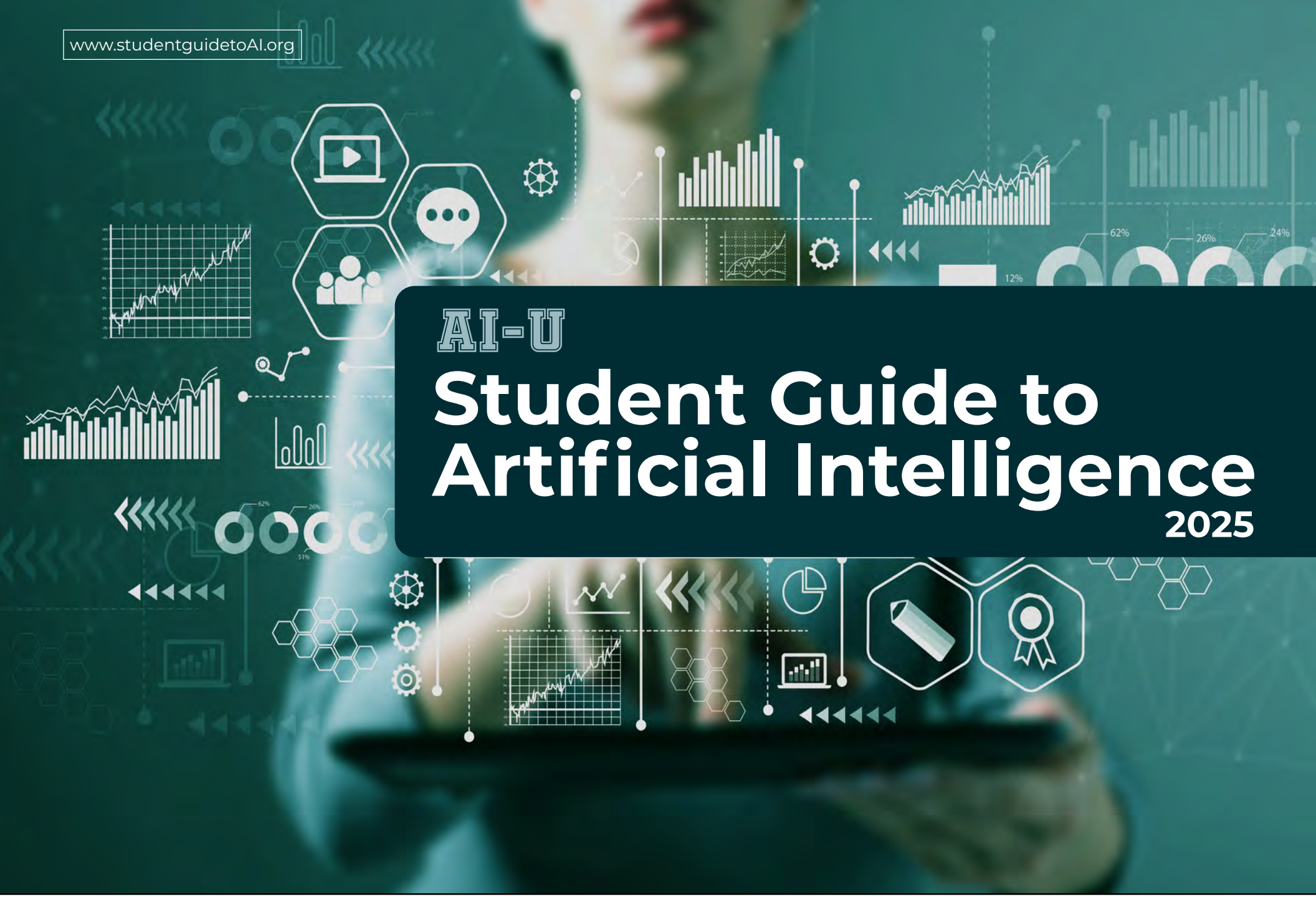
www.studentguidetoAI.org



AI-U

Student Guide to Artificial Intelligence

2025

ELON UNIVERSITY

AAC&U

ELONAI

Elon University AI Principles

- The use of AI at Elon should begin with the primacy of human health, well-being, dignity, safety, privacy and security.
- The use of AI is appropriate and effective in some applications and inappropriate and ineffective in others. Faculty should decide whether, when and how AI should be used in courses and clearly communicate those boundaries to students. Staff should incorporate the use of AI in their work with full awareness and support of their supervisors. In all situations intellectual honesty and transparency about the use of AI is paramount.
- We see AI as a tool to enrich and enhance teaching, learning, creativity and human development. We believe the role of AI should be to augment, not fully replace the vital human relationships between teachers and learners, or within groups of peer learners.
- We see digital and AI literacy as an essential part of an Elon education. Since AI is a multidisciplinary field, students should learn about AI's intersections with philosophy and ethics, social sciences, health sciences, business, communications, government and legal studies, creative arts and many other fields. We should strive to help learners gain critical thinking and analysis skills appropriate for functioning in an AI-assisted world, including concepts such as social responsibility and citizenship, information literacy, how AI might reinforce human bias and discrimination, its implications for personal privacy, intellectual property and the ways it can abet deception through fraud and fakery.
- Everyone in our community should have the opportunity to access and engage with AI systems, including physical access as well the skills and capability to use these systems efficiently and equitably.
- AI systems used at Elon should never compromise the privacy of students' personal information. While AI systems may be utilized, faculty and staff should maintain a primary role in the evaluation of students' learning progress, behaviors and outcomes.
- AI systems used at Elon should be transparent and neutral – they should disclose the positionality of their data and models and should not manipulate learning processes in unethical, deceptive or subliminal ways.
- The use of AI in research must be done within the bounds of rigorous ethical standards. Researchers should take all necessary steps to understand the likely benefits of AI-enabled research, the limits that should be imposed on its application, and the risks (known and unknown) and potential negative consequences that might emerge from these technologies.

- "Higher education's essential role in preparing humanity for the artificial intelligence revolution" - Statement initiated by Elon University
- Elon's Generative AI Statement
- Elon's Generative AI Statement for University Operations
- Information Technology Statement on AI

ELONAI

Engage with artificial intelligence at Elon University

AI is transforming our world, and Elon University is a global leader in empowering students to navigate these changes. Elon's Student Guide to Artificial Intelligence reaches more than 50,000 students and educators in 150 countries. On Elon's campus, our community is working together to provide guidance on using these technologies academically, professionally and ethically.

