Ready to Help!

Partnering with Your Medical Librarian to Maximize Scholarly Success

18 August 2023

Gary S. Atwood, MSLIS, MA
Library Associate Professor
Dana Health Sciences Library
University of Vermont

Lee Crowther
Library Specialist
Association of
American Medical Colleges

Housekeeping

- Please use Zoom's Q&A feature for questions.
- Feel free to use the chat for comments.

Image by opensource.com, licensed under CC BY-SA 2.0

What do librarians help people with?

Please share what comes to mind in the chat!

What do librarians help people with?

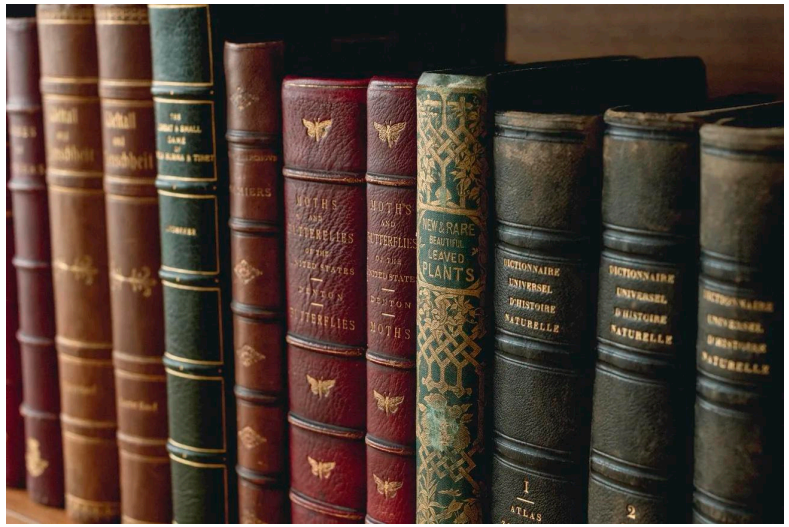
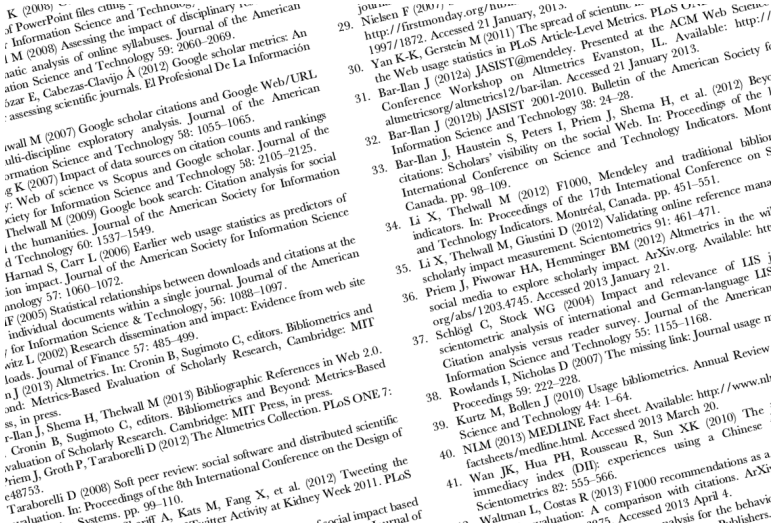


Image by rawpixel.com / Teddy, licensed under CC0 1.0

Image by Astrid Carlsen (WMNO), licensed under CC BY-SA 4.0

Image cropped from original by University of Zimbabwe Libraries, licensed under CC BY-NC 2.0



Screenshot by Finn Årup Nielsen, licensed under CC BY 4.0

Image by Pete Linforth from Pixabay

Perhaps you had a bad experience with a librarian at some point in the past.

Perhaps you feel like your library skills are below par.

Image by Pete Linforth from Pixabay

abstract ovid emtree
medline database proxy
doi bibliography
focus keywords
off-campus boolean mesh
ill reference
serials hold citation
index explode

