Dreher Consulting

Introduction to Artificial Intelligence

A Handbook for the Curious

A guide for everyday life, work and the digital future

The all-important question: Search or ask?

Before we start, you're probably asking yourself a question:

"Should I type my question into Google or ask an AI like ChatGPT?"

The answer is: it depends on what you're looking for.

- **Use Google (or other search engines) if:**

  - You are looking for an official website (e.g. "Deutsche Bahn Login").
  - You need up-to-date sports results or weather data in real time.
  - You want to buy a product and compare prices.

- **Leverage AI if:**

  - You need a summary ("Explain the property tax reform to me in three sentences").
  - You need help structuring ("Create an agenda for a golden wedding anniversary").
  - You are looking for a sparring partner for ideas (Which gift suits a hobby gardener?").

Remember: Google provides you with the sources (links), the AI provides you with the answer.

Key Takeaways

- **AI is accessible and useful:** Models like Google Gemini, Microsoft Copilot, Claude, Grok, and Perplexity offer versatile help for everyday tasks, but they are tools that should be used carefully to avoid misinformation.

- **Understanding basic terms:** LLM (Large Language Model) is the core technology behind many AI chats; RAG (Retrieval-Augmented Generation) helps to make answers more accurate by including external data; Agents are smart helpers that automate tasks.

- **Caution is advised:** hallucinations (false information) may occur; Privacy is crucial – don't share sensitive data; Good prompts personalize usage and reduce risk, although the same prompts can deliver different results for different users due to context and model variations.

- **Controversy over AI:** Some see AI as a helpful tool, others warn of dependency or bias; the evidence suggests that responsible use brings benefits without ignoring all sides.

Overview of AI models and agents

AI models such as ChatGPT (by OpenAI), Google Gemini, Microsoft Copilot, Anthropic's Claude, xAI's Grok, and Perplexity are advanced systems based on large language models. They process text inputs (prompts) and generate responses. AI agents are advanced versions that can not only respond, but also perform tasks such as planning a trip or analyzing data autonomously. They are best suited for creative brainstorming, learning aids or efficient research, where they explain complex relationships.

Payment models and prices (as of January 2025)

Most leading AI platforms offer free entry-level plans, while professional plans typically range from $20 to $30 per month. Enterprise pricing depends on governance, integration, and scope.

Pitfalls and tips for private users

As a private user, you should pay attention to data protection: Avoid sharing personal data, as entries are potentially stored. Absolute no-gos are the use of AI for illegal activities or blind trust in medical/financial advice. Check sources by asking the AI to provide references and compare them with reliable websites. Good prompts are clear, detailed, and personalized—e.g., "As a 40-year-old home cook, explain to me how to optimize a simple recipe." Hallucinations are caused by gaps in training data; detect them by inconsistencies and avoid them with specific requests.

Detailed exploration of artificial intelligence

This section dives deeper into the world of AI, explaining terms, concepts, and practical applications in detail. It builds on the above points and offers examples, illustrations through tables and rhetorical questions to deepen understanding. Remember: AI is a tool that can enrich your life, but it requires conscious use.

Table: Comparison of common technical terms

Term	Description	Example	Why important?
LLM	Large language model for word processing	ChatGPT generates a story	Basis for modern AI chats
RAG	Complements LLM with external data	AI searches for facts in documents	Avoid false info
Agent	Autonomous helper	Schedules appointments based on calendar	Automates everyday life
Prompt	Your request to AI	"Explain quantum physics simply"	Determined quality of response
Hallucination	Fabricated facts	AI claims elephants fly	Reminds of the need for testing

Pitfalls in AI use: What to look out for?

AI is powerful, but it's not perfect. Here you will find detailed warnings for private users.

