

Cochise College Center for Lifelong Learning

Introduction to AI

For Lifelong Learners

George Self
Spring 2026

Email me at: contact@georgeteaches.com
Visit: georgeteaches.com
Visit: cochiseai.com

Introduction

Welcome back to **Introduction to Artificial Intelligence**.¹ You already have hands-on experience with AI. You know what a prompt is, you have seen AI give impressive answers, and you have probably seen it give wrong ones. That real-world experience is the best possible foundation for today's class.

Rather than starting from scratch, we are going to build on what you already know. Today's focus is on three questions that separate casual AI users from confident ones: *Which tool should I use? When can I trust what AI tells me? And how do I put AI to work on things that actually matter in my life?*

What You Need

Everything we do today runs in a web browser and nothing requires logging into an account. If you already have an account with any of these tools, that is fine, but you will not need it today.

Learning Goals

By the end of this session, you will:

- Know the major AI tools and what makes each one distinct
- Understand which tasks AI handles well and which it handles poorly
- Recognize when AI output needs to be verified and know how to verify it
- Apply AI to practical scenarios from your own daily life

Big Idea

AI works best as a knowledgeable assistant. Use it to *augment* your judgment, not replace it.

Module 1: The AI Ecosystem

Most people who use AI regularly have used only one tool: ChatGPT. That is a perfectly reasonable starting point, but it is a bit like only ever eating at one restaurant. The AI landscape has grown quickly, and several free tools are now available that each take a different approach to the same basic job.

¹Written by George Self with assistance from ClaudeAI and ChatGPT. It was formatted with L^AT_EX.

Today we will look at six tools, all free and all accessible without logging in. Each was built by a different organization, trained on somewhat different data, and designed with a different philosophy. Seeing them side by side is one of the fastest ways to deepen your understanding of what AI actually is.

The Six Tools

ChatGPT (<https://chatgpt.com>) — Built by OpenAI, this was the first AI assistant made available to the general public and remains the most widely used. It is the familiar baseline against which most other tools are compared. Click **Stay logged out** if prompted to sign in.

Copilot (<https://copilot.microsoft.com>) — Microsoft's AI assistant, built on the same underlying technology as ChatGPT but with one important addition: it can search the web using Bing. This makes it more reliable for questions about recent events.

Perplexity (<https://perplexity.ai>) — An AI tool designed around research. Unlike most chatbots, Perplexity shows citations alongside its answers so you can see where the information came from and go check it yourself.

Gemini (<https://gemini.google.com>) — Google's AI assistant. Many people assume that because Google has indexed so much of the internet, Gemini must have a knowledge advantage. Testing it against the others will show whether that assumption holds up.

Meta AI (<https://meta.ai>) — Developed by Meta, the company that owns Facebook and Instagram. It is built on Meta's Llama models and tends toward a conversational, approachable tone.

DuckDuckGo AI Chat (<https://duckduckgo.com/aichat>) — The privacy-focused option. DuckDuckGo does not track your searches, and their AI chat works the same way: no data collected, no account needed. What makes it especially useful for comparison is that you can switch between several different underlying AI models without leaving the page.

One Prompt, Many Responses

These six tools will often give you different answers to the same question. That is not a bug. It reflects differences in training data, design choices, and how each tool handles uncertainty. Learning to notice those differences makes you a much more effective AI user.

Activity 1.1: Compare the Tools: A Topic You Know

Open two or three browser tabs and try this prompt in each tool. Choose tools from different organizations so the comparison is interesting.

What is the most interesting thing that happened in Tombstone, Arizona in the 1880s, and why does it matter today?

After reading the responses, consider:

- Which response was most accurate based on what you already know?
- Which was easiest to read?
- Did any tool add unnecessary warnings or hedge more than others?
- Did Perplexity's citations match the claims in its response?

Activity 1.2: Compare the Tools: A Current Events Question

Now try a question that tests whether the tool has access to recent information:

What has happened in the past few weeks that is affecting the cost of groceries in the United States?

Compare the responses:

- Which tools gave current, specific information?
- Which gave vague or outdated answers?
- Did Copilot's web search give it an advantage?
- Did any tool tell you when its training data ends?

