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# AI tools for scholars

This is a brief list of useful tools, organized according to their primary use case (there are tools that could be included in multiple categories). It includes mostly AI tools, but also some traditional software and services that may or may not partially use AI. In any case, they are all useful, which is what matters in the end. This is not meant to be a comprehensive list; there might be other tools that could serve your purposes better. I'm always open to suggestions to improve this list! :D

## AI tools

## General AI Chatbots

- **ChatGPT**: as the most popular AI chatbot, ChatGPT is **useful throughout the entire research process** and assists in other academic tasks. It can summarize information, provide explanations, translate texts, and more. It can interpret images and data, including PDFs, CSV, and XLS files, which you can upload natively in ChatGPT. You can also expand the native functionalities of ChatGPT with GPTs available to the public or ones you create yourself. GPT-4o can handle up to 128k tokens (~**100k words**). GPT-5 has not been released yet, but OpenAI launched GPT-4o with quicker responses, better language and image processing capabilities, audio comprehension, and a cheaper API.

- **Claude**: with the launch of the family of models of Claude 3 (Opus, Sonnet, Haiku) in March 2024, Anthropic presents a compelling alternative to ChatGPT. It **outperforms GPT-4 in various areas,** including creative and academic writing, coding, and language skills, but **GPT-4o is on par or slightly superior**. Claude 3 can handle 200k tokens (~**150,000 words**), and this limit can be expanded to 1 million tokens upon request. Claude models are more expensive and slower than their GPT counterparts. Another

significant drawback is that Claude has limited and selective access to content from the Internet and it lacks many third-party apps and service integrations like ChatGPT or Google Gemini.

- **Google Gemini**: formerly known as Bard, Google's Gemini is a competitor of OpenAI's GPT. Besides its knowledge base, it connects to the Internet and offers some multimodal capabilities in its free version. Google offers a paid subscription called Gemini Advanced, integrated into their Google One plans. With Gemini Advanced, users get access to the Gemini 1.5 Pro model, intended to compete with GPT-4o, although it is not as good. It integrates with other Google apps like Gmail, Docs, Sheets, and more.

- **Llama**: an open-source AI model developed by Meta. Llama 3.1 falls short compared to GPT-4o and is a more raw model intended for tech-savvy users.

- **Mistral**: d eveloped by the French company Mistral, Mistral Large 2 is their current flagship model. It performs well in coding, answering difficult questions, and handling longer queries. It scores similarly to Llama 3.1, making it inferior to GPT-4o or Claude 3.5 Sonnet.

- **Microsoft Copilot**: this GPT-4o chatbot, integrated into Windows 11 devices and the Microsoft Edge web browser, connects to the Internet. Users can generate images or summarize and ask questions about the web content they are reading, or about a PDF opened in Edge.

- **Perplexity**: users can ask questions and receive concise answers with **cited references** from the Internet, using mostly reputable sources. You can natively upload your own PDFs and chat with them, and it follows a freemium model like others general chatbots.

## Academic AI Chatbots

- **Scite**: a **comprehensive tool for scholars and students that includes an AI chatbot** that can get answers from millions of papers and provide **smart citations** based on the context and whether there is supporting or contrasting evidence. You can conduct a literature review, discover organizations and funding institutions, visualize network connections through citations, or upload your papers and perform a reference check to

evaluate how reliable and up to date your sources are. With their web browser extension, you can get their smart citations in other websites like Google Scholar.

- **ChatDOC**: a good chatbot to **extract relevant information from books and papers** you uploaded to their servers and spend less time reading information you don't need for your research. The best thing about it if you are an academic, student, or knowledge worker is that it provides **in-text citations** and page references to be able to trace and verify the information within the document. You can also **chat with multiple documents** at once (although in my experience that doesn't work very well and it's better to focus on individual files due to token limits in LLMs), and it accepts PDF, EPUB, DOC/X, TXT, and MD files, as well as websites. It also supports GPT-4o if you pay for that extra service.

- **SciSpace**: formerly Typeset, SciSpace is an AI-powered service that aspires to be an **all-in-one tool for academics** since it has features such as literature review (as in Scite), a quick-to-answer AI chatbot to summarize information in bullet points with in-text citations (as in ChatDOC), a citation generator, a paraphraser, and an AI detector. With their **Chrome extension**, you can easily understand scientific literature and text, tables, and math without opening new tabs, and now it also has a GPT. You can use it for free, but for a very competitive price you will have access to unlimited features. I don't think their literature review is as good as Google Scholar, Semantic Scholar, or Scite, and their chatbot isn't as effective as ChatDOC in providing detailed explanations. However, it is certainly a tool to consider, and it may meet your needs if you prefer not to use multiple services.