Connection Options, by Affiliation

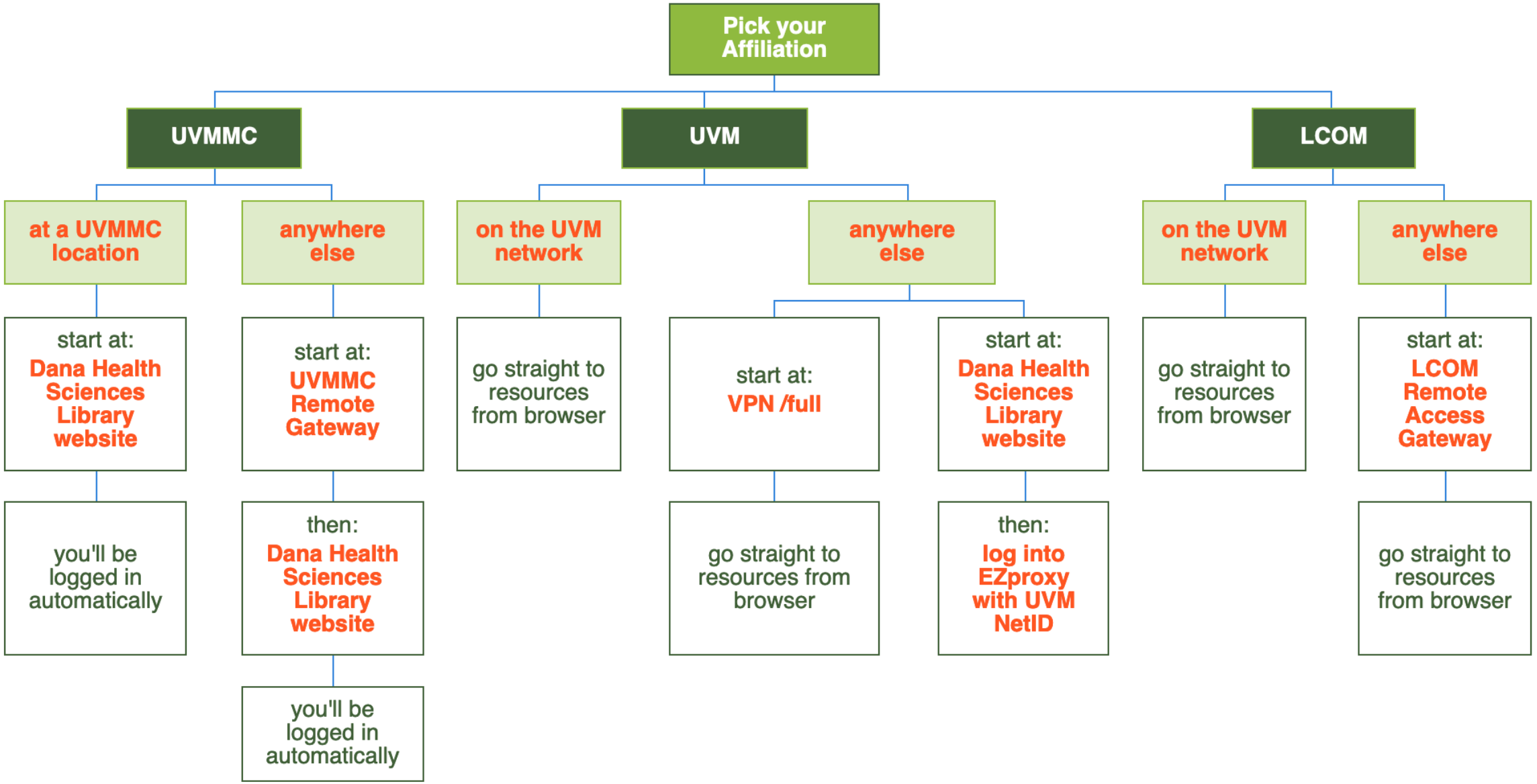


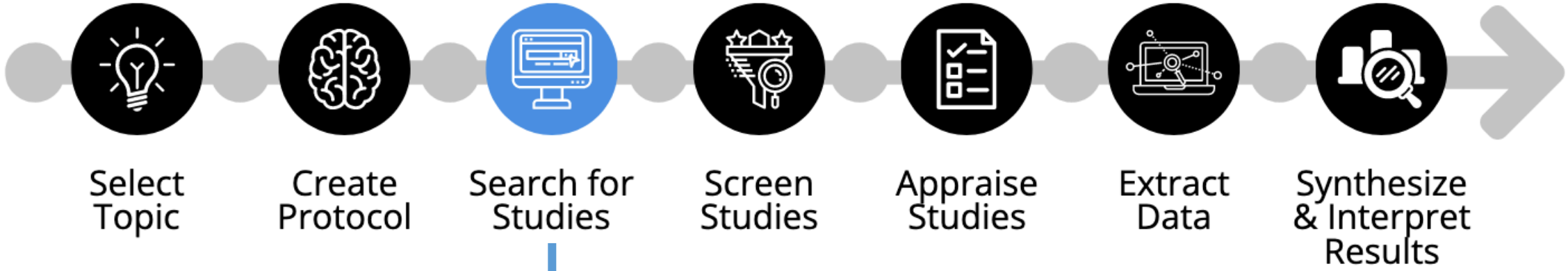
Image by Adrian from Pixabay

Searches — What Are They For?

- Papers
- Grant proposals
- New courses
- Workshops
- Webinars
- Health conditions
- How others addressed issue
- Who cited this
- Terminology
- Resources for public

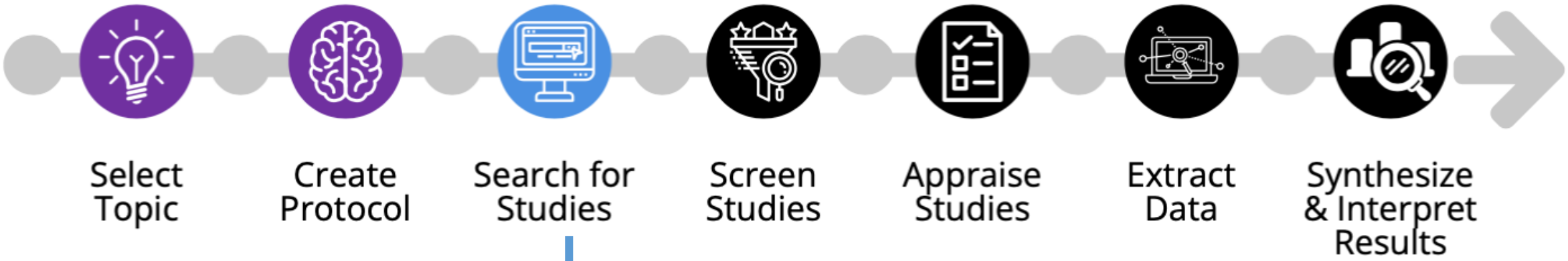
Not just scholarly resources—also newspapers, magazines, websites, blogs, and social media.

Image by Automotive Social, licensed under CC BY 2.0



Most people know that librarians can help at this stage

We can also provide a lot of guidance at these stages too



Most people know that librarians can help at this stage

We can also provide a lot of guidance at these stages too

We can even connect you with tools and training for these stages as well

Select Topic

Create Protocol

Search for Studies

Screen Studies

Appraise Studies

Extract Data

Synthesize & Interpret Results

Most people know that librarians can help at this stage

Artificial Intelligence

- **Artificial Intelligence**: “the science and engineering of making intelligent machines, especially intelligent computer programs” — John McCarthy

Image licensed under CC BY-SA 2.0

- **Intelligence**: “the ability to learn and perform suitable techniques to solve problems and achieve goals, appropriate to the context in an uncertain, ever-varying world” — Christopher Manning

Image from Stanford University

How does AI show up in our lives?

Please share what comes to mind in the chat!