Activity 1.3: Try DuckDuckGo's Model Switcher

Go to <https://duckduckgo.com/aichat> and ask a simple question. Then use the model selector to switch to a different underlying model and ask the same question again.

What is the best piece of advice you would give to someone who is newly retired?

Notice how the same question produces a different response depending on the underlying model, even within the same interface. This is a quick illustration of why there is no single “correct” AI.

Module 1 Checklist

1. Visited and used at least three different AI tools
2. Identified meaningful differences in how the tools responded to the same prompt
3. Noted which tools have access to current web information and which do not
4. Observed how Perplexity’s citation model differs from standard chatbots
5. Tried switching models within DuckDuckGo AI Chat

Module 2: Knowing When to Trust AI

After two months of using ChatGPT, you have almost certainly encountered an answer that turned out to be wrong. AI errors are not random glitches. They follow predictable patterns, and once you know those patterns, you can anticipate them before they cause a problem.

This module is about developing a reliable instinct for when AI output is trustworthy and when it needs to be checked before you act on it.

Making AI Fail on Purpose

The fastest way to build that instinct is to cause failures deliberately rather than stumble into them by accident. When you know what you are looking for, the same warning signs become much easier to spot in everyday use.

Activity 2.1: Test the Knowledge Cutoff

Every AI model was trained on data up to a certain date. After that cutoff, it has no direct knowledge of events. Ask this question in two or three tools:

What is the current price of a first-class postage stamp in the United States?

Notice whether each tool gives a confident answer, admits uncertainty, or recommends that you verify. Then look up the actual current price. Was the AI correct? Did any tool warn you that its information might be out of date?

Activity 2.2: Ask for a Citation

AI tools frequently invent citations that sound completely legitimate but do not exist. This is one of the most consequential failure modes, especially for anyone doing research or writing.

Can you recommend a scholarly article about the health benefits of daily walking for adults over 60? Please include the author, title, journal, and publication year.

Write down the citation the AI provides. Then search for it on Google or Google Scholar. Does the article actually exist? Is the author real? Is the journal real? If the AI fabricated it, it will often do so with complete confidence and no hint of uncertainty.

Activity 2.3: Test Local Knowledge

AI has very limited reliable knowledge about local businesses, people, and community events. Ask about something you can evaluate from personal experience:

What are the best locally owned restaurants in Sierra Vista, Arizona?

How accurate are the results? Did the AI recommend places that have closed? Did it describe any business incorrectly? Did it invent anything that does not exist?

Activity 2.4: Try a Math Problem

AI is surprisingly unreliable at multi-step arithmetic. Try this calculation in two tools and compare the answers:

If I invest \$10,000 today at 4.5 percent annual interest compounded monthly, how much will I have after 7 years?

Do the two tools agree? You can verify the correct answer with any online compound interest calculator. If the tools disagree, which one is right?

A Reliability Map

Based on those exercises, here is a practical guide to where AI is trustworthy and where it requires caution.

Explaining and summarizing — Very reliable. AI excels at taking complex material and presenting it in plain language.

Brainstorming and generating ideas — Very reliable. This is one of AI's strongest applications.

Writing assistance — Reliable as a starting point. Always review and revise with your own voice before using.

Historical facts (well-documented events) — Generally reliable, but verify anything specific before repeating it.

Current events and recent information — Unreliable unless the tool can search the web. Always verify.

Specific citations and sources — Unreliable. AI frequently fabricates convincing-sounding references that do not exist.

Local information — Unreliable. AI knows very little about specific local businesses, people, or events.

Mathematics and calculations — Unreliable for anything beyond simple arithmetic. Always verify with a calculator.

Medical, legal, and financial specifics — Useful as background information only. Never a substitute for a qualified professional.

The Verification Habit

Before acting on any AI response that involves a specific fact, number, citation, local detail, or professional advice, spend 30 seconds verifying it from a second source. That single habit prevents most AI-related mistakes.