- **Elicit**: **AI research assistant** to find papers, extract key claims, ask questions, and filter results by publishing data and methodology employed. In my field, history, from what I've tested I can say that it doesn't work very well since the results I got from my queries to find literature were incomplete and outdated (again, you can filter results by publication date for better answers). Results might be better in other disciplines though, since it seems more **oriented to formal and natural sciences**.

- **Scholarcy**: create summary flashcards from articles. It will automatically highlight important phrases, generate a referenced summary, and convert tables and figures in PDFs and Word documents into Excels.

- **Consensus**: a GPT to assist in your academic research as it gets information from millions of papers while providing you with citations.

- **AskYourPDF Research Assistant**: a GPT to get access to 400+ million papers and chat with your PDFs.

- **ScholarAI**: a GPT to search and analyze text, figures and tables from a database of research papers and books.

- **Documind**: upload your PDFs, make a question, and Documind will **find the answer across your files**, giving you a mentioning confidence indicator and the reference to ensure that the results are relevant.

## Find academic literature

- **Google Scholar**: a great search engine for scholarly articles, dissertations, books, conference papers, and other useful academic sources. One of the **best tools to search for academic literature** in any scientific field. You can create alerts for keywords to never miss a new paper of your interest.

- **Semantic Scholar**: an **AI-powered academic search engine** for a wide range of disciplines, with concise AI-generated abstracts to quickly understand the content of a paper. It also provides citations and references to facilitate the discovery of literature, and Semantic Scholar identifies new trends in your field.

- **ScienceDirect**: with a paid subscription, this website provides access to thousands of research articles and journals. It's primarily **specialized in the medical and health field**, but there are articles from other fields as well.

- **PubMed**: a database of literature focused on **medicine and life sciences**.

- **JSTOR**: a digital library that provides access to academic journals, books, and primary source materials in various disciplines. It's particularly useful for **humanities research including history**.

- **WorldCat**: the most powerful **global library catalog** that allows users to search for books, articles, audiovisual materials, and more across libraries worldwide. It assists in locating physical and digital resources available in various libraries and it provides citations too.

- **Researcher-app**: an **app for academics** to discover new papers among their more than 20.000 journals from most scientific fields.

## Citations and academic social networks

- **Mendeley**: this **famous reference management software** helps researchers organize, store, and annotate academic papers. It allows you to create a personal library, generate citations and bibliographies, collaborate with others, and discover relevant research articles.

- **EndNote**: another reference management tool used by researchers and academics, it has an add-on for Microsoft Word for seamless citation insertion, as Mendeley does.

- **RefWorks**: yet another reference management software, in this case web-based.

- **Scribbr**: free citation generator, with a good Chrome extension too.

- **ResearchRabbit**: AI-powered site to **discover network connections** between scholars with visual mapping.

- **ResearchGate**: **social network for researchers**, allowing them to connect with colleagues, share their work, and collaborate with others.

- **Academia.edu**: another **social media platform** that works similarly to ResearchGate. Depending on your country and field one might be more popular than the other.

## Academic writing, editing, and proofreading

- **Trinka**: a highly recommended **AI grammar and language correction tool tailor-made for academic and technical writing**. It will give you tips to improve your writing, proofread, suggest corrections according to your scientific field, check the robustness of your references, and check

plagiarism (including from paid articles, unlike Grammarly). Moreover, Trinka will automatically edit your document within minutes, evaluate the publication readiness of your paper, find the right journal to publish, and ensure an academic formal tone and inclusive language.

- **Grammarly**: multiplatform AI-powered tool that acts as a **very helpful general writing assistant and proofreader**. It goes beyond checking grammar, punctuation, and spelling errors, as it can provide suggestions to change your writing style and tone to improve your text, as well as provide citations and detect plagiarism.

- **Academic Assistant**: a GPT designed to assist you in your academic writing.

- **Paper Reviewer**: a GPT that acts as a peer reviewer for scientific papers.

- **Thesify**: formerly known as AI Reviewer by HeyScience, Thesify is a **peer-reviewer and editor before submitting your paper**. This service will allow you to upload your pre-submission paper, select a target journal or get suggested journals to target, and give you feedback. For instance, it has a very interesting feature that analyzes the **strengths and weaknesses of your paper**, challenging your interpretations and methods, it will provide suggested titles, abstracts, and keywords, and examine the novelty of your research.

- **Jenni AI**: a GPT-4 **writing assistant designed for academic research**, with the ability to autocomplete text, provide suggested in-text citations, paraphrase, customize your tone, generate text from your sources, and chat with your PDFs.