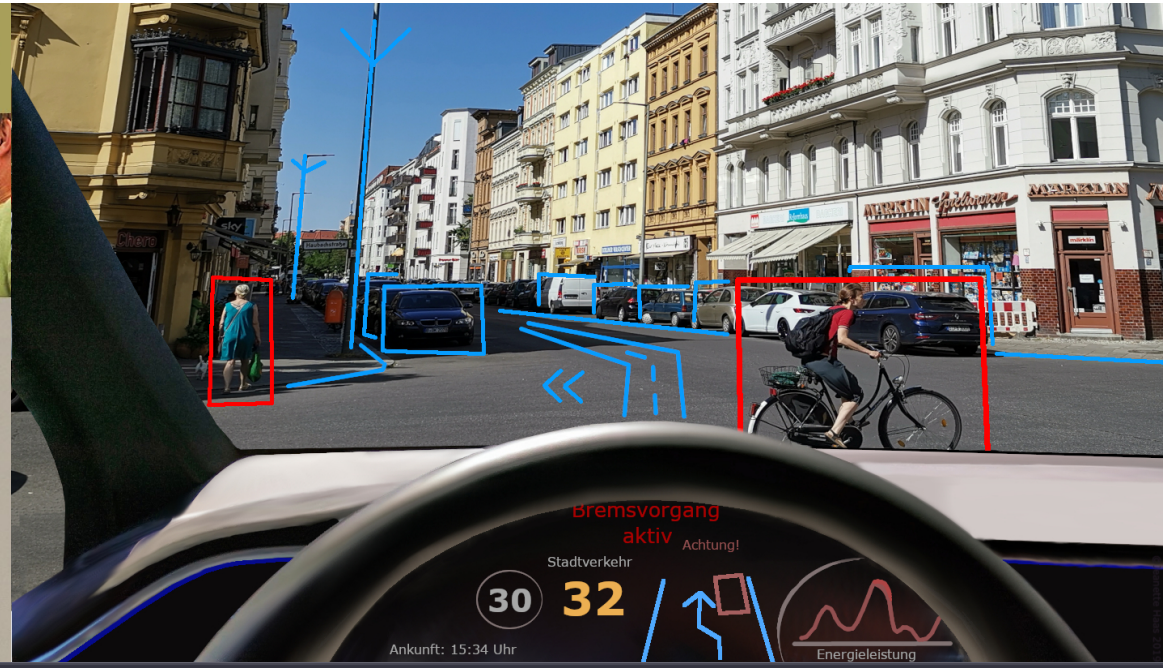
AI Applications

Image cropped from original by Zuko.io Images, licensed under CC BY 2.0

Image by Gregory Varnum, licensed under CC BY-SA 4.0

Image by Peter Eich, licensed under CC BY-SA 2.5

Image by Electric Motor Engineering, licensed under CC BY 4.0



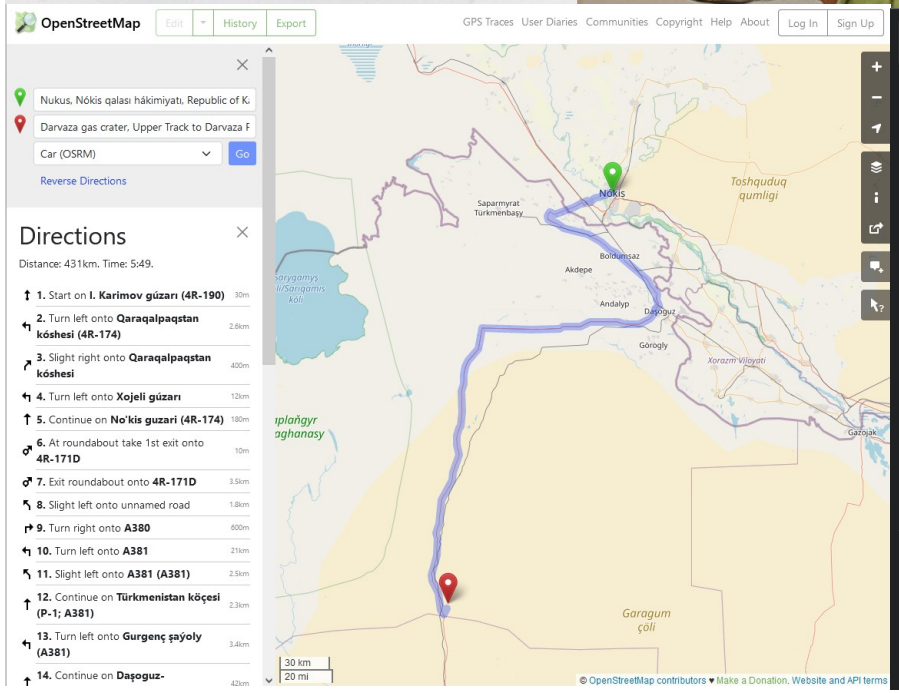


Image from OpenStreetMap

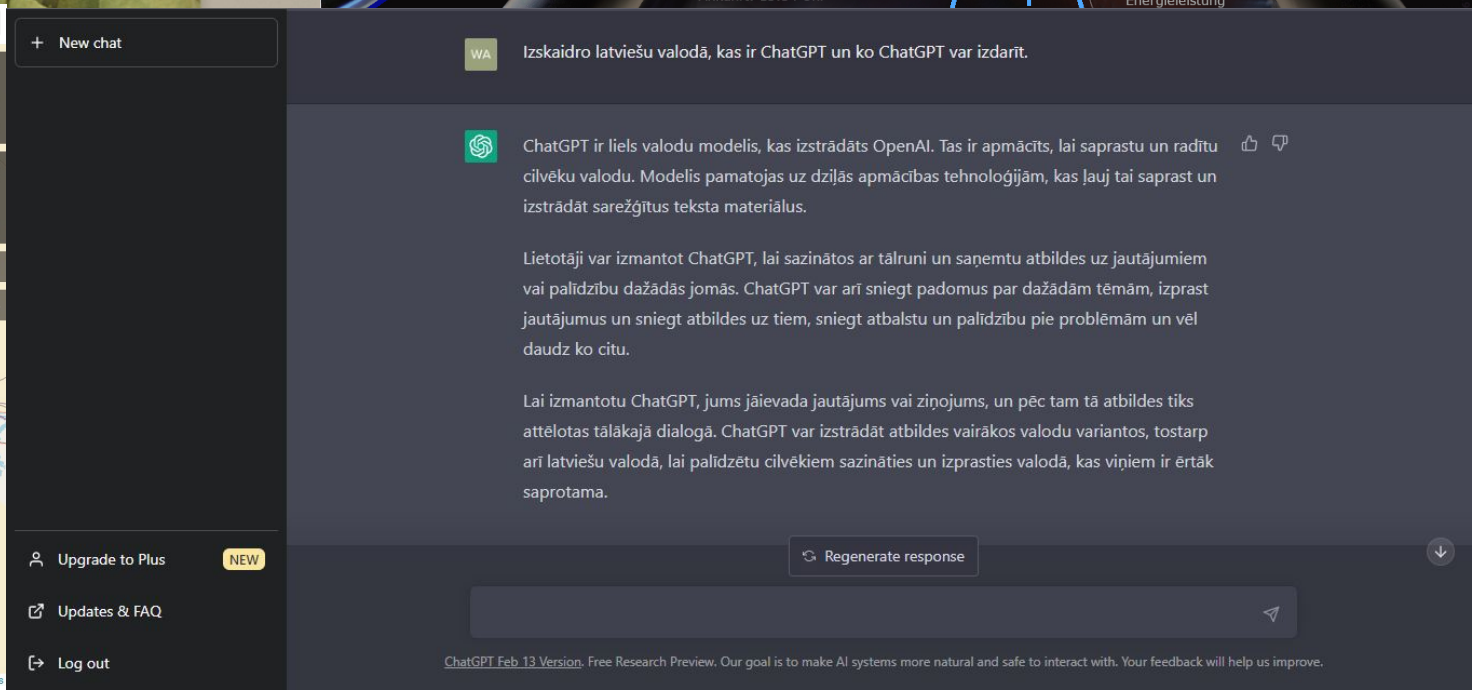


Image by Spnq, licensed under CC BY-SA 4.0

Librarians and AI: Information Literacy

Information Literacy

Research Skills

Image by VideoPlasty, licensed under CC BY-SA 4.0

Critical Thinking Skills

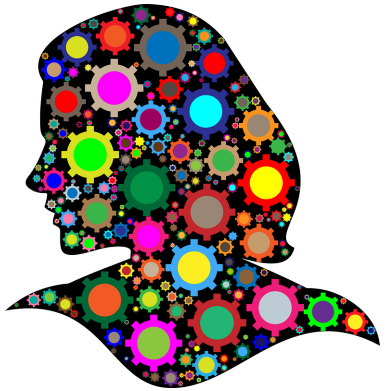


Image by GDJ, licensed under CC0 1.0

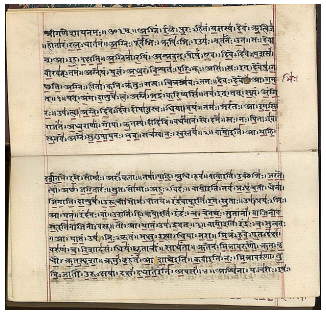
Computer Technology Skills

Image by OpenClipart-Vectors, licensed under CC0 1.0

Communication Skills

Image by Prosa — UFSC, licensed under CC BY 4.0

AI Foundations



Nasadiya Sukta

