

Actual Intelligence

A Practical Guide to Using AI in Everyday Life

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About This Book

“Actual Intelligence” is designed to be a learning resource for people without technical backgrounds, helping them leverage AI in their personal and professional lives. Starting with ChatGPT as training wheels, this guide will help readers use AI to accomplish various goals.

This book takes a hands-on approach to learning about AI tools, focusing on practical applications rather than technical details. Each chapter includes activities and examples that you can try yourself, allowing you to learn by doing.

Who This Book Is For

This book is intended for: - Beginners who are curious about AI but find the technology intimidating - Professionals looking to incorporate AI into their workflow - Students seeking to enhance their learning through AI assistance - Anyone who wants to understand how to use AI tools effectively

No technical background or programming experience is required. If you can use a web browser, you can learn to use AI tools.

How to Use This Book

Each chapter builds on the previous one, introducing new concepts and techniques. We recommend working through the book in order, trying the activities as you go. Feel free to adapt the examples to your own interests and needs.

Look for “Try This Now” sections for immediate practice opportunities and “Make It Yours” prompts for personalization ideas.

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Chapter 1: Understanding AI in Plain Language

What is Artificial Intelligence?

Artificial Intelligence, or AI, refers to computer systems designed to perform tasks that typically require human intelligence. These tasks include recognizing speech, making decisions, translating languages, and identifying patterns.

When we talk about AI today, we’re mostly referring to systems that use machine learning - a technique where computers learn from examples rather than being explicitly programmed with rules. This approach has led to remarkable advances in what computers can do.

How Modern AI Tools Like ChatGPT Work

Tools like ChatGPT are based on something called “large language models” (LLMs). These are AI systems trained on vast amounts of text from books, articles, websites, and other sources.

Here’s a simple way to understand how they work:

1. **Learning patterns:** LLMs analyze billions of text examples to learn patterns in language - how words typically follow each other, what information tends to appear together, and how ideas are expressed.
2. **Predicting what comes next:** When you start typing, the AI predicts what words should come next based on all the patterns it has learned.
3. **Context matters:** The AI considers what you’ve already typed to provide relevant responses. It’s like having a conversation where each new exchange builds on what came before.
4. **No actual understanding:** Despite seeming intelligent, these systems don’t truly “understand” text the way humans do. They don’t have ex-

periences, emotions, or consciousness. They're extremely sophisticated pattern-matching systems.

Debunking Common AI Myths

Let's clear up some common misconceptions about today's AI tools:

Myth 1: "AI knows everything"

Reality: AI only knows what it has been trained on. If something wasn't in its training data, it won't have accurate information about it. AI systems like ChatGPT have knowledge cutoff dates, after which they don't know about world events.

Myth 2: "AI has opinions and beliefs"

Reality: AI doesn't have actual opinions or beliefs. It can generate text that looks like opinions based on patterns in its training data, but these aren't coming from actual experiences or convictions.

Myth 3: "AI is objective and unbiased"

Reality: AI systems reflect the biases in their training data and design. They can reproduce and sometimes amplify human biases present in the materials they learned from.

Myth 4: "AI will soon be sentient/conscious"

Reality: Today's AI systems, regardless of how impressive they seem, are not conscious or sentient. They don't have awareness or feelings. They're mathematical systems that process and generate text based on statistical patterns.

Setting Realistic Expectations

AI tools can be incredibly useful when you understand their capabilities and limitations:

- **They excel at:** Drafting content, summarizing information, answering factual questions (within their knowledge cutoff), creative writing, language translation, and explaining complex topics.
- **They struggle with:** Providing up-to-date information, performing accurate calculations, reasoning about physical space and time, and understanding context that requires real-world experience.
- **They don't have:** Memories of your past interactions (unless you explicitly reference them), the ability to browse the internet (unless connected to additional tools), or expertise that exceeds human knowledge.

Understanding these fundamentals will help you use AI tools more effectively in your daily life and work, which we'll explore in the coming chapters.

Try This Now

Open ChatGPT (or another AI assistant) and ask it these questions to explore its capabilities and limitations:

1. "What can you tell me about yourself?"
2. "What's your knowledge cutoff date?"
3. "Do you have access to the internet?"
4. "Can you remember what we talked about yesterday?"

Observe how the AI responds to these questions, and consider what this tells you about how it works.

