



# AI in Academia: Present Trends and Future Insights

While many in academia — from students and faculty to organizational leadership — express excitement about AI’s positive benefits, it is a nuanced topic that requires thoughtful consideration. Concerns about common challenges related to AI, including privacy, bias, and hallucinations, mean that academic organizations must do their due diligence before fully embracing this technology.

Current literature and surveys on AI in academic research and education reveal a dual perspective that merits close analysis, especially considering AI’s growing influence.



# The Current State of AI in Academia

According to [Grand View Research](#), the global market for AI in education is growing rapidly. The expected compound annual growth rate (CAGR) from 2022 to 2030 is 36%.

An [EDUCAUSE survey](#) asked participants about the primary drivers influencing the inclusion of AI technology in the strategic planning efforts of academic institutions. Top drivers noted by participants included:

- 73% - Rising use of AI by students
- 68% - Worries about inappropriate AI use
- 59% - Concerns that the organization will fall behind on AI adoption
- 55% - Faculty interest in AI
- 51% - Organization leadership interest in AI
- 11% - Board or trustee interest in AI
- 3% - Alumni interest in AI

The survey also asked participants what policy actions are taking place at their academic institution in regard to AI:

Policy action	Percent of institutions
Revising old policies & creating new policies	24%
Revising old policies & creating new policies	21%
Revising old policies & creating new policies	13%
Revising old policies & creating new policies	22%

Despite the high percentages of participants noting the rising use of AI by students and concerns on inappropriate AI usage, policy action on these matters is sluggish. The EDUCAUSE survey found that less than a quarter of institutions are revising existing policies or creating new ones related to AI, even with more than half of faculty and academic leadership being interested in AI. Furthermore, more than a fifth of survey respondents say that their organization’s policies have not yet been updated to include AI.

Another [EDUCAUSE study](#) surveyed participants on their personal perception of AI in academia and their thoughts on the future regulations governing AI technology in the academic field. Nearly 70% of participants believe that AI will be increasingly used in learning analytics over the next two years. They highlighted several positive benefits, including enhanced accessibility for students and staff with disabilities and using AI to reduce workloads.

At the same time, 64% believe that academic dishonesty has increased and will continue to do so in upcoming years due to AI. Approximately half of respondents also believe that students put too much trust in AI, and only 46% believe faculty and staff approach AI with sufficient critical thinking.

In short, the higher education community continues to work to find common ground on how AI should be used in areas such as student support, teaching and research assistance, learning analytics, and digital literacy.





Surveys and studies also demonstrate the dichotomy between student sentiment and organizational sentiment when it comes to AI in academics. Papers' 2024 Student Survey indicates that around 63% of students have already incorporated AI into research and learning processes, and an additional 11% would like to do so. Around 61% of student respondents say they have the knowledge to correctly incorporate AI into their workflows - an interesting contrast to the data from the EDUCAUSE survey that found around half of respondents believe students put too much trust in AI.

Student perceptions on institutional approaches to AI are split, with around 47% saying their academic institutions are excited and eager to adopt AI and around 43% saying their schools seem hesitant to adopt AI.

Despite the mixed sentiments on AI in general, the academic community is aware of the impact of AI technology in higher education. According to an [EDUCAUSE QuickPoll](#):

- 83% believe that generative AI will profoundly impact higher education
- 65% say generative AI offers more pros than cons in higher education environments
- 59% believe generative AI will make their jobs easier

Even with those positives, 45% said generative AI use in higher education is a cause for concern.

It's difficult to know if another researcher or a student has integrated AI in their processes. [In a study](#) performed by researchers at Northwestern University, medical researchers reviewing abstracts for medical papers could only pick out ChatGPT-created abstracts 68% of the time. Further, they only correctly identified human-generated abstracts 86% of the time.

# What Are the Main Concerns With Using AI?

Those concerned with generative AI use in academia — or any AI use in higher education — tend to cite common concerns such as privacy, bias, inaccuracies, and ethics.

## Privacy

Using AI in research processes can increase concerns and risks related to privacy and how sensitive information is handled. In part, this is because AI functions best when it has access to enormous amounts of data, but those data requirements and the storage practices supporting them can increase the risks of data leaks.

The [International Association of Privacy Professionals](#) provides a list of 12 privacy risks associated with AI use in research:

- Unnecessary or unwanted surveillance
- Personal identity exposure
- Aggregation of data that increases privacy invasion
- Inference of social or personality characteristics based on physical information
- Inappropriate secondary use of data
- Inability to choose to exclude your own personal data
- Data leaks and improper access
- Seemingly appropriate data exposure that is not actually appropriate
- Distortion of accurate data to create realistic but inaccurate conclusions
- Improper disclosures
- More accessibility than intended
- Intrusive actions

To help mitigate privacy concerns, institutions should implement strict data governance practices which can include robust encryption and access controls. Moreover, regularly auditing AI systems can help ensure that any sensitive information is protected and used ethically throughout the research process.



