DAY 06 · Part 1 · What AI Is

Why does AI calmly make up facts? — Hallucination

Five-Minute AI Lessons · Sep 12, 2026

Saying it confidently doesn't make it true

In a nutshell

1. AI isn't looking up facts — it just picks **the most likely next words**, so it can produce wrong sentences with total confidence.

2. This is called **hallucination** — it's not an intent to lie, but a limit of a design that builds answers that sound likely.

3. It's especially likely to be wrong about facts that are missing or rare in its training data, recent news, or exact numbers and dates — **always check somewhere else**.

One picture

No right answer? The odds still pick one

Question:
“Which paper backs up this claim?”

→

AI: mixes believable names and titles by probability

→

Result: a paper and author that don't exist

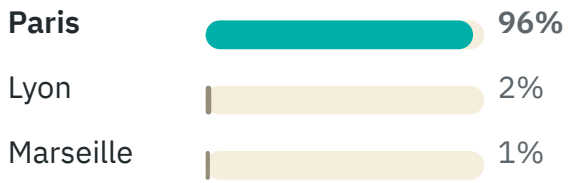
When you check: neither that author nor that paper actually existed.

Key idea: always double-check important facts with another source.

How the odds spread, question by question

96%

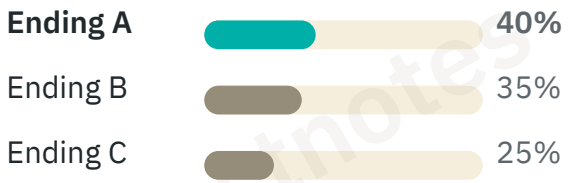
Easy · “Capital of France?”



Shows up a lot in training data → the odds pile up on one side

40%

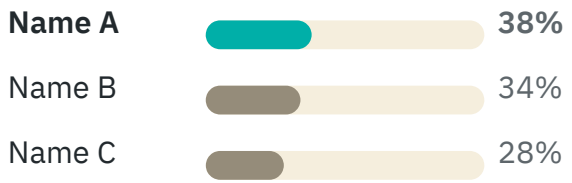
Vague · “The hidden ending?”



No clear answer → the odds spread out evenly

38%

No answer · “Who wrote it?”



Even with no answer at all, probability picks something anyway

Even when the odds are even, AI picks one and says it 'confidently'.

※ The numbers are examples to help you understand.

Quick check

Just three questions

Q1

What's the root cause of hallucination?

① The AI means to lie

② AI is built to pick likely-sounding words

③ Server errors

④ The user asked the question wrong

Q2

(True / False) Hallucination happens more often when you ask about things that are missing or rare in the training data.

Q3

(True / False) If AI answers in a confident tone, what it says is always true.

Know the why, too

Q1

② AI is built to pick the most likely next words, not to look up facts — so even with no right answer, it produces something believable.

Q2

T The rarer the fact, the blurrier the probabilities get — and it fills the gap with believable-sounding words.

Q3

F A confident tone and whether something is true are two different things. Always check important info separately.

Saying it confidently doesn't make it true.

Tomorrow: 'memory limits' — why does AI forget what you just said?