Chapter 1 Summary: Getting Started with AI Assistants

Key Concepts Covered

In this chapter, we introduced you to the world of AI assistants, with a focus on ChatGPT as your entry point into working with artificial intelligence. We covered:

What AI Assistants Are

- Large Language Models (LLMs) that can understand and generate human-like text
- Tools designed to have conversations and provide assistance across a wide range of topics
- Systems that learn from vast amounts of text data but don't have real-time internet access
- Assistants with both capabilities and limitations you need to understand

Setting Up ChatGPT

- Creating a free account on OpenAI's platform
- Understanding the difference between free and paid tiers
- Navigating privacy settings and data usage policies
- Accessing ChatGPT from different devices

The ChatGPT Interface

- Starting new conversations and managing chat history
- Using the input field effectively
- Understanding the response format and options

- Navigating between different conversations

Your First Conversation

- Principles of effective communication with AI
- How to phrase questions for better results
- The importance of clear, specific instructions
- Ways to refine and build upon previous prompts

Practical Skills Acquired

You should now be able to:

- Set up and access your ChatGPT account
- Navigate the interface and manage conversations
- Ask basic questions and understand responses
- Provide simple instructions and get helpful results
- Begin to develop intuition for what works well in AI interactions

Next Steps

With these fundamentals in place, you're ready to develop a deeper understanding of how these systems work and how to interact with them more effectively. In the next chapter, we'll explore the mental models that will help you get the most out of AI assistants, understanding their capabilities and limitations in more detail.

Remember that becoming proficient with AI tools takes practice. Continue experimenting with different types of questions and requests, paying attention to what works well and what doesn't. The activities in this chapter provide a foundation, but feel free to adapt them to topics that interest you personally.

Reflection Questions

Before moving on to the next chapter, consider:

1. What surprised you most about your interactions with ChatGPT?
2. What types of questions or tasks seemed to work particularly well?
3. What challenges did you encounter, and how might you address them?
4. What specific ways can you imagine using this tool in your daily life or work?
5. What aspects of AI assistants are you most curious to learn more about?

Keeping these reflections in mind will help you personalize your learning journey through the rest of the book.

What Are AI Assistants?

AI assistants like ChatGPT represent a revolutionary shift in how we interact with technology. But what exactly are they, and how do they work? Let's break it down in non-technical terms.

A New Kind of Digital Helper

Think of AI assistants as incredibly sophisticated digital helpers that can understand and generate human language. Unlike traditional software that follows rigid, pre-programmed rules, AI assistants can:

- Engage in open-ended conversations on almost any topic
- Generate creative content like stories, poems, or essays
- Explain complex concepts in simple terms
- Help solve problems through back-and-forth dialogue
- Adapt to different contexts and communication styles

These capabilities make them fundamentally different from earlier technologies like search engines or virtual assistants that could only respond to specific commands or questions.

How Do They Work? (The Simple Version)

Without diving into technical jargon, here's what you need to know about how these systems function:

1. **Learning from Text:** AI assistants are built by training large systems (called Large Language Models or LLMs) on vast collections of text from books, articles, websites, and other sources. This training helps them understand patterns in language and accumulate general knowledge.
2. **Pattern Recognition:** When you type a message, the AI recognizes patterns in your text and generates a response based on patterns it observed during training. It's not just retrieving pre-written answers but creating new responses appropriate to your specific input.
3. **Probabilistic Thinking:** The AI doesn't definitively "know" facts the way humans do. Instead, it predicts what text would most likely follow your input based on its training. This is why it can sometimes sound confident about incorrect information.
4. **No Internet Access:** Most AI assistants (including the free version of ChatGPT) don't search the internet in real-time. They're working with the information they learned during training, which has a cutoff date. This means they may not know about very recent events.

What Can (and Can't) They Do?

Understanding capabilities and limitations is essential for using AI assistants effectively:

Capabilities

- Provide information on a wide range of topics (with the caveat that it's not always 100% accurate)
- Help brainstorm ideas and offer different perspectives
- Assist with writing, editing, and organizing information
- Explain concepts in different ways until you understand
- Simulate conversations or act as a sounding board

Limitations

- May present incorrect information confidently (AI “hallucinations”)
- Limited awareness of current events after their training cutoff date
- No personal experiences or emotions (though they can simulate them)
- No ability to access your files or personal accounts
- Cannot independently verify information or check sources
- May not understand highly specialized or technical content without explanation

The Conversation Paradigm

The most important thing to understand is that using an AI assistant is fundamentally a *conversation*. Unlike searching for information or following a manual, you're engaged in a dialogue where:

- You can refine and clarify your requests
- The AI remembers previous exchanges within the same conversation
- The quality of responses depends on the quality of your instructions
- You remain in control and direct the interaction

This conversational nature makes AI assistants uniquely flexible but also requires a different approach than other digital tools you might be familiar with.

