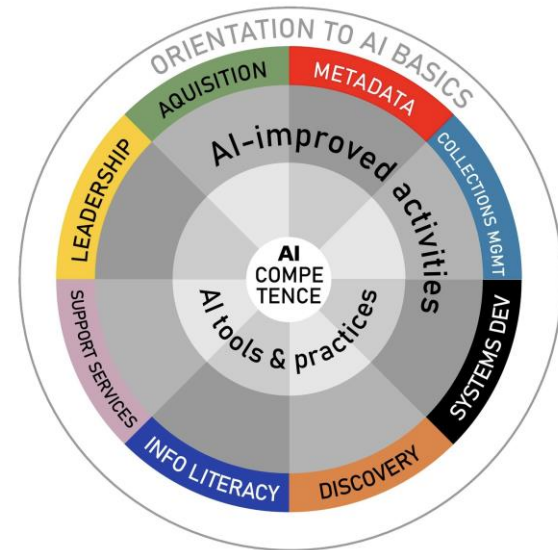


- Cox, A. M., & Mazumdar, S., “Defining artificial intelligence for librarians”, *Journal of Librarianship and Information Science*, 56:2 <<https://doi-org/10.1177/096100062211420>>



- Ryan Cordell, *Machine Learning + Libraries: A Report on the State of the Field* (Library of Congress, 2020)

- Kautonen, H., & Gasparini, A. A., “B-Wheel – Building AI competences in academic libraries”, *The Journal of Academic Librarianship*, 50:4 <<https://doi.org/10.1016/j.acalib.2024.102886>>



# Applications

- Resource discovery and enhancing digital access
  - Creation of metadata
  - Creation of transcriptions
  - Machine translation
- User services
  - Question answering
  - Literature reviews
- Book circulation services
- Preservation and restoration



Image created  
using DALL-E



```
response = client.chat.completions.create(
    model="gpt-4o-mini",
    messages=[
        {
            "role": "user",
            "content": [
                {"type": "text", "text": "What's in this image?"},
                {
                    "type": "image_url",
                    "image_url": {
                        "url": "https://iiif.universiteitleiden.nl/iiif/2
            },
        },
    ],
},
],
max_tokens=300
```



Title:

"A camel in a meadow  
partly hidden by grass"

Subject Heading:

"Camels"



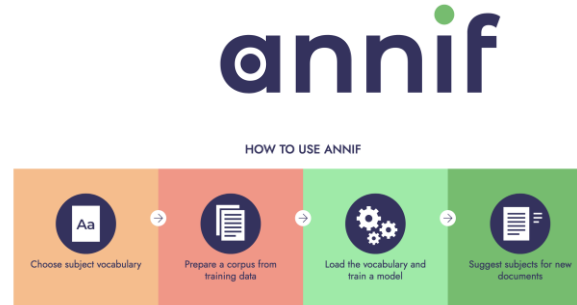
Title:

"A group of ships in a harbour  
photographed during sunset"

Subject Heading:

"Ships"

# AI-supported Cataloguing



The screenshot shows the ANNIF web interface. On the left, there is a preview of a book cover for 'Stof van dromen' by A.J. Dunning. Below the preview is a button that says 'Maak een foto van Colofon'. On the right, there is a form with the following metadata:

Auteur(s)	A. J. Dunning
Titel	Stof van dromen
Ondertitel	OVER DE VERBEELDING VAN HET ONGEZIENE
Plaats van publicatie	Amsterdam
Uitgever	Meulenhoff
Jaar van publicatie	1997
ISBN	9789029064355
Editie vermelding	

At the bottom right of the form, there is a button 'Zoeken in ALMA' and a checkbox 'gebruik API-204' which is checked. Below the button, it says 'Stel gegevens op als concor'.

<https://youtu.be/riYsvbzl69Y>



# Transkribus<sup>®</sup>

< Back Save 0 unsaved changes LTK 290 - #20 < 20 105 >

Region 1

1 heer en verdriift met siin volc want  
2 in sinen handen sijn alle eynde van  
3 aertrijc e<sup>re</sup> die hoecheit der bergen  
4 siet hi Die drouïge etc ¶ Want sijn  
5 is dat meer e<sup>re</sup> dat heeft hi gemaect  
6 e<sup>re</sup> dat droge lant heeft hi geuest co-  
7 emt laet ons hem aenbeden en  
8 laet ons voir gode nedervallen  
9 laet ons screyen voerden heer die  
10 ons gemaect heeft want h'us on-  
11 se heer e<sup>re</sup> onse god en wi sijn volc  
12 e<sup>re</sup> scapen sijnre weiden Mi hebbe  
13 om beuangen3c Of ghi huden ho  
14 ert siin stēme verheret met v herte  
15 gelijc dat v vadere mi vertoerden  
16 inden dage der becoringe inder wo-  
17 estinen daer mi uwe vaderen beco-  
18 erden en proefden e<sup>re</sup> sagē mine  
19 werken Die drouïge etc¶ Ciertich  
20 iaer was ic naest desen geslachte