AI leadership at Elon

AI Team co-chairs



Mustafa Akben
Assistant Professor of Management and
Director, Artificial Intelligence Integration



Haya Ajjan
Dean, Martha and Spencer Love School of Business



Paula Rosinski
Professor of Professional Writing and Rhetoric and
Director, Writing Across the University

Technology and communication partners



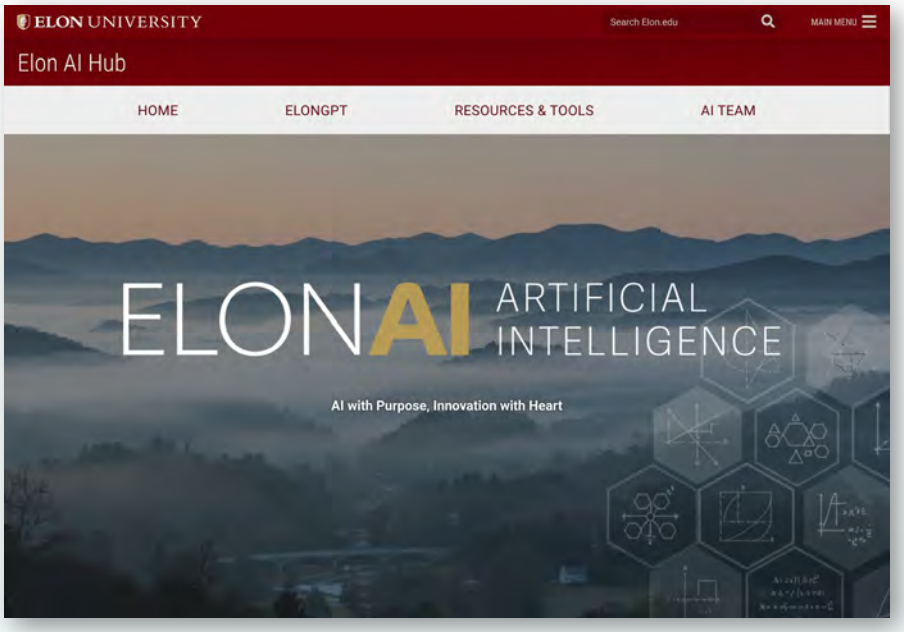
Christopher Waters
Associate Vice President of Information Technology
and Chief Information Officer



Kelly Reimer
Senior Director of Teaching and Learning Technologies



Daniel J. Anderson
Special Assistant to the President



Visit the AI Hub: elon.edu/ai

Bookmark Elon's AI website and check it often for:

- Links to 100+ Generative AI tools and software licenses available to students, faculty and staff
- Lists of AI-related courses and certification programs
- News about upcoming AI workshops and events
- Links to Elon policies and statements related to AI
- A list of partner centers and AI initiatives at Elon
- Lists of Elon's AI team members and the AI and technology ambassadors

"The use of AI at Elon should begin with the primacy of human health, well-being, dignity, safety, privacy and security."

- From Elon University's AI Principles



Elon's AI Resources

Courses across Elon's curriculum integrate and study AI, including courses in computer science, business, professional writing and rhetoric, engineering, robotics, data science, communications and other majors. In addition to courses, students can learn and engage with AI through self-paced modules and co-curricular activities. Here are some AI-related tools and learning opportunities for students to explore:

AI Toolbox

- ElonGPT chatbot for all things related to Elon
- Generative AI repository of custom Elon chatbots
- Academic Advising chatbot
- Microsoft Copilot
- Adobe Creative Cloud access to Firefly, Express and other AI tools for creativity. Learn more about access and installation.

AI Courses and Certifications

- LinkedIn Learning video tutorials about AI. Access the library using your Elon credentials.
- Digital Badges in "AI and Professional Writing" and "Advanced Data Competency"
- Elon NEXT courses in data and digital tools

ELONAI ARTIFICIAL INTELLIGENCE

Partner centers & initiatives

Many different units at Elon are focused on artificial intelligence, producing research that is gaining global attention, offering faculty and staff AI professional development opportunities and preparing students for careers in an AI-enhanced future:

- Office of Information Technology
- Imagining the Digital Future Center
- Data Nexus - Elon's hub for data competency
- Belk Library artificial intelligence & research resources
- Center for Writing Excellence
- Center for Organizational Analytics
- Koenigsberger Learning Center
- Center for Engaged Learning
- Center for the Advancement of Teaching & Learning
- Artificial Intelligence & Emerging Technology Club



The AI revolution

AI is transforming our world, often in ways we may not fully realize. This guide empowers students to navigate the age of AI – academically, professionally and ethically. Understanding AI isn't just useful; it's essential. Learn to use AI responsibly, critically assess its capabilities and join the conversation about its future.



The Student Guide to AI series

This is the second publication of the Student Guide to AI series produced by Elon University and the American Association of Colleges and Universities (AAC&U).

- **Get the 2024 Student Guide to AI**
- **More at www.studentguidetoAI.org**

This series is a response to the statement of principles, "Higher education's essential role in preparing humanity for the artificial intelligence revolution," released at the United Nations Internet Governance Forum in Kyoto, Japan, in October 2023.

The statement called for higher education to "engender an understanding of responsible AI development designed to augment and enhance human capabilities rather than replace them."

Endorsed by:

- American Library Association
- NASPA
- EDUCAUSE
- Online Learning Consortium
- AMICAL Consortium

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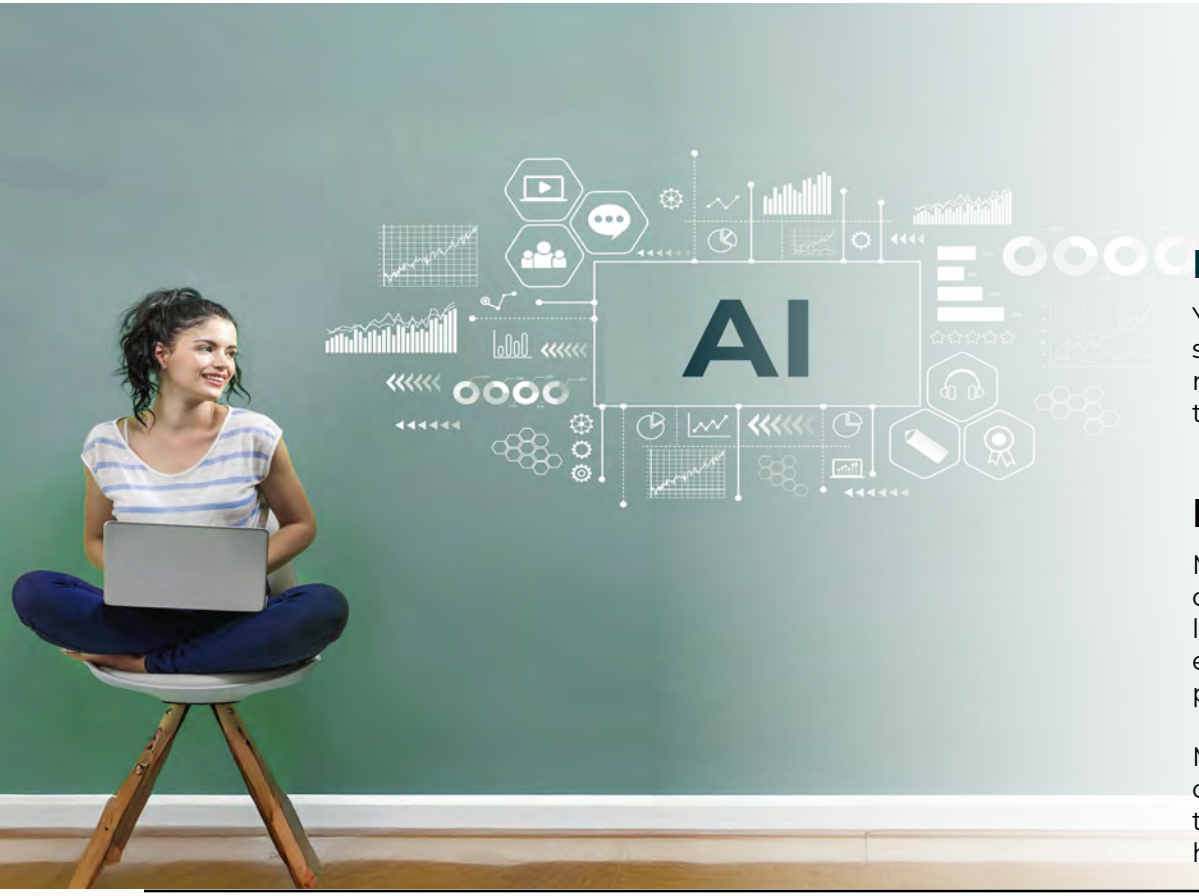
25 Acknowledgements

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Working with artificial intelligence

Generative artificial intelligence (GenAI) tools use machine learning technologies to analyze prompts, data and images and generate output, including written text, voices, pictures, videos and more. These tools can mimic humans' ability to learn, reason, solve problems and make decisions.