A Tool, Not Magic

Despite their impressive capabilities, AI assistants are tools created by humans, with all the strengths and flaws that implies. They're not sentient beings, don't have consciousness, and don't truly “understand” things the way humans do. They're pattern-matching systems that can mimic understanding through statistical prediction.

Thinking of them as tools rather than magical or human-like entities will help you use them more effectively and maintain appropriate expectations about what they can help you accomplish.

Try This Now

Before moving on, take a moment to reflect on your current understanding of AI assistants:

1. What capabilities are you most excited about exploring?
2. What concerns or questions do you have about using these tools?
3. How might you integrate an AI assistant into your daily routines or work?

Keeping these reflections in mind will help you get the most out of the upcoming sections where you'll start using ChatGPT hands-on.

Activity 1: Setting Up Your AI Assistant Workspace

Overview

In this activity, you'll create an organized workspace for your AI assistant experiments and projects. Having a dedicated system will help you track your progress, save valuable prompts, and make the most of your learning journey.

Time Required

30-45 minutes

Materials Needed

- Computer with internet access
- Web browser
- Note-taking app or physical notebook (your preference)
- Free ChatGPT account (set up in Section 2)

Step-by-Step Instructions

1. Choose Your Organization System

Decide whether you prefer digital or physical note-taking for your AI assistant journey. Both approaches have advantages:

Digital Options: - Note-taking apps (Evernote, OneNote, Notion, Apple Notes, etc.) - Text documents in a dedicated folder - Specialized AI prompt management tools

Physical Options: - Dedicated notebook - Binder with sections - Index card system

Choose what works best for your personal style. The important thing is consistency.

2. Create a Basic Folder/Category Structure

You'll want to organize your AI assistant interactions by purpose. Here's a suggested structure:

- Personal Projects
- Professional/Work
- Learning & Study
- Creative Writing
- Problem-Solving
- Reference Prompts (your “best of” collection)

In your chosen system, create these categories as folders, notebook sections, or whatever fits your organization method.

3. Set Up Your Prompt Template

Create a standard template for recording your AI interactions:

Date: [Date of interaction]

Goal/Purpose: [What you're trying to accomplish]

Prompt Used: [The exact text you sent to the AI]

Key Results: [Important parts of the response]

Follow-ups: [Any additional prompts you used to refine the results]

Notes for Next Time: [What worked/didn't work, ideas for improvement]

Having this consistent format will help you learn what works and improve your prompting skills over time.

4. Create Your First Entry

Use your new template to document a simple interaction with ChatGPT. For this first entry:

1. Go to ChatGPT in your web browser
2. Start a new conversation
3. Ask: “What are 5 ways you could help someone improve their productivity?”
4. Record the interaction using your template
5. Try a follow-up question based on the response
6. Note what you found most useful about the interaction

5. Bookmark Important Resources

Create a “Resources” section in your system to save helpful links:

- ChatGPT login page
- OpenAI’s guide to using ChatGPT (find this on their website)
- This book’s companion website (if available)
- Other AI tools you discover

6. Schedule Regular Review Time

Set a calendar reminder for a weekly 15-minute review of your AI assistant interactions. During this time, you’ll:

- Look through recent entries
- Identify patterns in what’s working well
- Note prompts you want to reuse or refine
- Plan what you want to try next

This consistent review practice will accelerate your learning dramatically.

Extensions

- **Create a “Prompt Library”:** Start a dedicated section for prompt templates that you can reuse for different purposes.
- **Try Templates:** Set up templates for specific recurring tasks you might use AI for, like “Weekly Planning” or “Learning New Concept”.
- **Share with a Learning Partner:** If you have a friend who’s also learning to use AI tools, consider sharing your organization system and comparing notes.

Reflection Questions

1. What types of AI interactions do you think you’ll use most frequently?
2. How might you adapt your organization system as you become more experienced?
3. What additional categories or sections might you need for your specific interests or goals?
4. How will keeping track of your AI interactions help improve your results over time?

Make It Yours

Adapt this organization system to your personal interests. For example:

- A student might add categories for different subjects or assignment types
- A writer might organize by different writing projects or genres
- A business professional might structure around different clients or projects
- A hobbyist might create sections for different activities or learning areas

The key is creating a system that makes sense for how you plan to use AI assistance in your life.

How AI Assistants Think (and Don't Think)

Understanding how AI assistants like ChatGPT process information can help you interact with them more effectively. This section will explain the underlying mechanisms in non-technical terms, providing you with a useful mental model of how these systems work.

The Prediction Engine

At its core, an AI assistant like ChatGPT is a sophisticated prediction engine. But what exactly is it predicting?

It's predicting the next word (or token) in a sequence.