- **Absolute no-gos:** Do not share sensitive data (e.g. passwords, finances). Don't use AI for harmful purposes like fraud.
- Check sources: Always ask, "Cite sources." Compare with Google or official websites.
- **Write good prompts:** Be specific, give context, assign roles (e.g. "Explain as an expert…"). Personalization: The same prompt ("Explain AI") gives you a detailed answer (e.g. with previous knowledge), a simple answer for a beginner because models take into account the context of previous interactions or make implicit assumptions.
- **Hallucinations:** Reasons: Incomplete data. Recognizable by: inconsistent facts. Avoid this by using RAG-enabled tools and asking for evidence. Example: AI says "The moon is made of cheese" – check this with facts.

Privacy: What you should never do

Privacy is crucial because AI inputs could be stored. Example: If you describe medical symptoms, anonymize them. Use VPNs or private modes. Rhetorical question: Should you enter your address into an AI, or is it better to use a search engine? The latter to avoid tracking. Best practices: Delete chats regularly, choose privacy-friendly providers like Claude.

The "no-go" list for private users

The AI learns from what we feed it (unless you explicitly turn it off).

- **Example 1 (work):** Never copy an employment contract or secret strategy papers into the AI.
  - Better: "Here is a fictitious contract text. Can you explain the clause on the notice period in general?"

- **Example 2 (Private):** Do not enter health data with real names.
  - Bad: "My husband John Doe has the following blood values..."
  - Better: "How are these blood values (anonymous) to be assessed in a 50-year-old man?"

- **Example 3 (Finance):** Do not post credit card numbers or PINs, not even to do "tests".

Golden rule: Only enter information that you would write on a postcard.

Why does AI respond differently to each person?

The secret to personalization

You may have noticed that when two people type the exact same prompt, they often get different answers. Why is that?

1. **The context (memory):** Most AIs "remember" the course of the current conversation. If I talked about gardening before, the answer to the question "What do I need for spring?" will be different than someone who has previously chatted about fashion.
2. **Custom Instructions: In** the settings, you can tell the AI: "I'm a teacher, always answer me pedagogically." This influences every answer in the background.
3. **The temperature of AI:** AI systems work with probabilities. They are programmed to add a certain amount of "creativity" (chance) so that they don't sound like an encyclopedia.
4. **Location & Profile:** Google Gemini knows (if allowed) where you are. The recommendation for a restaurant is therefore adapted locally.

Personalization: Models learn from their chat history (e.g., preferences).
Different users have different contexts – a prompt for you (with experience) might go deeper than a newbie. Examples: "Tell a story" – child-friendly for a child, more philosophical for an adult. Customize prompts: "Tailor the answer to a 40-year-old with basic AI skills."

Hallucinations: Debunking the hoax

Why does AI hallucinate?

Imagine you have to tell a story, but you don't know the end. They would try to find an ending that "sounds right". That's exactly what AI does. She wants to please you and prefers to give a wrong answer rather than "I don't know" (although it gets better).

How do I check the sources?

1. **Counter question:** "Name me the specific website or book from which this information comes."
2. **Perplexity check:** Copy the assertion to Perplexity. Since this tool searches the web, it will immediately show you if there is any real evidence.
3. **Logic test:** AIs are bad at computing and logic puzzles. Always check numbers.

The Art of "Prompting" (Writing Instructions)

A good prompt needs structure. Use the R-A-F formula:

- Role: "You act as an experienced IT expert for seniors."
- Task: "Explain to me how to create a strong password."
- Format: "Write it as a short checklist with a maximum of 5 points."

Additional tip for professionals: Give AI an example!

"Create an invitation like this:

but for a hike instead of dinner.

Final Prompt List - Your Entries for Your Use

Here is an empty list for your own prompts. Record successful prompts and adjust them.

1.
2.
3.

Add more and experiment!

My first professional prompt

Use this space to design your first structured prompt during the presentation.

My role for AI:

(e.g. tour guide, nutritionist, grandchild coach)

My exact task:

(e.g. create a list, write an email, summarize a topic)

Limitations / Format:

(e.g. maximum 100 words, in table form, in polite you form)

Notes:

Disclaimer

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