Never forget: AI is not human. Despite brilliant algorithms that can simulate a human personality, AI is not your companion and does not have emotions or feelings. Use these technology tools to augment your human capabilities, not replace them.



Where and how can I use AI?

(Guess what: It's already almost everywhere)

AI powers the platforms we use every day, such as: Web search engines, Netflix, Amazon, Maps, YouTube, Spotify, Siri, Alexa, Instagram, TikTok, Uber and much more.

Free vs. paid AI tools

Your school may have licenses to provide AI accounts for students. You can also use free versions provided by many major platforms. If you need more powerful or specialized tools, test different models before you subscribe.

Look for AI in your apps

Many computer programs now have embedded AI capabilities. Microsoft includes Copilot in programs like Word, Excel and Powerpoint. Google Docs include embedded Gemini tools. Adobe and Zoom include AI-powered features.

Many technology firms are now creating **AI agents** that can take in information, generate plans and complete tasks, such as drafting reports, scheduling meetings or handling more complex work.

What does AI mean for your education?

AI tools are evolving rapidly, allowing students to access vast sources of knowledge and explore different ideas and ways of thinking.

- University teaching models are changing (Learn more: AI is changing higher education)
- Most employers will expect you to graduate with skills and experience in using AI
- Gaining continuous learning skills (learning how to learn) now will serve you well throughout your life as AI evolves
- The AI future will include exciting opportunities along with new realities related to ethics and our interactions with technology (Learn more: The Crystal Ball)



Learn to use AI to:

- **Research**, organize and summarize information
- **Enhance** your writing and communication skills
- **Analyze** complex data, uncover patterns and solve problems
- **Create** and express innovative ideas
- **Improve** your study skills

Types of AI tools



Generative AI tools such as ChatGPT, Claude, Gemini, Copilot, Perplexity, MetaAI, Deepseek, Mistral, Grok



Specialized AI tools for research, writing and coding such as NotebookLM, Grammarly, Elicit, GitHub Copilot, Consensus



Creative AI tools that generate images, videos and music, such as DALL-E, Midjourney, Adobe Firefly, Stability.ai, Canva, Runway ML, Sora, Suno



Analytical AI tools specialized in business intelligence, math, statistics and data visualization, such as Tableau, Wolfram Alpha, PowerBI, DataRobot, RapidMiner and Python tools



Embedded AI capabilities in software programs, such as Adobe applications, Google Docs, Zoom, Microsoft 365 Copilot



Open-source and customized tools available on communities like Github, Hugging Face, Nvidia and chatbot aggregators like Poe

**The AI tools listed here are examples; there are many others available*
***Learn about the differences between Generative AI and Analytical AI*

Develop your AI skills



Start here

Key elements of an effective AI prompt

Your goal

"I am presenting to a group of college students about ethical issues related to artificial intelligence. I need help identifying and organizing ideas."

"Identify the most important ethical issues related to AI. Create a list of 8-10 key points to make, with several bullets for each point explaining its importance. Cross-reference your recommendations with classical principles of ethics and draw connections between those principles and emerging AI technologies. Suggest visuals for the presentation."

Task instructions and form of output

Constraints, warnings and verification requirements

"Use the points in my attached paper. Provide links to all sources. Draw material from respected academic publications only."

"For context: I have been studying AI ethics and have written the attached paper. I now need to explain these issues in a 15-minute oral presentation. The students have only general knowledge about AI and most have not studied ethical matters."

Background and context (include as much as you can)

Optional: The role the AI should play

"In providing your list, consider yourself to be the presenter, who is a college-aged student very close in age to the audience."

"I have created a start on the presentation and have attached that to this prompt. Please provide a critique of my ideas so far."

Optional: Examples for the AI to follow

Based on a model developed by AI engineer Ben Hylak and endorsed by OpenAI President Greg Brockman

Develop your AI skills



Using AI for research, information gathering and summarization

Suggestions

Use AI tools to:

Orient you to a topic, provide background and explain complex concepts

Brainstorm multiple approaches to consider in studying a subject

Analyze large datasets and draw conclusions

Create simulations, prototypes and scenarios

Search online sources and identify credible resources

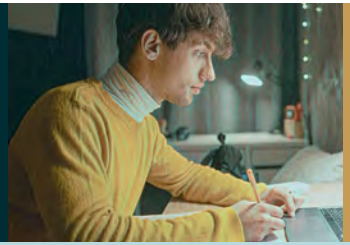
Critique your approach to a topic

- Use real-time web searching AI tools, such as Perplexity
- Use tools specialized to academic research, such as Semantic Scholar, Google Scholar or Elicit
- Ask Google's Notebook.lm to analyze documents and create briefings and mind maps
- Ask for help from professors and librarians who are experts in using AI for research
- Use AI tools to translate texts in other languages

Cautions

- **Verify everything**: AI output can sound confident, but these tools can make up ("hallucinate") or misrepresent information, draw false conclusions, make major mistakes and generate fake sources
- AI doesn't "understand" the way humans do; these models lack real-world experience and context, so they don't easily handle irony, humor and complex metaphors
- Don't just read AI-generated summaries; take time to read original articles and understand detailed points and context
- Be aware that many of today's AI tools are trained on information up to a certain date and may not have access to recent events or new discoveries
- Challenge AI responses and require the AI to justify its output by citing sources and data
- Beware of biased AI output
- Guard against overreliance on AI; challenge yourself to learn and exercise your mental muscles
- s

Develop your AI skills



Using AI for research, information gathering and summarization

Checklist for evaluating AI-generated content

Accuracy and source check

- ❑ Verify all facts, statistics, and data points with multiple reputable sources (academic journals, government publications, respected news organizations); don't rely on a single source
- ❑ If the AI cites sources, check those sources directly; if the AI cannot cite a source, disregard the information
- ❑ Watch for outdated information; confirm the publication date of source materials
- ❑ Try the same prompts in multiple AI tools and traditional search engines and compare the results

Logical consistency check

- ❑ Ensure the arguments being presented flow logically and make sense
- ❑ Watch for broad generalizations from limited evidence
- ❑ Look carefully for contradictions or misleading jumps in reasoning
- ❑ Assess the depth of reasoning and avoid simplistic analysis

Bias check

- ❑ Ensure the content presents multiple perspectives and does not omit certain viewpoints or promote stereotypes
- ❑ Check original sources to see if they favor a specific viewpoint, ideology or group
- ❑ Use critical thinking to evaluate information that seems slanted to serve business, government or advocacy interests, or influence buying decisions