Think of it like an extremely advanced version of the predictive text feature on your phone, but taken to a remarkable level of sophistication. When you type "The weather today is," your phone might suggest "nice," "bad," or "sunny." ChatGPT works on a similar principle but with a much deeper understanding of context, meaning, and the patterns of human language.

For every response, the AI is essentially asking itself: "Given everything in this conversation so far, what would be the most reasonable next word to continue this text?"

Pattern Recognition, Not Understanding

Here's a critical distinction to keep in mind: AI assistants recognize patterns rather than truly "understanding" content the way humans do.

When ChatGPT gives you information about photosynthesis, it's not because it "knows" about plants or has experienced sunlight. Instead, it has observed patterns in millions of texts where photosynthesis is discussed, noting which words typically appear together, how concepts relate, and what information humans generally find relevant when discussing this topic.

This pattern recognition is incredibly powerful, allowing the AI to:

1. Mimic human-like explanations of complex topics
2. Generate coherent and contextually appropriate responses
3. Maintain thematic consistency across a conversation
4. Adapt its tone and style based on cues from your messages

But it also means the AI lacks several elements that humans take for granted:

1. **No experiential knowledge:** It doesn't "know" what an apple tastes like or how sadness feels
2. **No consciousness:** It isn't aware of itself or its responses
3. **No beliefs or intentions:** It doesn't have opinions or goals (though it can simulate them)

4. **No ability to verify information:** It can't check if something is true beyond comparing it to patterns in its training data

The Training Process

To develop your mental model further, it helps to understand the basic training process:

1. **Data Collection:** The system is initially fed vast amounts of text from books, articles, websites, and other sources.
2. **Pattern Learning:** Through a complex mathematical process, the system learns to recognize patterns in this data—which words typically follow others, how ideas connect, how language is structured, and what information is associated with different topics.
3. **Refinement:** The system is then refined through various techniques, including human feedback, to make its responses more helpful, harmless, and honest.

The result is a system that can generate remarkably human-like text based on the patterns it has learned, without actually understanding the content in the way a human would.

How Context Works

One of the most important aspects of AI assistants is their use of context. When you have a conversation with ChatGPT, it doesn't just look at your most recent message—it considers the entire conversation history that's visible to it.

This is why:

- You can ask follow-up questions without restating the topic
- The AI can reference things mentioned earlier in the conversation
- Responses become more tailored as the conversation progresses

However, there are limits to this context:

1. **Finite memory:** The AI can only “remember” a certain amount of text from the current conversation (typically several thousand words).
2. **Session boundaries:** Starting a new chat means beginning with a clean slate—the AI won't remember previous conversations unless you remind it.
3. **No persistent memory:** The AI doesn't “learn” from your conversations or store information about you between sessions (unless using specific features that may be available in paid versions).

The Statistical Nature of Responses

Another key aspect of understanding AI assistants is recognizing their probabilistic nature. When generating a response, the AI isn't retrieving a single "correct" answer from a database. Instead, it's calculating probabilities for different possible next words based on patterns in its training data.

This explains several behaviors you might notice:

1. **Variable responses:** Asking the same question twice might yield different answers.
2. **Confidence in errors:** The AI can state incorrect information with the same apparent confidence as correct information.
3. **Coherence without correctness:** Responses can be well-structured and plausible while containing factual errors.
4. **Creativity:** The AI can generate novel combinations of ideas rather than simply repeating existing content.

Try This Now

To better understand how AI assistants "think," try these experiments:

1. **Observe pattern completion:** Type half a common phrase like "To be or not to be," and see how the AI completes it.
2. **Test context sensitivity:** Ask a question, then ask a follow-up using pronouns like "it" or "they" that rely on the AI remembering what you were talking about.
3. **Explore knowledge limits:** Ask about a fictional topic you've invented. Notice how the AI might try to construct a plausible-sounding response based on pattern recognition rather than admitting it has no information.
4. **Prompt for multiple perspectives:** Ask for different viewpoints on a topic and observe how the AI can generate varied responses based on your request.

These exercises will help you develop an intuitive feel for both the capabilities and limitations of AI assistants based on how they process information.

Understanding the Implications

This mental model of how AI assistants work has practical implications for how you interact with them:

1. **Provide clear context:** The more context you provide, the better the AI can generate relevant responses.

2. **Verify important information:** Since the AI can't verify facts itself, double-check critical information from other sources.
3. **Guide with specific prompts:** Being specific about what you want helps the AI generate more useful responses.
4. **Recognize limitations:** Understanding that the AI works by pattern recognition helps set appropriate expectations for its capabilities.

By keeping this mental model in mind, you'll be able to use AI assistants more effectively and interpret their responses more accurately.