Recommendations By & For Duke Students

These guidelines were developed by the following Duke students, with guidance from [Remi Kalir](#), Associate Director of Faculty Development and Applied Research at [Duke Learning Innovation & Lifetime Education](#):

- *Shambhavi Sinha, T'27 (Senator, Academic Affairs Committee, Student Government)*
- *Barron Brothers, T'26 ([CARADITE](#) Undergraduate Research Assistant)*
- *Emma Ren, T'27 ([CARADITE](#) Undergraduate Research Assistant; Senator, Academic Affairs Committee, Student Government)*
- *Alessandro Dal Bon, P'25 (Academic Affairs Vice President, Student Government)*

Introduction

As Duke students, our learning can help pioneer new fields, create better technologies, and share life-changing stories, all for a better world. In our learning journeys, generative AI can be a powerful resource for tasks like brainstorming ideas, clarifying complex concepts, or organizing thoughts. However, it is critical to recognize the limitations of this technology when it comes to our learning. We are aware that many AI tools simply generate responses based on patterns in training data. We aim to create a thoughtful environment for AI use, ensuring it enhances learning rather than replacing essential skills like critical thinking and problem-solving. Think of AI as a supportive resource rather than a definitive answer provider. Duke and course policies supersede these suggestions—written by and for Duke students—which are intended to complement your AI use for academic, co-curricular, or everyday activities.

Before Prompting, Think About…

Authorized Usage

Check your course syllabus to determine if you are allowed to use genAI in your course or in a particular assignment/task. If your syllabus doesn't address this, ask your course instructor.

Inaccuracy of Data and Content

AI can generate inaccurate results based on erroneous data or sources. There is a need to be cautious and verify information.

Intellectual Property Concerns

AI-generated content may inadvertently plagiarize from copyrighted sources, especially in art and text generation.

Biases, Inequalities and Ethical Dilemmas

AI-generated outputs may not align with our ethics, particularly in nuanced situations. For example, AI models can reflect and perpetuate biases present in the training data, potentially reinforcing systemic biases and social inequalities. Remember, such algorithms cannot understand our cultural or educational contexts, possibly leading to inappropriate or insensitive content.

Lack of True Understanding

AI systems do not possess genuine comprehension or consciousness, leading to potential misinterpretations of context or nuance. Moreover, excessive dependence on AI tools may lead to a decline in your critical thinking and problem-solving skills.

Resource Intensity

Generative AI requires significant computational resources, raising questions about energy consumption and environmental impact. Let's remember to prompt responsibly.

How to Prompt Effectively

Attend to Your Writing

Much of the data generative AI is trained on adheres to Standard American English. While your writing styles and conventions may vary, AI prefers grammatical standards associated with Western-dominant forms of writing and knowledge. Because AI predicts words based on your input, your preferred use of grammar, spelling, or sentence structure may affect the responses you receive.

Specificity and Clarity

Break complex tasks down into multiple parts. Emphasize specific details in your prompt—especially numbers, topics, and any references you have (i.e. "20 practice problems for introductory statistics that emphasize…" versus "practice problems for statistics"). The good news is that AI does what you tell it to do. The bad news is that it does *exactly* what you tell it to do.

Context

Use your first prompt to set the context for the chat. State what you want AI to be before you tell it what to do. For example, you could write, "You are a friendly tutor for an American History course…." or, "You are a rubber duck. Begin each response with 'Quack!'" For more complex contexts, AI can sometimes unintentionally deviate from that context. If this happens, reiterate which part of the context the AI missed. And make sure to specify your preferred output for the prompt.

Analyze for Inaccuracies

AI can be a helpful tool, but it's essential to approach its output critically to ensure accuracy and reliability. Here's how to effectively handle situations where AI may get it wrong.

Scrutinize the Response

Read AI's output carefully, looking for inconsistencies or inaccuracies. If the response contradicts something you already know or includes logical fallacies, take note. Critical thinking is your strongest asset when evaluating AI-generated content. Trust your intuition and knowledge to spot errors.

Cross-Verify Information

Always verify synthetic information, especially when AI provides sources or citations. Check these sources to confirm their credibility and ensure AI-generated interpretations align with the original material. If AI outputs do not provide references, cross-check claims against trustworthy human-written resources like academic articles, books, or reputable websites. Never rely on AI output as your sole authority for important information, decisions, or projects.

Seek Clarification

Ask an AI tool to elaborate or clarify its reasoning if a response seems questionable. Often, this process will reveal potential errors, as AI can self-correct or refine explanations when prompted. Rephrasing your prompt or question, or providing more context, may help improve the accuracy of subsequent responses. For example, AI may respond differently to "What role did oranges have in the development of Newtonian physics?" versus, "Did oranges play a role in the development of Newtonian physics?"

Remember AI's Limitations

Acknowledge that AI is not sentient and cannot think or reason like a human. AI tools process data and generate responses based on patterns rather than true understanding. Your critical thinking and judgment will always surpass AI's capabilities. Use AI as a tool to enhance your reasoning—not as a replacement for it.

By applying these practices, you can maximize potential benefits of AI while minimizing the impact of its limitations. Always prioritize your judgment and verify information to maintain credibility and accuracy.

Further Reading

- [Duke Community Standard and Student Conduct | Trinity College of Arts & Sciences](#)
- [Student Guide to Artificial Intelligence](#), Elon University
- [U-M Guidance for Students | U-M Generative AI](#), University of Michigan
- [What does AI get wrong? - Artificial Intelligence (AI) and Information Literacy](#), University of Maryland
- [Students | Guidance](#), University of Chicago

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