Emotional and manipulative language check

- ❑ Look for content that uses neutral, fact-based language; be wary of language that is overly dramatic or inflammatory
- ❑ Watch for loaded words designed to provoke emotions (fear, anger, excitement) or influence opinions or actions

Develop your AI skills



Using AI for writing

Suggestions

- Whether you are doing personal, professional or academic writing, follow the appropriate rules for using AI
- Develop prompts and use AI at discrete stages of the writing process:

  Brainstorming: Use AI to explore ideas, develop arguments and propose new approaches

  Drafting: Use AI to suggest many ways you might organize your ideas for different audiences and purposes for writing

  Revising: Use AI to review sentences or paragraphs if you're struggling to convey your ideas, or to review your first draft and make suggestions for tone, clarity and vocabulary

  Editing: Use AI to check spelling, punctuation and grammar, and ensure your writing follows the required citation style
- Use multiple AI platforms, compare outputs and combine the best ideas

Cautions

- Always remain the primary author; don't ask the AI to produce a complete first draft that you submit as your own work
- Remember that writing is a form of critical thinking, an essential part of learning that you must engage in yourself; use AI to augment, not replace, your own thinking and writing
- Keep track of how you use AI and cite its use following guidelines specified for your writing project
- Always critically evaluate AI outputs and make sure the language sounds natural, engaging and authentic
- Don't become overreliant on AI, using it as a writing crutch; work to develop your own writing voice, style and personality



Develop your AI skills



Using AI for writing

The human-AI writing loop: An example model

Getting started: Make sure you understand the assignment and the acceptable AI use policy. If AI is allowed by your professor, determine which specific writing stages will benefit most from AI assistance.

Your role

AI's role

Gather information and create an outline. Compose a detailed prompt asking AI to **brainstorm** three alternate approaches aligned with your outline. Submit the prompt to multiple AIs.

1

2 Based on the writer's prompt generate three alternate approaches aligned with the outline.

Use what you know and combine with the best alternate approaches from AI to write your own **first draft**. Ask mutiple AI platforms for a detailed **critique** of your draft and suggestions for improvement.

3

4 Generate a detailed critique of the writer's first draft, suggest missing concepts and correct factual errors or lapses in logic.

Critique and challenge the AI suggestions. Verify all information. **Revise** sections, ask for more feedback as necessary and ask for corrections in spelling, punctuation and grammar.

5

6 Generate suggestions for correcting spelling, punctuation, grammar and citations.

Ensure that the final paper is in your voice, represents **your own ideas** and meets the requirements of the assignment. Ensure that you have clearly attributed the use of AI in all phases of the paper's development.

7

Develop your AI skills



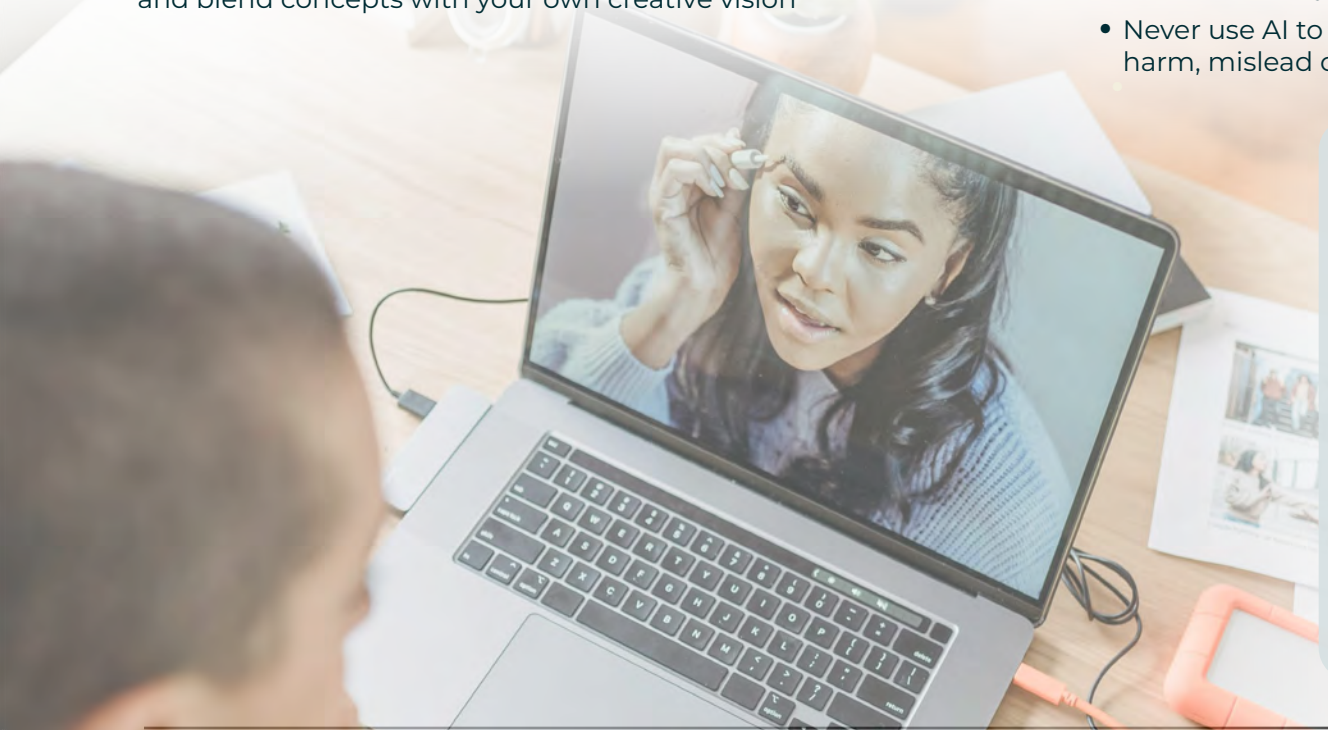
Using AI for creative work

Suggestions

- Embrace AI as a creative tool, not a replacement for your own artistic input
- Explore specialized AI tools that generate images, videos and sound, using these tools to spark your own ideas
- Use AI to explore different creative styles and remix content; experimenting may help you think outside the box and gain different perspectives
- Use many different AI systems - compare outputs, combine ideas and blend concepts with your own creative vision

Cautions

- Use AI output only as a catalyst for your own creative ideas
- Clearly disclose the use of AI-generated content
- Be on guard for stereotypes, biases or blandness in AI-generated materials
- AI responses may be based on copyrighted materials, so compare the output to existing works and don't use company logos, characters or styles
- Keep track of the AI tools used, your prompts and any modifications you made to the outputs
- Never use AI to create deepfakes or offensive content that could harm, mislead or exploit others



AI tools can be used for a wide range of creative work

- Artwork of all kinds
- Image generation and manipulation
- Design and graphics
- Music and sound composition and editing
- Video generation, animation and editing
- Creating podcasts
- Game development and virtual/ augmented reality
- Theatrical stage, lighting and costume design
- Playwriting and script development
- Choreography and dance design
- Advertising and marketing campaigns
- Writing and debugging computer code