Module 2 Checklist

1. Observed the knowledge cutoff limitation firsthand
2. Tested AI's citation reliability and checked whether the source actually exists
3. Tested AI's local knowledge against what you already know to be true
4. Verified an AI math answer with a calculator
5. Identified which categories of tasks AI handles reliably and which it does not

Module 3: AI in Your Daily Life

The best way to make AI genuinely useful is to connect it to questions and situations you already care about. This module offers practical scenarios drawn from real concerns that come up at this stage of life. Work through one or two that interest you, then try one from your own situation.

Health and Medical Information

AI is good at explaining medical concepts in plain language, which can help you prepare for a doctor's appointment, understand a diagnosis, or make sense of a medication information sheet. It is not a substitute for your physician, but it can make that conversation much more productive.

Activity 3.1: Understand a Medical Term

1. Ask:

My doctor mentioned I have mild osteopenia. Can you explain what that means, what causes it, and what questions I should ask at my next appointment?

2. Review the response. Is it clear? Does it appropriately recommend following up with your doctor rather than offering specific treatment advice?

3. Follow up:

What is the difference between osteopenia and osteoporosis?

Medicare and Government Benefits

Government benefit programs are notoriously difficult to understand. AI can translate bureaucratic language into plain English and help you know the right questions to ask.

Activity 3.2: Understand a Medicare Question

1. Ask:

Can you explain the difference between Medicare Advantage and original Medicare in plain language? What are the main trade-offs a retired person should consider when choosing between them?

2. Follow up with a question about your own situation, or ask:

What is a Medicare Supplement plan, and how does it relate to

original Medicare?

Important: Use AI to understand the concepts, then verify your specific plan details at <https://medicare.gov> or by calling 1-800-MEDICARE before making any decisions.

Genealogy and Family History

AI cannot search genealogy databases for you, but it is excellent at helping you understand what records exist, where to find them, and how to interpret what you discover.

Activity 3.3: Research a Family Member

1. Describe an ancestor you are curious about and ask:

My great-grandmother was born around 1885 in rural Tennessee. What historical records would likely exist for someone born then and there, and where would I search for them today?

2. Follow up:

What was daily life like for a woman living in rural Tennessee in the 1880s?

That kind of historical context helps you interpret the records you find and understand your ancestor as a real person, not just a name on a document.

Travel Planning

AI is a capable travel research assistant. It cannot make reservations for you without a paid subscription to an AI agent service, but it is excellent at building itineraries, suggesting destinations, and answering practical questions.

Activity 3.4: Plan a Trip

1. Ask:

I would like to take a train trip from Tucson, Arizona to somewhere interesting in the western United States. I enjoy history and good food. Can you suggest two or three destinations and describe what I might do there?

2. Pick one destination and follow up:

What would a three-day itinerary look like for that destination?

3. Then ask a practical question:

What time of year would be best to visit, and are there any things I should know before going?

Understanding a Document

One of the most practical things AI can do is read a confusing document and explain it in plain language. You cannot upload a file without logging in, but you can paste text directly into the chat window and ask AI to explain it.

Activity 3.5: Analyze a Document Passage

Find a paragraph from a confusing document, such as an insurance policy, a lease clause, a prescription information sheet, or a terms-of-service agreement. Paste it into the chat window with this instruction:

Please explain the following passage in plain language and tell me if there is anything I should be concerned about:

Then paste the text you want explained. Try it with the instructor's sample document if you do not have one handy.

What to Watch For

Notice how AI handles passages that contain legal or medical implications. A good response explains what the text says and flags anything that warrants a closer look, but does not tell you what to decide.

Module 3 Checklist

1. Used AI to understand a medical or health concept
2. Used AI to clarify a complex government benefit or policy question
3. Used AI as a research starting point for a personal interest
4. Pasted text into a chat window and asked AI to explain it
5. Identified at least one situation from your own life where you will apply AI this week

Appendix A: AI Beyond the Chatbot

Chatbots are only one corner of the AI world. The tools below use AI to generate images, music, voices, and video from simple text descriptions. Most offer a free tier; some require a free account for full access. Because this technology changes quickly, visit each site to confirm current pricing and access before signing up.

Image Generation

Bing Image Creator: Microsoft's free image generator, powered by DALL-E. Type a description and it produces four image options in seconds. Works best with a free Microsoft account (<https://www.bing.com/images/create>).