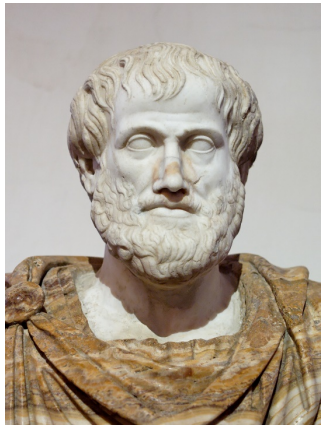
c. 1500–1000 BCE

Image by BernardM, licensed under CC BY-SA 4.0

Aristotle

384–322 BCE

Public domain image by Jastrow



al-Khwārizmī

c. 780–850

Image cropped from non-copyrighted original

Ramon Llull

c. 1232–1315

Image by Vicenç Salvador Torres Guerola, licensed under CC BY-SA 3.0

G.W.F. Leibniz

1646–1716

Public domain image by Herzog Anton Ulrich-Museum, licensed under CC0 1.0

Ada Lovelace

1815–1852

Image by Antoine Claudet, licensed under CC BY-SA 4.0

Alan Turing

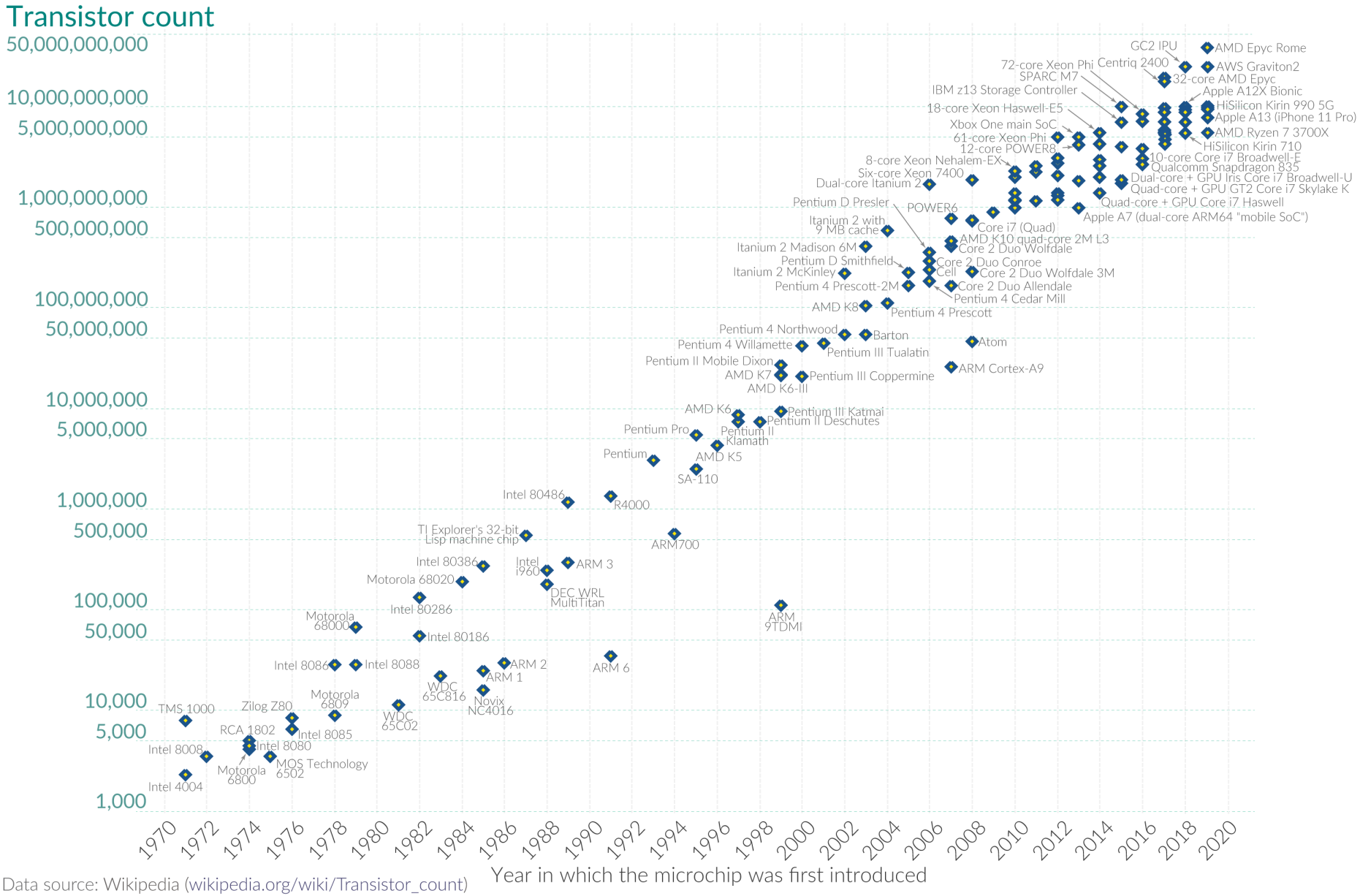
1912–1954

Image by Tomipelegrin, licensed under CC BY-SA 4.0

Moore's Law: The number of transistors on microchips doubles every two years

Our World in Data

Moore's law describes the empirical regularity that the number of transistors on integrated circuits doubles approximately every two years. This advancement is important for other aspects of technological progress in computing – such as processing speed or the price of computers.