Develop your AI skills



Using AI for data and numerical analysis

Suggestions

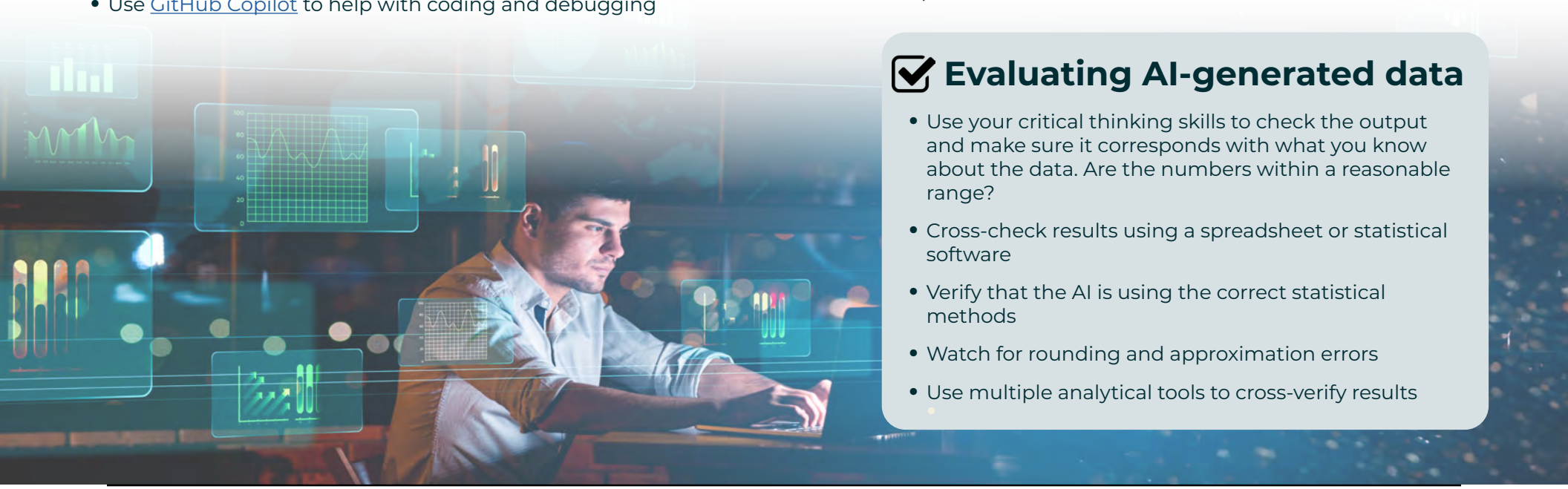
Use AI tools to:

- Evaluate dataset quality
- Perform repetitive numerical tasks, look for hidden patterns in datasets and help you understand your data
- Create predictive models and forecasts

- Use AI tools like Tableau or PowerBI to create data visualizations
- Use AI-powered specialty tools like WolframAlpha or Python libraries to solve complex math problems
- Use GitHub Copilot to help with coding and debugging

Cautions

- Current generative AI platforms are not good mathematical tools and may return errors and struggle with simple calculations, solving word problems or completing multi-step math equations
- Don't inherently trust the data output of AI tools; use AI to generate code only where the correctness of the solution can be independently verified with other specialized tools
- Never share a dataset with an AI tool in a way that would violate the rights or privacy of others
- Data owned by a company or organization, including personal and business information, should never be shared with an AI tool without permission



Evaluating AI-generated data

- Use your critical thinking skills to check the output and make sure it corresponds with what you know about the data. Are the numbers within a reasonable range?
- Cross-check results using a spreadsheet or statistical software
- Verify that the AI is using the correct statistical methods
- Watch for rounding and approximation errors
- Use multiple analytical tools to cross-verify results

Develop your AI skills



Using AI for study and learning assistance

Suggestions

Use AI tools to:

Challenge you with questions and tests adapted to your knowledge, skills, learning preferences and pace

Create visual diagrams and help organize your class notes

Help with note-taking, language translation, captioning, speech-to-text and other accessibility functions

- Try AI tutors like Khanmigo, Quizlet and others built to help you learn, not just give you all the answers
- Use Notebook.lm's study guide or similar tools to quiz you on texts and materials you provide
- Use AI tools in Zoom to take meeting notes and support group study sessions

Cautions

- Always remain an active, engaged learner who uses AI as a study resource in a quest for deeper understanding
- Remember to work with groups and friends to study together – you will learn in ways that AI systems cannot simulate
- Always ask permission from everyone in a meeting or discussion before video or audio recording
- Always take good notes in class and while you're studying – AI systems are not a substitute for processing ideas with your own mind and making human judgments about information
- Develop learning and critical thinking skills independent of AI tools; you will use these capabilities at work and throughout life

Examples: Four prompts for creating study guides

Summarization prompt

"Summarize the key concepts of supply and demand, including definitions of equilibrium price and quantity, and market forces as described in: 'name your textbook chapter here.'"

Elaboration prompt

"Elaborate on the theme of disillusionment in F. Scott Fitzgerald's 'The Great Gatsby.' Explain how this theme is developed through the characters, providing specific examples from chapters 4, 7 and 9."

Question generation prompt

"Generate 10 multiple-choice questions and 5 short-answer questions based on the topic of the Pavlovian response in humans as explained in: 'name your textbook chapter here.'"

Practice problems prompt

"Generate five practice problems that require the use of the power rule, product rule and quotient rule to find the derivative of a function. Provide the solutions showing all steps clearly. Refer to: 'name of your textbook here.'"

Academic integrity in the age of AI

"Cheating" and AI

AI has complicated the concept of academic integrity. Some rationalize that "everybody uses AI," or "AI is just like any other technology tool."

Be faithful to this principle: **the work you turn in must be authentically yours**. Copying AI-produced content verbatim and representing it as your own without attribution is cheating.

Cheating with AI deprives you of the opportunity to develop your own skills and intellectual confidence. Your personal development requires you to do the hard work of learning.



The bright "red line"

If your professor says no use of AI in their class, or on individual assignments, **follow the rules**. Remember that the rules may vary on certain assignments. In some cases, you may even be required to use AI. To avoid crossing the cheating "red line," ask for specific instructions on the use of AI on each assignment.

When the "red line" can be a bit fuzzy

Some assignments will permit or even require the use of AI. In these cases, keep these basic principles in mind:

- When AI is allowed, use it to get oriented to a topic and gather information. Then, after doing your own research and producing a rough draft on your own, share it with the AI systems and ask for feedback and ideas about what you are missing or what could be revised. This will allow **you** to remain the main author of the project, with AI providing feedback.
- No matter how you use AI, the key is to **be honest and transparent**, giving clear attribution to the ways AI contributed to the work.

Academic integrity in the age of AI

All about attribution

Academic honesty requires that you cite (attribute) the original source of all materials that are not your own. This **transparency** allows others to understand where information comes from and evaluate its credibility. Plagiarism, a failure to properly attribute sources, is a serious breach of academic integrity.

Follow instructions from your professors on how to cite the use of AI in an assignment. The rules may vary from class to class. The standards for AI attribution continue to evolve as new AI tools emerge and higher education adapts.