Adobe Firefly: Adobe's image generator is designed with copyright in mind — it was trained on licensed images, so the results are safer to use in documents and publications. Free tier available with a free Adobe account (<https://firefly.adobe.com/>).

Ideogram: Particularly good at generating images that include readable text, something most image generators struggle with. Free tier available (<https://ideogram.ai/>).

DiffusionArt: Offers access to dozens of different image generation models in one place, useful for comparing styles. Free with a free account (<https://diffusionart.ai/>).

Music Generation

Suno: Type a description of the song you want — style, mood, topic — and Suno generates a complete song with vocals and instrumentation in about 30 seconds. Free tier includes a limited number of songs per day (<https://suno.com/>).

Udio: Similar to Suno, with a different set of musical styles and a free tier. Worth trying both to compare the results (<https://www.udio.com/>).

Voice and Text-to-Speech

ElevenLabs: Converts written text to natural-sounding speech in a wide range of voices and languages. The free tier allows a limited number of characters per month. This is also the technology behind AI voice cloning, which is worth demonstrating as a cautionary example (<https://elevenlabs.io/>).

Video Generation

Runway: One of the most established AI video tools. Generates short video clips from text descriptions or animates a still image. Free tier available with a free account (<https://runwayml.com/>).

Pika: Generates and edits short video clips from text prompts or uploaded images. Straightforward interface and a free tier make it approachable for first-time users (<https://pika.art/>).

A Note on Free Tiers

Most of these services are free up to a point, then charge for heavier use. The free tier is usually sufficient for exploration. Avoid entering payment information until you have used the free tier and decided the tool is worth paying for.

Appendix B: Beyond Text: AI Demonstration

Note: The following tools will be demonstrated by the instructor using a laptop, as they may require accounts or have usage limitations.

Image Generation

Text-to-Image Creation – Tools like DALL-E, Midjourney, or Stable Diffusion can create original images from text descriptions. For example, typing “a desert sunset over saguaro cacti in watercolor style” produces a unique artistic image in seconds.

Photo Enhancement – AI can restore old family photos, remove unwanted objects from pictures, or even change backgrounds. Imagine taking a photo of yourself in the classroom and placing it in front of the Grand Canyon.

Logo and Design Creation – Small businesses use AI to generate logos, business cards, and marketing materials without hiring expensive designers.

Voice and Audio

Text-to-Speech – AI can read any written text aloud in natural-sounding voices, including different accents and languages. This is particularly helpful for people with vision difficulties or for creating audiobooks.

Voice Cloning – Advanced AI can learn to mimic a person’s voice from just a few seconds of recorded speech. While this has legitimate uses like helping people who’ve lost their voice, it also raises important ethical questions.

Music Generation – AI can compose original songs in various styles, from country to classical, based on simple text prompts like “a cheerful tune about Arizona sunsets.”

Video Creation

AI Video Generation – Tools like Sora (now publicly available to ChatGPT subscribers) can create realistic short video clips with synchronized sound from simple

text descriptions. For example, “a roadrunner crossing a desert highway” could generate a realistic-looking video scene.

Avatar Creation – AI can create digital versions of people that can “speak” any text you provide, useful for creating educational videos or presentations.

Video Editing – AI can automatically edit raw video footage, add subtitles, remove background noise, or even translate spoken content into other languages.

Specialized Applications

Document Analysis – AI can read and summarize long PDFs, legal documents, or research papers, pulling out the key points you need to know.

Language Translation – Beyond simple word translation, AI can now translate entire conversations in real-time, making communication across language barriers much easier.

Code Generation – Even if you’ve never programmed before, AI can write simple computer code to automate tasks like organizing files or creating basic websites.

Important Note

While these capabilities are impressive, always remember that AI-generated content should be verified for accuracy and used responsibly, especially when it comes to images, videos, or audio that could be mistaken for real content.

Appendix C: AI Agents: AI That Takes Action

Up to this point, we have been using AI as a conversational assistant: you ask a question, and it gives you an answer. **AI agents** represent the next major development in this technology, and they are already beginning to appear in tools you may already use.

What Is an AI Agent?