- **Paperpal**: **AI academic writing tool** to polish your manuscripts with readability and grammar checks, and suggestions to improve your style. It has a Microsoft Word add-on.

- **Quillbot**: AI-powered services that include paraphrasing, grammar and plagiarism check, summarizer, translator, citation generator, and an AI-assisted online writer.

- **Undetectable AI**: check if your text would pass AI content detectors and let this tool rewrite it for you to make your text much less likely to be flagged as AI-generated content.

## Data visualization and analysis

- **Microsoft Excel**: widely used **spreadsheet software**, capable of making calculations, creating tables and figures for data visualization, and conducting data analysis. With their AI Microsoft 365 Copilot which is available for enterprise users, you will be able to analyze patterns and plot graphs in seconds.

- **STATA**: a very complete **statistical software** widely used by researchers due to its data visualization and analysis capabilities using a wide range of statistical techniques.

- **RStudio**: R is a programming language used for statistical computing and graphics, and RStudio is the official **free and open source** software (with a paid option as well) used for data mining, analysis, and plotting. You can expand its capabilities with libraries.

- **IBM SPSS**: **advanced statistical software** to uncover data insights with an easy-to-use interface.

- **IBM Watson Studio**: a must-have AI-powered software for data scientists, with integrations with open source tools like RStudio or Python.

- **MAXQDA**: **qualitative and mixed methods data analysis software**, that has incorporated an AI assistant too. You can transcribe audio and video and analyze video like you would do with text analysis.

- **NVivo**: another **qualitative and mixed methods data analysis tool**.

- **RawGraphs**: free and open source data visualization tool for pretty **simple graphs**.

- **Tableau**: Tableau is a well-known company for its data visualization tools, and they launched **Tableau Pulse** which is a generative AI technology that simplifies data analysis and provides you with insights you may not have even thought about.

- **Microsoft Power BI**: robust data visualization tool that enables users to transform data into visual insights and reports, mostly used by businesses, but it could be used for academic research too.

- **Julius**: Julius is a service and GPT that will allow you to analyze data, create visualizations and forecasts, and connect to **computational notebooks** from Jupyter. You can upload a spreadsheet with your research's data and ask for insights.

- **Jupyter**: free and open source platform for interactive computing, which supports a wide range of programming languages. Jupyter is used for data analysis, **conducting experiments and simulating models**, machine learning, and sharing and collaborating.

- **Wolfram**: one of the most popular GPTs, Wolfram improves the **mathematical capabilities** of ChatGPT, while also allowing for the visualization of data and access to real-time data.

- **Diagrams Show Me**: a GPT to create diagrams, flow charts, mind maps, and more.

- **Flourish**: data visualization tool for good visuals, animated slideshows, and storytelling with your graphics. It includes animated 3D maps, survey data, interactive timelines, story maps, word clouds. or connections globe.

- **Biorender**: create **figures for life sciences** with a drag-and-drop approach, more than over 50,000 icons and templates, and the ability to upload your own icons.

- **ChatUML**: write prompts and generate complex diagrams.


## Transcribe and summarize video and audio

- **Fireflies**: **AI notetaker to transcribe meetings** from audio and video files, with integrations with Google Meet, Zoom, or Microsoft Teams. Analyze meetings, **extract a summary**, and automatically create tasks based on what was discussed. It supports close to 70 languages and has apps to expand its features. A must-have to increase productivity and for accountability.

- **Google Meet**: the online app for video calls and conferences made by Google can natively transcribe your meetings, and with their Gemini

integration it can **take notes**, **summarize your meetings**, and even **automatically translate a video call** with subtitles.

- **Google Cloud Speech-to-Text**: use the cloud services of Google to transcribe your audio or video. It supports more than a hundred languages.

- **VEED.IO Video to text**: **transcribe any video** including YouTube videos to extract information that you can process in ChatGPT or other tools, or to generate subtitles and translations for your videos.

- **Youtube Video Summarizer**: a GPT to **summarize YouTube videos**, formulate questions, or search for specific information. An alternative GPT for that is this one.

- **Eightify**: Chrome extension, as well as Safari extension and iOS app, to **summarize** in a few points with ChatGPT the **key takeaways of a YouTube video,** with timestamps included.

- **Summarize.tech**: summarize any YouTube video, including long lectures.

- **HARPA AI**: Chrome extension to chat with websites, PDFs, videos, or any type of content using GPT. I put it here because it has a remarkable **YouTube video summarizer**.

- **Mindgrasp AI**: upload PDFs, audio, and videos, or provide it with a YouTube link, and you will be able to ask questions about them.