Basic elements of AI attribution

When you explain how AI was used in your work, specify these four elements:

- **Name** the specific AI tools used
- Explain the **purpose** of the use (brainstorming, data analysis, image generation, copyediting, etc.)
- Assess the **extent** of the AI influence (minimal, moderate or extensive)
- Declare the role of **human oversight** in reviewing and verifying the AI output

Four ways to attribute the role of AI in your work

1. **List the use of AI in the acknowledgements section:** *"The authors acknowledge moderate use of ChatGPT (OpenAI, 2024) in reviewing initial drafts of this material and suggesting revisions for clarity. The final content was reviewed and edited by the authors, who take full responsibility for the work."*

2. **Cite the AI like a source in footnotes, endnotes or bibliography**, using APA, MLA or Chicago style: *"OpenAI. (2024). ChatGPT (Jan 2024 version) [Large language model]. Retrieved from https://openai.com/chatgpt"*

3. **Declare the use of AI in methodology:** *"AI-assisted data analysis using Python was used to a minimal level, identifying patterns and outlier test results which were then reviewed for accuracy by the authors."*

4. **Inline attribution within the text:** *"According to a summary generated by ChatGPT (2025) and reviewed for accuracy by the author, the main themes of the series of essays on this topic..."*

AI Ethics



Creating a positive AI-infused world is up to us

Governments and corporations are trying to create effective regulations and guidelines to govern AI. They have much more work to do in promoting ethical and responsible AI use. Users also have personal responsibilities to avoid harming themselves and others. Here are some ethical issues related to AI:

Major societal issues

- Job loss, economic shifts, income inequality
- Over-reliance on AI, diminishing human capabilities
- Digital divides between those who have AI knowledge and access and those who do not
- New risks for civil and political rights as AI facilitates data collection and mass surveillance
- Global AI power imbalances as nations with advanced AI exert political, economic and military dominance over less-developed countries
- Loss of human control over AI systems

Intellectual property

AI models are frequently trained on copyrighted works without the creators' permission. This raises legal and ethical questions about ownership. Treat AI output like any other information – don't assume it's free to use without checking the rights on the original source. If you use AI output, significantly modify it and add value with your own ideas. Favor AI tools that are transparent about their training data and licensing.

Environmental impact

The development and use of AI systems is increasing energy demand, as are cryptocurrency, streaming video and other systems. Don't think of these tools as limitless resources that can be carelessly wasted or used for trivial purposes.

Privacy and safety

Sharing personal information with an AI system may put yourself or others at risk. The information could be accessed and used in ways beyond your control by government authorities or private corporations. This is especially relevant in authoritarian states, where political control and mass surveillance is common. Configure AI settings so your data is not used for training new models, and never share information about others without their permission.

Bias and fairness

AI models are developed using vast amounts of information, much of it drawn from English language sources. As a result, AI models can inherit prejudices and factual errors found in the source materials. AI output may also be influenced by government propaganda and censorship or corporate restrictions. It is up to AI users to recognize biases and not perpetuate false or misleading narratives and stereotypes.

Misuse of AI

AI tools can generate fake photos, videos and audio. They can provide instructions for mounting disinformation campaigns, cyberattacks or making weapons of violence. Even seemingly innocuous uses, such as AI-created social media posts, can spin out of control. Use these powerful technologies with utmost care.



Create a two-part career plan for the age of AI

As AI tools become more powerful, distinctly human capabilities become increasingly valuable. Use AI as a tool to supplement and amplify your essential human abilities.

1 Strengthen your human capabilities



Key findings: 2025 World Economic Forum
Future of Jobs Report
(A survey of more than 1,000 employers representing 14 million workers in 22 industries worldwide)

Most common skills employers look for in their workforce:

69% Analytical thinking

67% Resilience, flexibility and agility

61% Leadership and social influence

57% Creative thinking

52% Motivation and self awareness

51% Technological literacy

Skills you will need

- **Critical thinking:** Analyzing complex situations; identifying bad assumptions, logical flaws and unreliable sources
- **Creativity and innovation:** Generating novel ideas, solving problems in new ways, being comfortable with ambiguity, constructively challenging conventional wisdom
- **Emotional intelligence:** Building empathy and strong listening skills, mastering conflict resolution and negotiation, reading social dynamics, building intercultural competence, developing resilience and emotional self-regulation
- **Ethical judgment:** Recognizing moral complexity, advocating for ethical considerations, setting personal ethical principles and boundaries
- **Strategic thinking:** Seeing beyond immediate problems to broader implications, identifying emerging opportunities and threats, planning for scenarios and risks
- **Leadership and collaboration:** Motivating a team, delegating and overseeing tasks, giving and receiving constructive feedback, building consensus and managing conflict

*Based on the World Economic Forum Future of Jobs reports.

How to develop these skills

- Cultivate mentors who can guide your development
- Take classes or seminars focused on your personal and professional growth and development
- Seek leadership roles in student and professional organizations
- Join group, research and community projects
- Make internships a priority in your education



Create a two-part career plan for the age of AI

No previous generation has encountered the challenges you face in preparing for a career. You must become proficient with AI while also developing your distinctly human capabilities. Dedicate your university years to gaining experience in both domains, mastering this twin set of superpowers.

2 Become AI-literate

The growing demand for tech skills

87% of employers say AI and big data skills are becoming more important

86% of employers expect AI and related technologies will drive business transformation in the next five years

69% of employers plan to recruit talent skilled in AI tool design and enhancement

62% of employers anticipate focusing on hiring individuals with skills to work with AI

Source: 2025 World Economic Forum Future of Jobs Report

Skills you will need

- **Fundamental AI skills:** Writing effective prompts, fact-checking AI output, combining outputs from multiple AI tools, writing and editing with AI, working ethically with AI
- **Technical understanding:** Basic knowledge of how different types of AI work, understanding AI limitations and biases
- **Professional AI applications:** Using AI tools specific to your field; information research, data analysis and visualization
- **AI integration:** Creating workflows and documentation that combine AI and human input, protocols for quality control of AI output, keeping AI secure and guarding data privacy

How to develop these skills

- Take courses focused on AI tools and applications
- Get to know professors and mentors who can share what they know about AI
- Complete AI certification programs
- Build a portfolio of AI-assisted projects
- Join AI professional organizations and student AI groups

Engage with AI

Build a portfolio that showcases your skills

Showcase your value by building a professional work portfolio of **hands-on AI projects**. You will stand out in a competitive job market if you show creative and sophisticated ways to use AI tools in your field.

Share your portfolio at research fairs and on LinkedIn, GitHub, social media and websites. Potential employers and collaborators will be impressed at your initiative.