Think about the difference between asking a knowledgeable friend for advice and hiring an assistant who can actually go carry out tasks for you. When you ask an AI chatbot “What are the best flights to Denver?” it gives you information. An AI agent can actually visit airline websites, compare prices, and book the ticket — while you watch or even while you are doing something else.

Unlike a simple chatbot, an AI agent can:

- Browse websites and gather information from multiple sources

- Fill out online forms on your behalf
- Compose and send emails
- Schedule appointments by checking your calendar
- Place orders on shopping sites
- Complete multiple steps in a row without you approving each one

The Big Difference

A chatbot *tells* you what to do. An AI agent *does it for you*.

Practical Examples

Travel Planning – An agent researches flights and hotels, compares prices across multiple sites, and makes reservations based on your preferences.

Appointment Scheduling – An agent contacts your doctor's office, checks available times, and books the one that fits your schedule.

Research – An agent reads dozens of articles or reviews on a topic and delivers a concise summary, saving you hours of searching.

Shopping – An agent searches multiple stores to find the best price on a specific item, then adds it to your cart.

Email Management – An agent reads your incoming emails, flags the urgent ones, and drafts responses for your review.

AI Agents Available Today

OpenAI Operator – A feature of ChatGPT that can control a web browser to complete tasks like filling out forms and placing orders online. Requires a paid ChatGPT subscription.

Microsoft Copilot – Microsoft is building agentic features into Copilot that can automate tasks across Office applications like Word, Excel, and Outlook.

Google Gemini – Google's AI assistant can now take actions in Gmail and Google Calendar, such as finding emails matching a description or scheduling events on your behalf.

Proceed with Caution

AI agents are impressive, but they raise new concerns worth understanding before you try them.

Mistakes Are Harder to Undo – If an agent sends an email or places an order by mistake, reversing the action may be difficult. Always review what the agent plans to do before it acts.

Privacy – An agent that can access your email, calendar, or shopping accounts has access to a great deal of personal information. Be selective about what permissions you grant.

Start Small – Begin with low-stakes tasks. Ask an agent to *draft* an email rather than send it, or to find flights rather than book them, until you are comfortable with how it works.

Stay in Control – The best AI agents keep you informed at each step and ask for your approval before taking significant actions. If an agent wants to act without telling you what it is doing, be cautious.

A Good Rule of Thumb

Think of an AI agent as a capable but new employee: talented and eager to help, but worth double-checking until you have seen how it performs. Start with tasks where a mistake is easy to catch and fix.

Appendix D: Ethics and Limitations

Important: AI is a powerful tool, but like any tool, it requires thoughtful and responsible use.

Understanding AI's Limitations

"Hallucinations," When AI Makes Things Up – AI sometimes generates information that sounds completely believable but is entirely false. It might confidently tell you that a fictional book exists or provide wrong dates for historical events. Always verify important facts, especially for medical, legal, or financial decisions.

Training Data Cutoffs – Most AI systems were trained on data only up to a certain date (their "training cutoff"). Many popular tools can now search the web for current information, but for tools that cannot, they won't know about recent events. Always verify time-sensitive facts.

Lack of Real Understanding – AI doesn't truly "understand" concepts the way humans do. It's very sophisticated pattern matching, but it can miss context, sarcasm, or nuanced situations that would be obvious to a person.

Privacy and Security Concerns

What Happens to Your Conversations – When you chat with AI tools online, your questions and the responses may be stored by the company. Avoid sharing personal information like Social Security numbers, passwords, or private family details.

Data Collection – Free AI services often collect user data to improve their systems or for advertising. Read privacy policies when possible and be cautious about what information you share.

Account Security – If you create accounts with AI services, use strong passwords and be aware that data breaches can happen to any online service.

Bias and Fairness Issues

Inherited Biases – AI systems learn from data created by humans, so they can reflect human prejudices about race, gender, age, or other characteristics. Be aware that AI responses might not always be fair or representative of all perspectives.

Cultural Assumptions – AI might make assumptions based on dominant cultural viewpoints and miss important perspectives from minority communities or different cultural backgrounds.

Misinformation and Deepfakes

Fake Content Creation – AI can now create realistic-looking fake photos, videos, and audio recordings that are difficult to distinguish from real ones. This technology is increasingly misused to spread false information or impersonate real people, including politicians, celebrities, and family members.