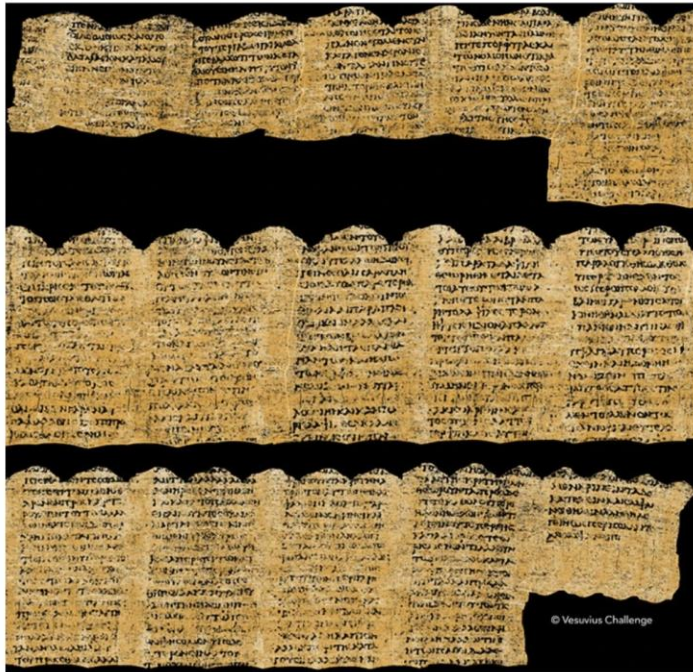
Region 2

1 e<sup>re</sup> ic sprac altoes dese dolen inder  
2 herten en si en bekende met mine

# First passages of rolled-up Herculaneum scroll revealed

Researchers used artificial intelligence to decipher the text of 2,000-year-old charred papyrus scrolls, unveiling musings on music and capers.

By Jo Marchant



<https://www.nature.com/articles/d41586-024-00346-8>

# Chatbot

CuratorBot

Survey About

## Visboek van Adriaen Coenen

Geniet van het Visboek, met ChatGPT.

1/18

Prev Next

CuratorBot

Hallo, ik ben een curator chatbot die informatie over het Visboek geeft. De pagina waarover je het had gaat over het wezen de zeebisschop. Volgens Coenen is dit monster een bewijs van de wonderlijke werken van God en voegde hij ook een eigen gedichtje toe. Wil je meer weten?