Portfolio possibilities: Ideas for many disciplines

STEM (science, technology, engineering, math)

- **AI-powered data analysis** – Use analytical tools like Python, R, or Excel (with AI add-ons) to analyze a real-world dataset
- **AI for drug discovery** – Use AI-driven software like AlphaFold to predict protein structures or analyze medical research data
- **AI in cybersecurity** – Use AI to detect anomalies in network traffic or build a basic chatbot that educates users on phishing attacks
- **AI-based robotics control system** – Design an AI algorithm to control a robot arm for object detection and sorting

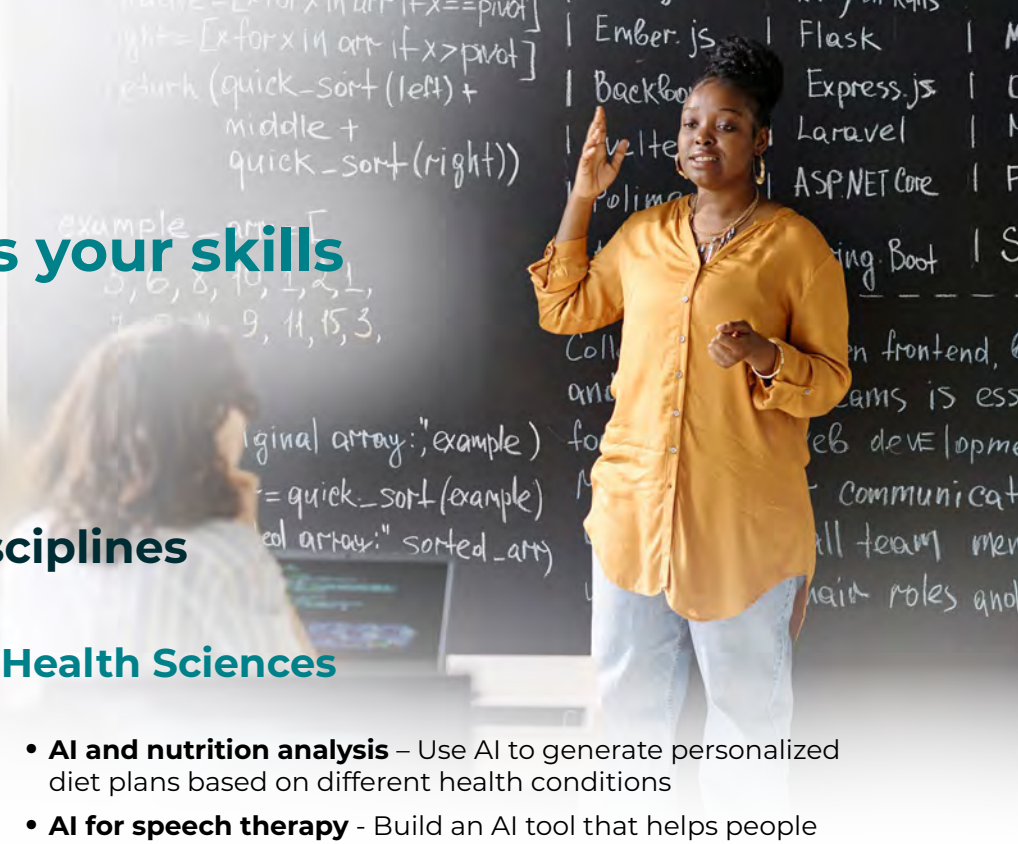
Business and Economics

- **AI-generated business plan** – Develop a business plan where AI assists in market research, prototyping, competitor analysis and SWOT analysis
- **AI-driven market segmentation** - Use AI to categorize consumer groups based on behavior and demographics
- **AI in supply chain optimization** - Use AI-powered logistics planning tools like OptimoRoute to analyze and optimize delivery routes for a company
- **AI-assisted business pitch deck and investment proposal** - Use AI tools such as Canva and Excel with Copilot to generate a business pitch deck for a startup idea, including market opportunity, revenue model and financial projections

See ideas for more disciplines on the next page...

Engage with AI

Build a portfolio that showcases your skills



Portfolio possibilities: Ideas for many disciplines

Arts and Humanities

- **AI-assisted translation project** – Compare human vs. AI translations of literary works to analyze nuance and accuracy
- **Historical data analysis** - Use AI tools to analyze large datasets of historical information, like census records or ship manifests to identify patterns or trends
- **AI-generated music and soundscapes** – Use AI sound generation tools to compose background music or sound effects for a theatrical performance

Health Sciences

- **AI and nutrition analysis** – Use AI to generate personalized diet plans based on different health conditions
- **AI for speech therapy** - Build an AI tool that helps people with speech impairments improve their pronunciation
- **AI-powered exercise plans** – Use AI-driven fitness apps to generate personalized workout plans and compare their effectiveness

Social Sciences

- **AI and political trends** – Use AI to analyze social media discussions during elections or major political events
- **AI for crime pattern analysis** - Use AI to find correlations in crime statistics across different areas
- **Comparative analysis of social movements** - Use AI to summarize and compare historical and modern social movements and create a visual timeline or infographic

Examples in other majors

- **Education** – Use AI to generate differentiated instructional materials to meet the diverse learning needs of all students.
- **Communications** - Use AI tools to analyze a large number of real-world public relations crises and generate a crisis response framework
- **Criminal justice** – Use AI to analyze historical crime data and predict future trends in specific urban areas

The crystal ball

Thinking deeply about the AI future



In a 2025 report by Elon University's Imagining the Digital Future Center, global technology experts shared their ideas about how we may be changed by the use of AI in the next decade. Here are some thought-provoking ideas from their essays.

"Individuals will face a stark choice between remaining 'classic humans,' who rely on innate biological faculties, or embracing technological augmentation to enhance or replace certain abilities. This may involve surrendering some human traits to machines – raising ethical and existential questions about what it means to be human."

David Vivancos, CEO at MindBigData.com and author of "The End of Knowledge"

"Self-inflicted AI dementia" will arise out of the atrophy of human cognitive abilities due to over-reliance on AI systems.

Ken Grady, adjunct professor of Law at Michigan State University and Top 50 author in Innovation at Medium

"In 2035, are we going to have AI tools that feed human curiosity, or be reliant on AI crutches?"

Rosalie R. Day, co-founder at Blomma, a platform providing digital solutions to clinical research studies

"Proof of humanity" will be required: "We may find it hard to distinguish between artificial personalities and real ones. That may result in a search for reliable proof of humanity so that we and bots can tell the difference."

Vint Cerf, Internet Hall of Fame member and vice president at Google; a founding leader of the IETF and Internet Society

A new human "Enlightenment" could begin due to digital twins and other AI agents doing up to six hours of digital chores every day and allowing humans to "shift this energy to spiritual, emotional and experiential aspects of life."

Rabia Yasmeen, senior consultant for Euromonitor International based in Dubai, UAE

"AI advisors and companions will increasingly vie for people's time, attention and allegiance. ... Affinity blocs will form among AI devotees and among AI conscientious objectors."