Data source: Wikipedia (wikipedia.org/wiki/Transistor_count)

OurWorldinData.org – Research and data to make progress against the world's largest problems.

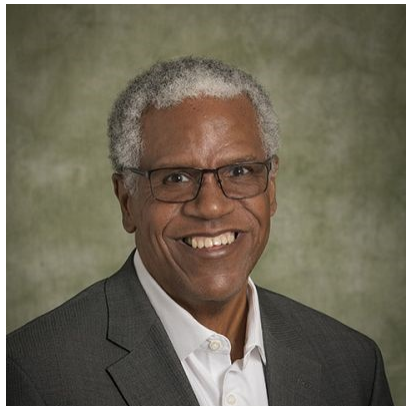
Licensed under CC-BY by the authors Hannah Ritchie and Max Roser.

Image by Max Roser and Hannah Ritchie, licensed under CC BY 4.0

AI Stories

Laura Howes
Team Lead
Chemical & Engineering News
Image from Chemical and Engineering News website

Eric K. Hoffer, MD
Radiology
Dartmouth Hitchcock Medical Center
Image cropped from original on Dartmouth Health website



Curtis Kendrick
Faculty and Staff Mentor
Binghamton University
Image cropped from original on Binghamton University website

AI Stories

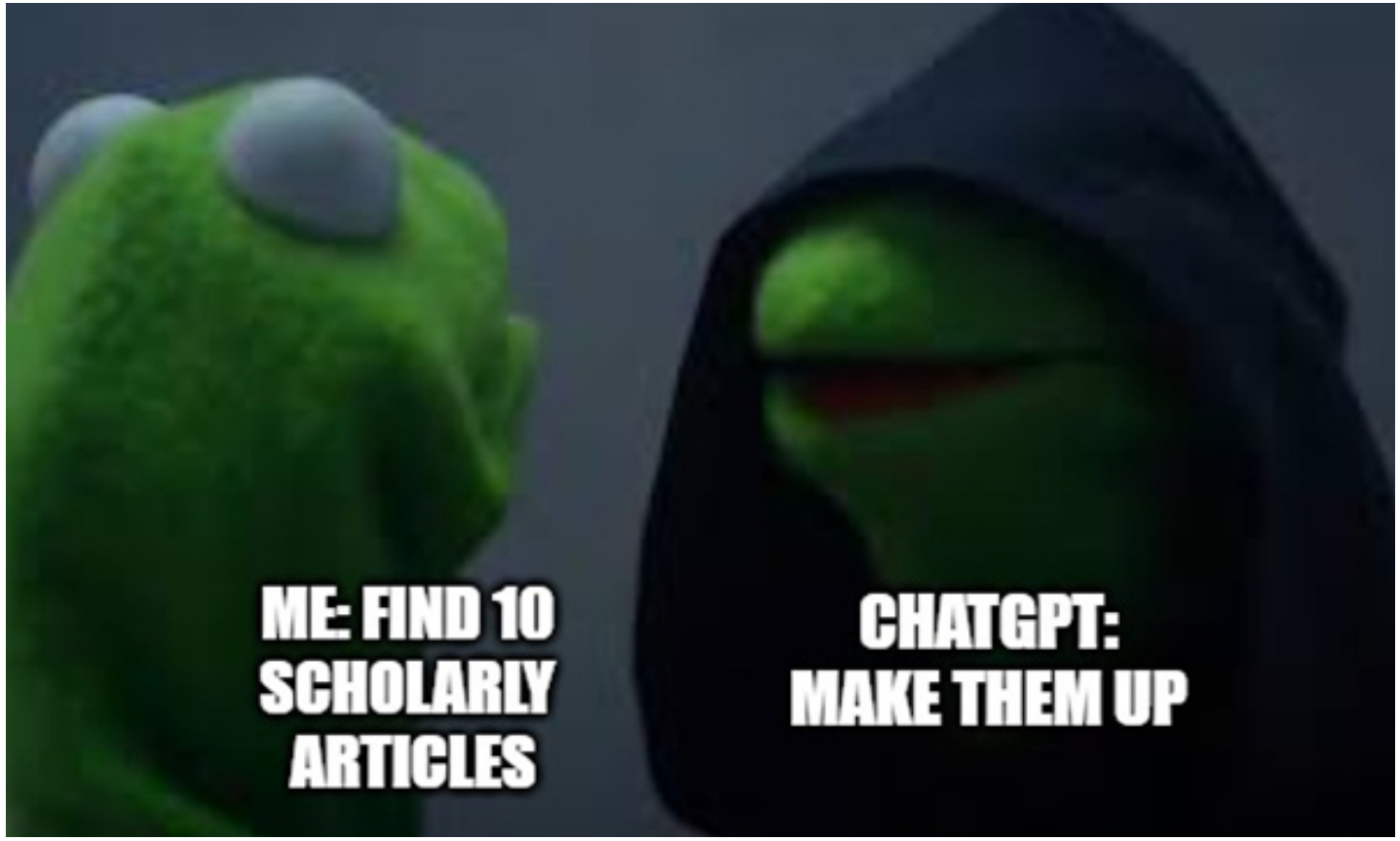
Robin Bauwens, PhD
Assistant Professor of
Human Resource Studies
Tilburg University
Image from Tilburg University website