Me

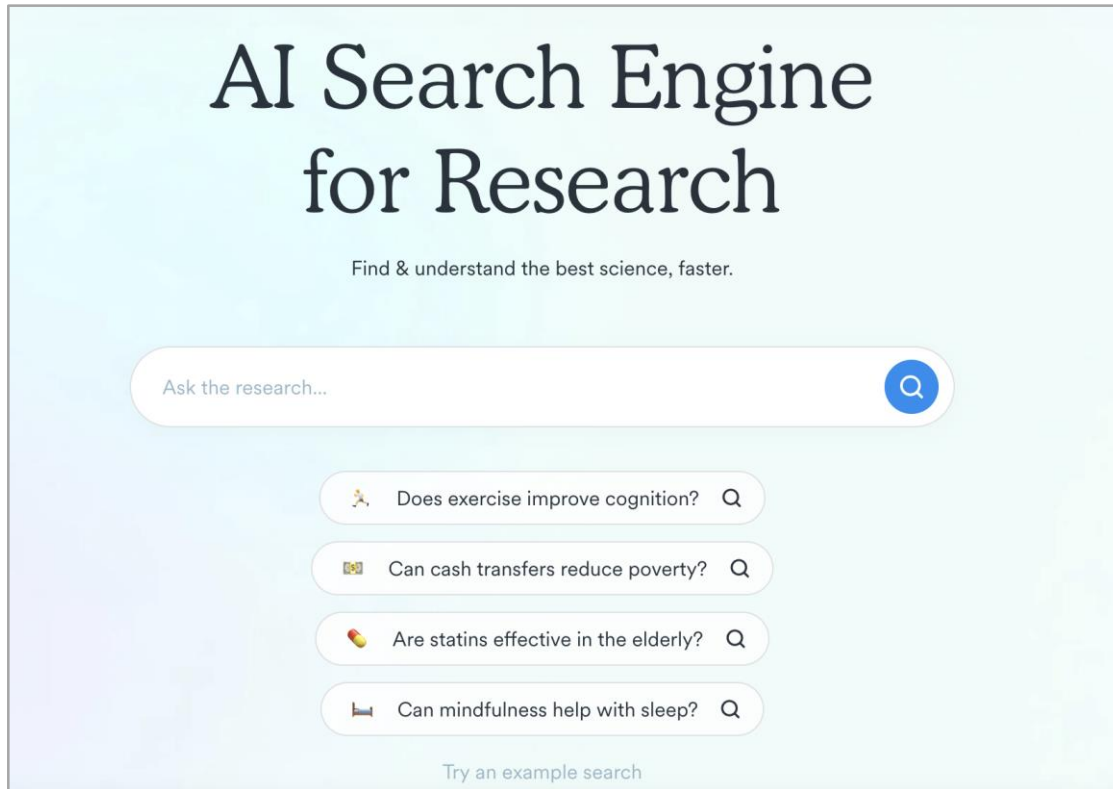
Wat kan ik je vragen?

ME

CuratorBot

Vraag als: 1. Wat is het Visboek? 2. Wie was Adriaen Coenen? 3. Waarom wordt het Visboek gezien als een topstuk? 4. Wat is de Grote Kroniek van Holland? 5. Wat betekent Coenens gedicht over de zeebisschop?

# Literature Review



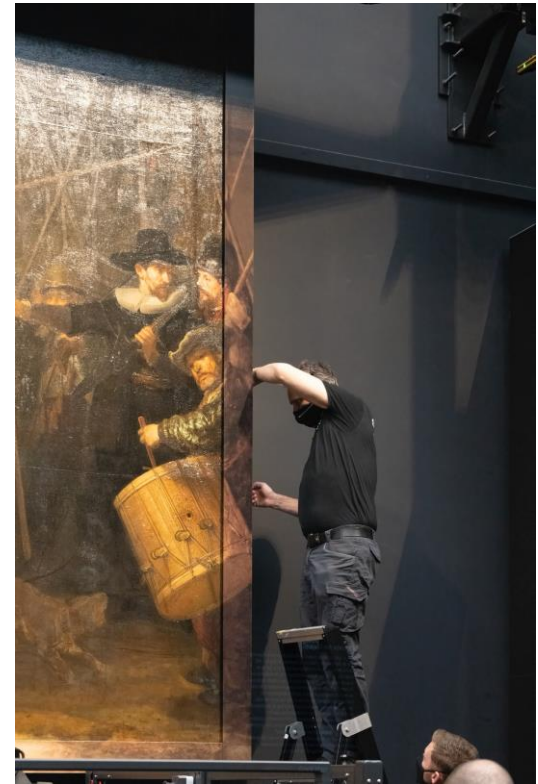
The screenshot shows the Sakana AI search engine interface. At the top, the title "AI Search Engine for Research" is displayed in a large, dark serif font. Below the title is the tagline "Find & understand the best science, faster." in a smaller, sans-serif font. A prominent search bar with the placeholder text "Ask the research..." and a blue search icon is centered. Below the search bar, four example search queries are listed in rounded rectangular buttons, each with a small icon and a search icon: "Does exercise improve cognition?", "Can cash transfers reduce poverty?", "Are statins effective in the elderly?", and "Can mindfulness help with sleep?". At the bottom of the interface, there is a link that says "Try an example search".