Eric Saund, independent AI research scientist

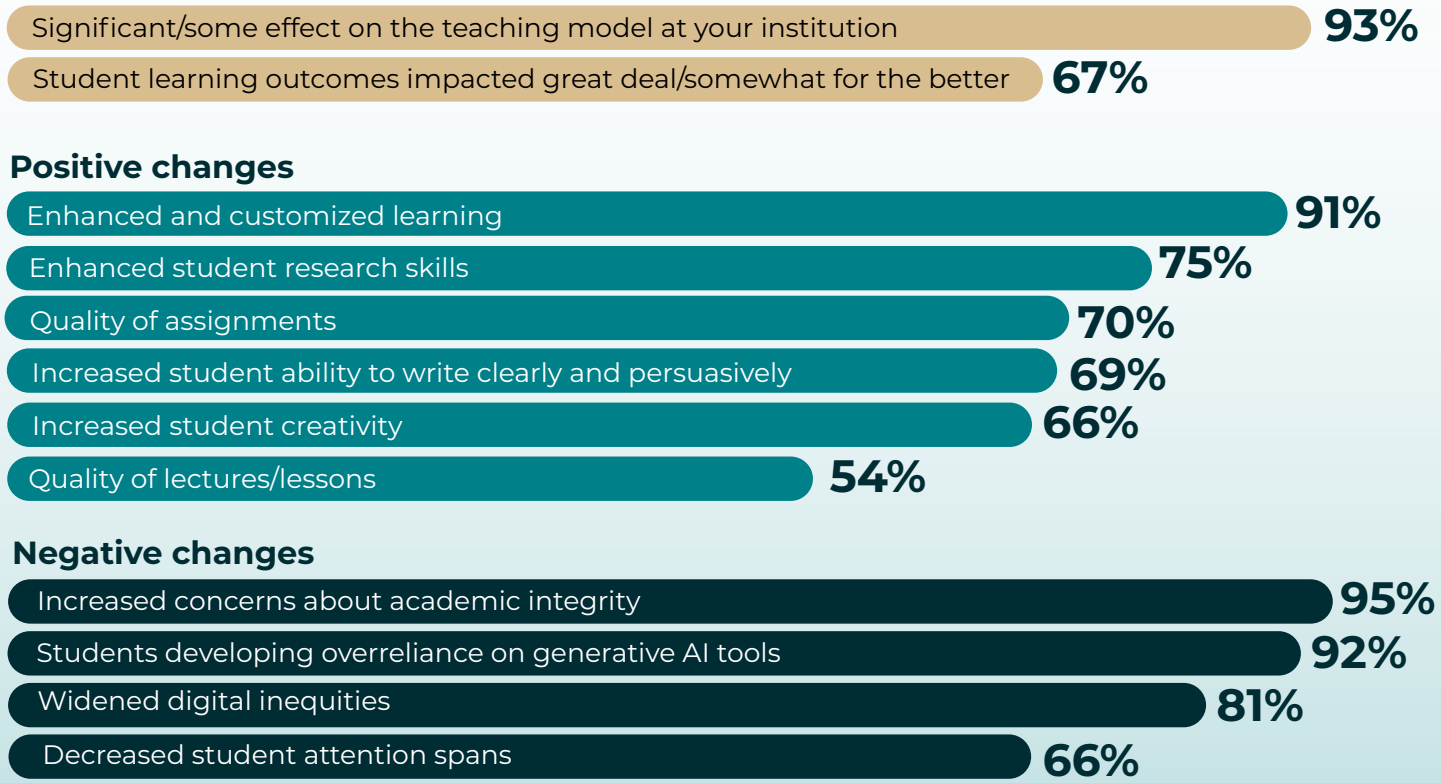
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AI is changing higher education

In a recent survey, U.S. academic leaders said AI is disrupting key aspects of teaching and learning and will likely lead to significant changes in classwork and student assignments.
(Source: "Leading Through Disruption: Higher Education Executives Assess AI's Impacts on Teaching and Learning," Elon University and AAC&U, January 2025)

In a 2024 survey, 90% of U.S. student affairs senior leaders cited the importance of "leveraging artificial intelligence to advance student learning and engagement." (Source: NASPA Student Affairs Administrators in Higher Education" annual survey.)

Survey findings: Higher education leaders predict the impact of generative AI over the next five years



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AUTHORS
Daniel J. Anderson (lead author)
Special assistant to the president, Elon University

C. Edward Watson
Vice president for digital innovation, AAC&U

Lee Rainie
Director, Imagining the Digital Future Center, Elon University

Janna Anderson
Professor of communications and senior researcher, Imagining the Digital Future Center, Elon University

COLLABORATING SCHOLARS
Haya Ajjan
Dean, Martha and Spencer Love School of Business, Elon University

Mustafa Akben
Assistant professor of management and director of artificial intelligence integration, Elon University

Micah Altman
Director of research, MIT Center for Research on Equitable and Open Scholarship

Eiji Aoki
Director, Institute for HyperNetwork Society (Japan)

Dylan Barth
Vice president of innovation and programs, Online Learning Consortium

Drissia Chouit
Professor, Moulay Ismail University (Morocco); co-chair, International Steering Committee of UNESCO Media and Information Literacy Alliance

Peter Felten
Assistant provost for teaching and learning and executive director, Center for Engaged Learning, Elon University

Divina Frau-Meigs
Professor, Sorbonne Nouvelle University (France); UNESCO chair Savoir Devenir in sustainable digital development

Ioana Galleron
Professor of French literature and digital humanities, vice president of academic affairs, Sorbonne Nouvelle University (France)

Christopher Harris
American Library Association senior fellow for policy issues; School Library Systems, Genesee Valley (NY) Board of Cooperative Educational Services

Stephen G. Humer
Professor and director, internet sociology department, Fresenius University of Applied Sciences (Germany)

Alan Inouye
Senior director, public policy & government relations, American Library Association

Klaus Bruhn Jensen
Professor of communication, University of Copenhagen (Denmark)

Luis Germán Rodriguez Leal
Professor, Central University of Venezuela

Paul LeBlanc
Former president, Southern New Hampshire University

Hoda Mostafa
Director, Center for Learning and Teaching, and professor of practice, The American University in Cairo (Egypt)

Elise Newkirk-Kotfila
Assistant vice president for strategy and partnerships, NASPA - Student Affairs Administrators in Higher Education

Francisca O. Oladipo
Vice chancellor and professor, Thomas Adewumi University (Nigeria)

Arlindo Oliveira
IST distinguished professor, University of Lisbon; president, Institute for Systems and Computer Engineering, Technology and Science (INESC) (Portugal)

Sonia Parratt
Professor of journalism, Complutense University of Madrid (Spain)

Paula Rosinski
Professor of professional writing and rhetoric and director of Writing Across the University, Elon University

Philippa Smith
Deputy director, Toroa Centre for Communication Research, Auckland University of Technology; honorary research fellow, University of Auckland (New Zealand)

Genoveva Vargas Solar
Senior scientist, French Council of Scientific Research (CNRS) (France)

Amanda Sturgill
Associate professor of journalism and Center for Engaged Learning scholar focused on AI and engaged learning, Elon University

Evelyne Tauchnitz
Senior researcher, Institute of Social Ethics, University of Lucerne (Switzerland)

Jaak Tepandi
Professor emeritus, Tallinn University of Technology (Estonia)

Stefaan Verhulst
Co-founder, The GovLab and The Data Tank; research professor, New York University

Alexis Wesaw
Assistant vice president for research and analytics, NASPA - Student Affairs Administrators in Higher Education

STUDENT REVIEWERS
Yasmine Abulfadl, The American University in Cairo (Egypt)
Liam Becker, Elon University
Jose Pahua Bejar, Elon University
Justin Betts, Elon University
Thomas Case, Elon University
Emma Dooley, Marquette University
Omar ElShazli, The American University in Cairo (Egypt)
Kennedy Jones, Elon University
Lyla Khalid, Elon University
Grace Madden, Elon University
Joshua Mason, Elon University
Kennedy Moore, Elon University
Pierson Norris, Elon University
Manny Peralta, Elon University
Ethan Riscovaliez, Elon University
Aaron Satko, Elon University
Sam Zirin, Elon University

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Student Guide to Artificial Intelligence

AI-U | 2025

www.studentguidetoAI.org

Imagining the Digital Future Center
Elon University
Elon, North Carolina, USA
imagine@elon.edu
imaginingthedigitalfuture.org

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Web: elon.edu

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