Roberto Mata v. Avianca Inc.
Image by JBabinski380, licensed under CC BY 2.0

Hallucinations

"Hallucination in this context refers to mistakes in the generated text that are semantically or syntactically plausible but are in fact incorrect or nonsensical."

— Craig S. Smith



Meme from post by Hannah Rozear and Sarah Park for Duke University Libraries

How do LLM-based chatbots work?

ars TECHNICA

BIZ & IT TECH SCIENCE POLICY CARS GAMING & CULTURE

GENERATIVE AI —

A jargon-free explanation of how AI large language models work

Want to really understand large language models? Here's a gentle primer.

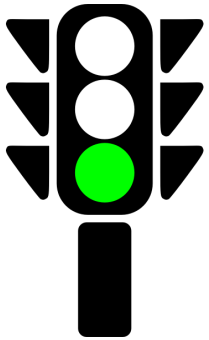
TIMOTHY B. LEE AND SEAN TROTT - 7/31/2023, 7:00 AM

Screenshot from *Ars Technica* article

Pros and Cons of Chatbots

Good For

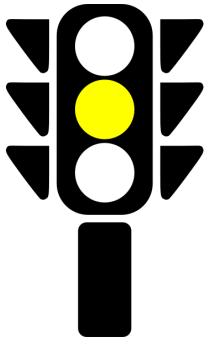
- Generating ideas
- Database suggestions
- Writing tips



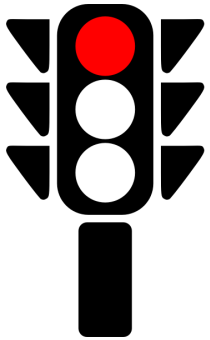
Public domain image by OpenClipart

NOT Good For

- Lists of sources
- Summaries
- Current events



Public domain image by OpenClipart



Public domain image by OpenClipart

Hannah Rozear
Librarian for Biological Sciences and Global Health
Duke University
Image from Duke University Libraries

Sarah Park
Librarian for Engineering and Computer Science
Duke University
Image from Duke University Libraries

More AI Stories and Uses

Raesetje Sefala
Research Fellow
Distributed Artificial Intelligence
Research Institute
Image cropped from original on Mozilla Foundation website

Brian Reid, PhD
Associate Director for Educational
Technology
Geisel School of Medicine
Image from AAMC Communities