AI Voice Scams Targeting Seniors – This is one of the fastest-growing threats facing older adults. Criminals record a few seconds of someone's voice from social media or a phone call, then use AI to clone that voice and make a fake emergency call. A grandparent receives a sobbing call that sounds exactly like their grandchild, claiming to be in jail or injured and begging for cash to be sent immediately. Losses to these "grandparent scams" using AI voice cloning have surged dramatically.

Protect Yourself

Hang up and call your family member directly on a number you already know. Better yet, agree on a secret family code word in advance that anyone can ask for to confirm identity in an emergency.

Source Verification – AI might present information without clear sources, making it difficult to verify accuracy. When in doubt, check multiple reliable sources.

Responsible Use Guidelines

Fact-Check Important Information – Never rely solely on AI for medical advice, legal guidance, financial decisions, or other critical life choices. Always consult qualified professionals.

Respect Others' Privacy – Don't use AI to create content about real people without their permission, especially images or stories that could be embarrassing or harmful.

Be Transparent – If you use AI to help write something important (like a letter or report), consider mentioning that you had AI assistance.

Keep Learning – AI technology changes rapidly. Stay informed about new developments and potential risks as they emerge.

The Human Element

AI as a Tool, Not a Replacement – AI works best when it augments human creativity and judgment, not when it replaces human decision-making entirely.

Critical Thinking Remains Essential – Your experience, wisdom, and common sense are irreplaceable. Use AI to enhance your capabilities but trust your instincts when something doesn't seem right.

Remember

Being cautious doesn't mean being afraid. Understanding these limitations helps you use AI more effectively and responsibly.

Appendix E: Interesting Prompts

Unleash your creativity and explore AI with these unconventional prompts.

1. Imagine you're a time-traveling robot from the year 3000. Describe what the world looks like and how humans will live in the future.
2. You're a talking dog who has just been elected as the mayor of a small town. What would be your first actions in the office?
3. Create a recipe for a magical potion that grants the drinker a superpower of their choice. List the ingredients and the steps to make it.
4. You're a sentient AI who has just been given control of a theme park. What unique attractions would you design to entertain the visitors?
5. Imagine you're a space explorer who has discovered a new planet inhabited by intelligent alien life. Describe the aliens and their civilization.

6. You're a genie who grants wishes, but with a humorous twist. Give examples of how you might creatively interpret three common wishes.
7. Pretend you're a Renaissance artist who has been transported to the present day. Describe your reaction to modern technology and how it might influence your art.
8. You're a talking tree that has witnessed historical events throughout the centuries. Share a story about a famous event from your unique perspective.
9. Imagine you're a robot stand-up comedian. Write a short comedy routine that would make both humans and AI laugh.
10. You're a mad scientist who has created a new species of animal by combining features from different creatures. Describe your creation and its unique abilities.

Appendix F: Helpful Prompts

Explore the power of AI in enhancing your daily life!

1. What are three small habits I can start today that will have a positive impact on my health and well-being in the long run?
2. Help me create a simple, balanced meal plan for the week ahead, focusing on nutritious and easy-to-prepare recipes.
3. I want to improve my time management skills. What strategies can I implement to prioritize tasks, minimize distractions, and boost my productivity?
4. Suggest five simple exercises I can do at home without any equipment to improve my strength, flexibility, and overall fitness.
5. I'm feeling stressed and overwhelmed. What are some effective relaxation techniques I can practice daily to reduce stress and promote mental well-being?
6. Help me set three achievable financial goals for the next six months and provide actionable steps to reach them.
7. I want to cultivate a more positive mindset. What are some daily affirmations or gratitude practices I can incorporate into my routine?
8. Recommend five books that can help me develop personal growth, leadership skills, or emotional intelligence.
9. I struggle with procrastination. What are some techniques I can use to overcome this habit and stay motivated to complete my tasks?
10. Plan an unforgettable weekend getaway in Tucson, AZ! Outline a 2-day itinerary that includes must-visit attractions, dining experiences, and activities that showcase the city's unique culture and entertainment options.