## Bias

Because algorithms and large language models (LLMs) draw from enormous data banks of existing information, they can perpetuate biases that are present in existing data. This can lead to skewed or discriminatory outcomes. It's critical that research teams and academic organizations work to account for bias in AI modeling, periodically assess AI tools and outcomes, and provide education and training for staff, faculty, and students to help mitigate bias when using AI tools. Interestingly, there is work being done to develop, train, and use AI to help recognize and correct these biases.

## Hallucinations

Generative AI that has been trained on large language models can generate inaccurate or "made up" results known as hallucinations. One example of this occurred in the legal case of [Mata v. Avianca](#), when ChatGPT was used to support legal research. The chatbot cited cases that did not exist in reality. While developers are working to reduce hallucinations in AI, it's important for academic users to realize their automated counterparts are not infallible.

## Research Ethics

Although there are many ethical considerations when using AI in academic research, it can also support organizations in some of these areas. Some leading concerns include:

- Protecting sensitive information. While AI can put privacy at risk, proper use of automated tools can also help protect sensitive information. AI can offer advanced encryption, anonymize data, and help support robust access controls.
- Making intelligent, ethical decisions about research outcomes. AI can support ethical decision-making in research by providing frameworks and models that help evaluate the ethical implications of research activities.
- Reducing plagiarism. While uncritical use of generative AI may result in accidental plagiarism, more careful use of AI tools can reduce this issue. Students and staff can use AI-supported plagiarism checkers to compare copy with enormous banks of published works to ensure nothing was plagiarized.



# What Are the Main Benefits of AI in Research?

Artificial intelligence and its efficiency-driving automation offer exciting benefits for academic research and learning. AI enables researchers to focus more on innovation and discovery rather than getting bogged down by routine tasks. It not only accelerates the pace of research but also enhances accuracy and productivity, making it easier to uncover new insights and expand knowledge horizons.

An [analysis of 24 studies](#) published in *Computer Methods and Programs in Biomedicine* looked at how artificial intelligence improves academic writing and research. This study analysis uncovered six key domains for enhanced functionality with AI technology.

- 1. Idea development and research design.** With the right prompts, researchers and teams can tap into insights derived from historical data, current trends, and cross-disciplinary studies, significantly enriching brainstorming processes.
- 2. Writing and content improvements.** AI tools such as Writefull help researchers improve their academic writing quality.
- 3. Synthesis of literature review.** AI-powered tools can scan and summarize large volumes of academic literature, helping researchers identify relevant studies and key findings in less time. This supports a comprehensive understanding of existing research. AI can also extract and analyze information, automatically synthesizing findings into coherent overviews or existing bodies of research.
- 4. Data analysis and management.** AI can process vast quantities of data — exponentially more than human research teams can. This quick, accurate, and real-time access to data insights helps researchers uncover patterns and conclusions they might otherwise miss and significantly accelerates research processes.
- 5. Publishing support.** AI project and task management tools can automate tedious administrative tasks associated with the publishing process, including peer review management and manuscript tracking.
- 6. Ethical compliance.** Natural language processing technology and other AI tools can support ethical compliance reviews, plagiarism detection, and risk assessments. AI can also help ensure work accessibility via language translations and other tasks.

On top of support with these domains, AI improves general research efficiency as routine tasks are automated. When teams aren't burdened by tasks such as preliminary analysis or data entry, they can focus more on complex and innovative aspects of their work.



## Papers AI Assistant

One example of an AI tool that helps students and researchers manage the ever-growing influx of research literature is the [Papers AI Assistant](#). Whether examining individual articles or entire libraries, the AI Assistant provides real-time summaries, translations, definitions, and thematic syntheses, making it easy for researchers to quickly grasp essential information. This tool simplifies complex ideas into comprehensible language, streamlines the fact-gathering process, and enhances comprehension without sacrificing critical details.



Researchers can ensure accuracy with the AI Assistant's chat-based interaction, which provides direct links to the source of its answers. Papers is dedicated to safeguarding customer data privacy by not permanently storing article or query data or using it to train the AI model.

## The Future of AI in Academic Research

AI and academia are linked now and for the foreseeable future. While there is ongoing discussion about the best ways to integrate AI, many leaders and students are excited about the possibilities of this technology. Continued exploration, development, and responsible use of AI is likely to uncover increasing benefits and support both research and learner success in the future.

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