More AI Stories and Uses

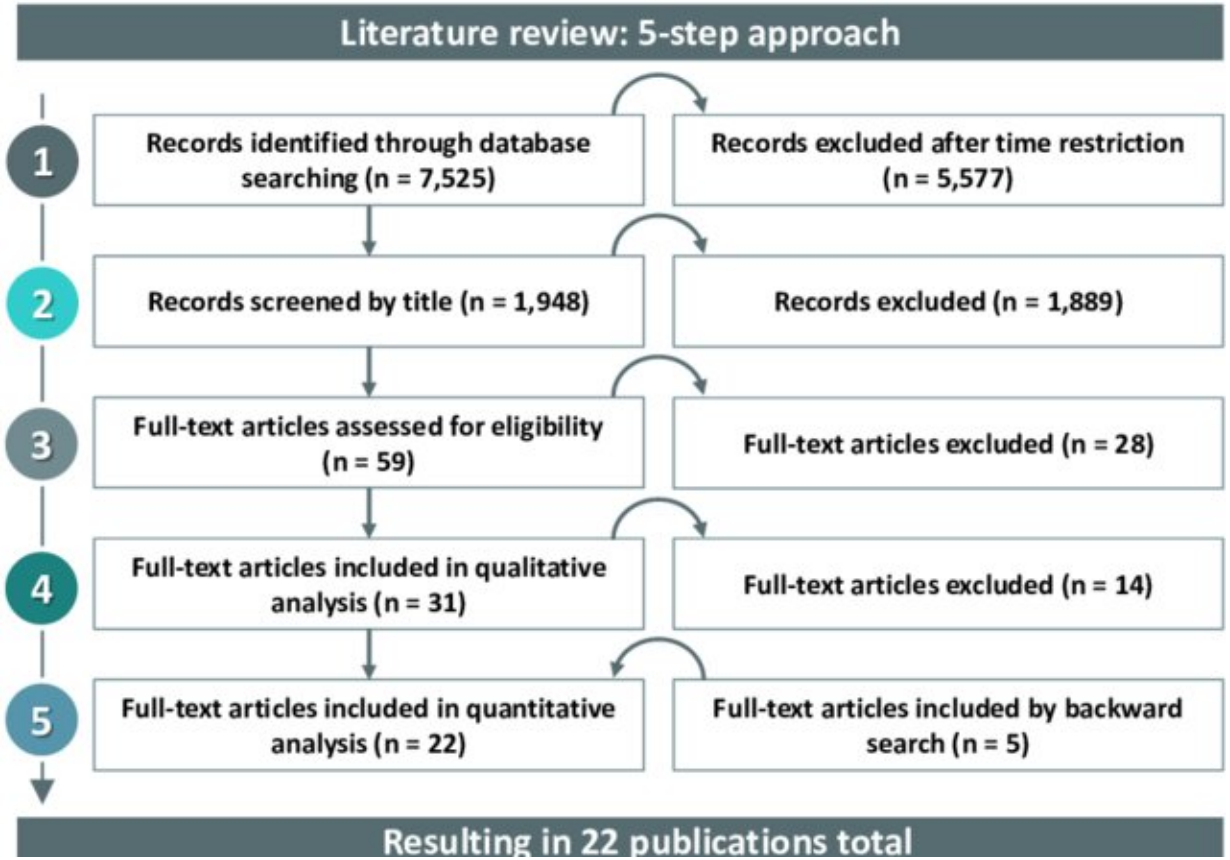


Image by Ann-Kathrin Lange, licensed under CC BY-SA 4.0

covidence

Logo from Covidence website

DistillerSR

Logo from DistillerSR website

rayyan

Logo cropped from original on Rayyan website

Image by Yolanda Liman of Drawing Change for the AAMC Center for Health Justice

AI Ethics

Emily M. Bender, PhD
Professor of Linguistics
University of Washington
Image by UW College of Arts & Sciences, licensed under CC BY-NC-ND 4.0

ARTIFICIAL INTELLIGENCE | OPINION

AI Causes Real Harm. Let's Focus on That over the End-of-Humanity Hype

Effective regulation of AI needs grounded science that investigates real harms, not glorified press releases about existential risks

By Emily M. Bender, Alex Hanna on August 12, 2023

Image cropped from original from *Chicago Tribune* article

Alex Hanna, PhD
Director of Research
DAIR Institute
Image from alex-hanna.com

AI Ethics

Screenshot from *The Conversation* article

Screenshot from *The Guardian* article

Image by Pierre Banoori, licensed under CC BY-SA 3.0

AI Ethics

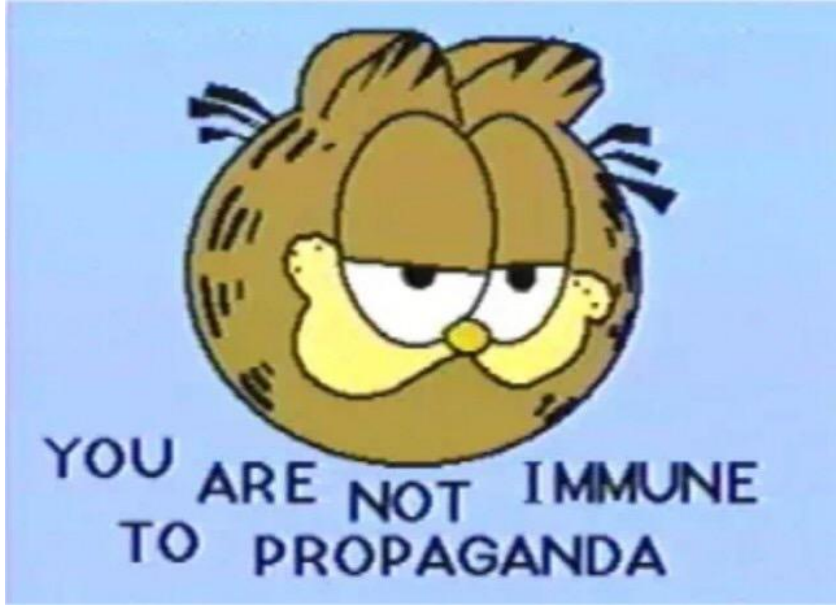


Image from Know Your Meme

Image cropped from original by Book Catalog, with credit to www.shopcatalog.com, licensed under CC BY 2.0

Image by Anirvan Shukla, licensed under CC BY-SA 3.0

AI Ethics

Timnit Gebru, PhD
Founder and Executive Director
DAIR Institute
Image by TechCrunch, licensed under CC BY 2.0

Alex Hanna, PhD
Director of Research
DAIR Institute
Image from alex-hanna.com

Timnit Gebru Is Building a Slow AI Movement › Her new organization, DAIR, aims to show a more thoughtful mode of AI research

BY ELIZA STRICKLAND | 31 MAR 2022 | 7 MIN READ

Screenshot from *IEEE Spectrum* article

Recent Developments

nature > news > article

NEWS | 02 August 2023

ChatGPT-like AIs are coming to major science search engines

Scopus, Dimensions and Web of Science are introducing conversational AI search.