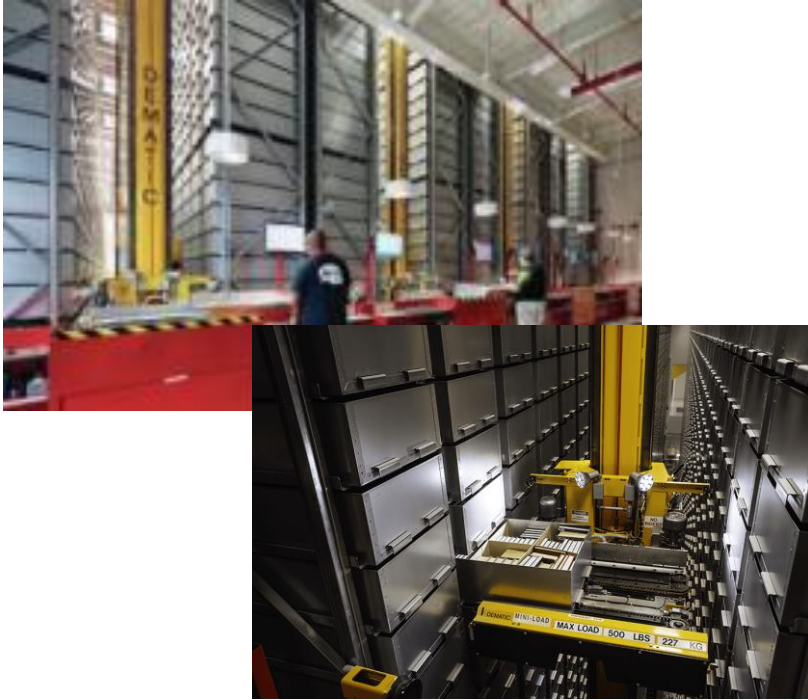
# Preservation and restoration



Photograph by Reinier Gerritsen,  
<https://www.rijksmuseum.nl/nl/pers/persberichten/volledige-nachtwacht-voor-het-eerst-in-300-jaar-te-zien>



# Storage and circulation



## Robo Librarian Tracks Down Misplaced Books

The robots have now become shelf-aware

BY COBY McDONALD | POSTED ON JUN 10, 2016



Hunt Jr. Library at North Carolina State University: <https://youtu.be/29JL1q2aaBs>

<https://www.popsci.com/robo-librarian-tracks-down-misplaced-books/>



## Awesome AI for LAM awesome

A curated list of resources, projects, and tools for using Artificial Intelligence in Libraries, Archives, and Museums.

License  CC0 Maintained?  yes Last commit  june 2024 Contributors  5  Mastodon  Slack

### Contents

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  - [AI in galleries, libraries, archives and museums](#)
  - [Other "awesome" lists in AI and ML](#)

<https://ai4lam.github.io/awesome-ai4lam/>

# Challenges

- Copyright infringements
- Bias
- Privacy
- Carbon footprint



## Copyright & Licensing: Current context and considerations for researchers and libraries using AI in research today

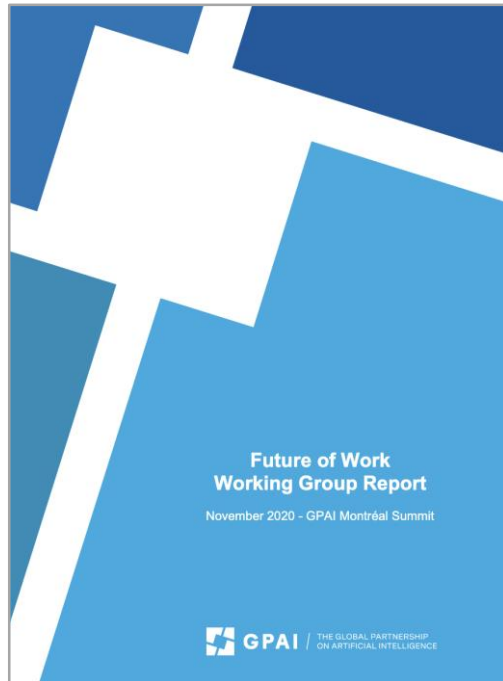
Contributed by: Alex Fenlon, [ORCID iD](#) and Maria Reh binder, [ORCID iD](#)

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Last modified: See Github page history

Suggested Citation: Alex Fenlon, Maria Reh binder “Copyright & Licensing: Current context and considerations for researchers and libraries using AI in research today”, *Digital Scholarship & Data Science Essentials for Library Professionals* (2024), [DOI link tbd]

<https://libereurope.github.io/ds-essentials/>



“The automation of tasks and trades could be an opportunity for the “de-automation” of human work. It would allow the development of human capacities: creativity, manual dexterity, abstract thinking, problem solving, adaptability, emotional intelligence”

<https://gpai.ai/projects/future-of-work/gpai-future-of-work-wg-report-november-2020.pdf>



Image created using DALL-E

# Questions?

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