Richard Van Noorden

Screenshot from *Nature* article

Data

- Collecting (e.g. GIS)
- Analyzing
- Data management

Stats Support

- Design | Collecting
- Training
- Software support

3D/VR/AI

- 3D printing
- Virtual reality tools
- AI tools & development

Scholarly Communications

- Publishing options
- Institutional repository management
- Copyright

Research Impact

- Social media
- Publication metrics
- Analyzing bibliographic data

References

1. Alkaissi H, McFarlane SI. Artificial Hallucinations in ChatGPT: Implications in Scientific Writing. *Cureus*. Feb 2023;15(2):e35179. doi:10.7759/cureus.35179
2. Anyoha R. The History of Artificial Intelligence. *SITN: Science in the News* blog. August 28, 2017.
3. B A. The New York Times Won't Allow AI Companies to Scrape Its Data. *iTech Post*. August 15, 2023.
4. Babski D, Lu Z, Comeau D. NLM is a Leader in Using AI to Improve User Experiences. *Musings from the Mezzanine* blog. February 2, 2022.
5. Bauwens R. A reviewer rejected my paper, and instead suggested me to familiarize myself with the following readings… March 27, 2023.
6. Bender EM, Hanna A. AI Causes Real Harm. Let's Focus on That over the End-of-Humanity Hype. *Scientific American*. August 12, 2023.
7. Biswal A. AI Applications: Top 18 Artificial Intelligence Applications in 2023. simplilearn. Updated July 28, 2023.
8. Bruner G. No, Artificial Intelligence doesn't exist (yet). *Towards Data Science* blog. December 28, 2020.
9. Center for Health Justice, Liman Y. Maternal Health Equity Workshop Graphics. Association of American Medical Colleges. Accessed August 15, 2023.
10. Charlton JI. *Nothing About Us Without Us: Disability Oppression and Empowerment*. University of California Press; 1998.
11. Dastin J. Amazon scraps secret AI recruiting tool that showed bias against women. *Reuters*. October 10, 2018.
12. For Students: Information Literacy. Skyline College. Accessed August 9, 2023.
13. Gal U. ChatGPT is a data privacy nightmare. If you've ever posted online, you ought to be concerned. *The Conversation*. February 7, 2023.
14. Goldman S. Generative AI's secret sauce — data scraping— comes under attack. *VentureBeat*. July 6, 2023.
15. Hervieux S, Wheatley A. Perceptions of artificial intelligence: A survey of academic librarians in Canada and the United States. *The Journal of Academic Librarianship*. 2021/01/01/ 2021;47(1):102270. doi:10.1016/j.acalib.2020.102270
16. Hervieux S, Wheatley A. Separating Artificial Intelligence from Science Fiction: Creating an Academic Library Workshop Series on AI Literacy. In: Hervieux S, Wheatley A, eds. *The Rise of AI: Implications and Applications of Artificial Intelligence in Academic Libraries*. 2022:chap 5.
17. Hilstob K. Timnit Gebru – Welcome to the Distributed AI Research Institute (DAIR). Digital Democracies Institute and Simon Fraser University. Updated February 9, 2023.
18. Hoffer EK. ChatGPT provides references that are real, inappropriate, or (most often) fake. *J Vasc Interv Radiol*. Jul 11 2023;doi:10.1016/j.jvir.2023.07.001

References

19. Howes L. Here's a first… I just got an email because ChatGPT suggested an article I wrote to somebody… February 17, 2023.
20. Hu K. ChatGPT sets record for fastest-growing user base - analyst note. *Reuters*. February 2, 2023.
21. Kendrick C. Guest Post — The Efficacy of ChatGPT: Is it Time for the Librarians to Go Home? *The Scholarly Kitchen* blog. January 26, 2023.
22. Lanier J. There Is No A.I. *The New Yorker*. April 20, 2023.
23. Leaf K, Reid B. ChatGPT/AI recording. Association of American Medical Colleges; 2023. April 27.
24. Lee TB, Trott S. A jargon-free explanation of how AI large language models work. *Ars Technica*. July 31, 2023.
25. Li P, Yang J, Islam MA, Ren S. Making AI Less "Thirsty": Uncovering and Addressing the Secret Water Footprint of AI Models. 2023:arXiv:2304.03271. doi:10.48550/arXiv.2304.03271
26. Manning C. *Artificial Intelligence Definitions*. 2020. *Stanford University Human-Centered Artificial Intelligence*. September.
27. McCarthy J. *What Is Artificial Intelligence?* 2007. Stanford University. November 12.
28. McCarthy J, Minsky ML, Rochester N, Shannon CE. A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. Hanover, New Hampshire: Rockefeller Foundation; 1955.
29. McIver L. There's no such thing as Artificial Intelligence. *Data Science Explainer* blog. March 12, 2023.
30. Merken S. New York lawyers sanctioned for using fake ChatGPT cases in legal brief. *Reuters*. June 26, 2023.
31. Moor J. The Dartmouth College Artificial Intelligence Conference: The Next Fifty Years. *AI Magazine*. 2006;27(4):87. doi:10.1609/aimag.v27i4.1911
32. Müller VC. Ethics of Artificial Intelligence and Robotics. In: Zalta EN, Nodelman U, editors. The Stanford Encyclopedia of Philosophy. Fall 2023 ed: The Metaphysics Research Lab; 2020.
33. Poritz I. OpenAI's Legal Woes Driven by Unclear Mesh of Web-Scraping Laws. *Bloomberg Law*. July 5, 2023.
34. Rowe N. 'It's destroyed me completely': Kenyan moderators decry toll of training of AI models. *The Guardian*. August 2, 2023.
35. Rozear H, Park S. ChatGPT and Fake Citations. *Duke University Libraries News Events & Exhibits* blog. March 9, 2023.
36. Sefala R, Kapoor A, Running Wolf M, McKenzie D. *IRL*. AI from Above. *Internet Health Report 2022*. August 15, 2022.
37. Simkoff M, Mahdavi A. AI Doesn't Actually Exist Yet. *Scientific American* blog. November 12, 2019.
38. Simonite T. This Researcher Says AI Is Neither Artificial nor Intelligent. *Wired*. April 26, 2021.
39. Smith CS. Hallucinations Could Blunt ChatGPT's Success. *IEEE Spectrum*. March 13, 2023.

References

40. Strickland E. Timnit Gebru Is Building a Slow AI Movement. *IEEE Spectrum*. March 31, 2022.
41. Van Noorden R. ChatGPT-like AIs are coming to major science search engines. *Nature*. Aug 2023;620(7973):258. doi:10.1038/d41586-023-02470-3
42. Wankhede C. Does ChatGPT save your data? Here's how to delete your conversations. *Android Authority*. July 17, 2023.
43. Ward A. OpenAI Connects ChatGPT to the Web in Major Update. *techco*. May 17, 2023.
44. Weiser B. Here's What Happens When Your Lawyer Uses ChatGPT. *The New York Times*. May 27.
45. What is AI ethics? IBM. Accessed August 15, 2023.
46. Zhang W, Guo H, Ranganathan P, et al. *TRIM-AI: Harnessing Language Models for Providing Timely Maternal & Neonatal Care in Low-Resource Countries*. Association for the Advancement of Artificial Intelligence. 2023.

Image by opensource.com, licensed under CC BY-SA 2.0