

AICADEMY · Course 1 · Free

AI Foundations.

What AI really is, how it works, and when to trust it

With the AICADEMY Team

6 lessons · About 45 minutes · Certificate of completion

*No tech background
needed. Just curiosity.*

Independent course. Not affiliated with any AI company. · Content checked Oct 2026

How this course works

Six short lessons. One activity. One quiz.

Watch

Six lessons, about five to ten minutes each. Pause whenever you like.

Try

A ten-minute activity with ChatGPT or Claude, both free, so you learn by doing.

Quiz

Ten questions. Score 8 or more to pass. Retake as often as you need.

Certificate

Ready the moment you pass, with a link anyone can verify.

You need

A phone or computer, an internet connection, and a free ChatGPT or Claude account for the activity. The free plans are enough.

By the end of this course

Five things you'll be able to do

1 Explain AI in plain words
What it is, and how it differs from regular software

2 Describe how machines learn
Examples in, patterns out, and why data matters

3 Understand how chatbots answer
Tokens, next-word prediction, and why answers vary

4 Know its strengths and limits
Where AI helps, and where it struggles

5 Catch mistakes
Spot a hallucination and check an answer in three quick ways

LESSON 1 OF 6

What we mean by *AI*

You already use AI every day. Let's find it.

AI is already around you

Six places you probably used AI this week

Maps

Predicts traffic and picks the fastest route right now

Spam filter

Moves junk email out of your inbox without being told each time

Photo search

Finds "dog" or "beach" in your photos, even untagged ones

Recommendations

Suggests the next video, song, or product you might like

Voice assistants

Turns your speech into text and works out what you meant

Face unlock

Recognizes your face, even with new glasses or a haircut

Rules written by people, or patterns learned from examples

Regular software

A person writes every rule.

If the total is over \$50, **then** give free delivery.

Great when the rules are clear and fixed.

AI

It learns the rules from examples.

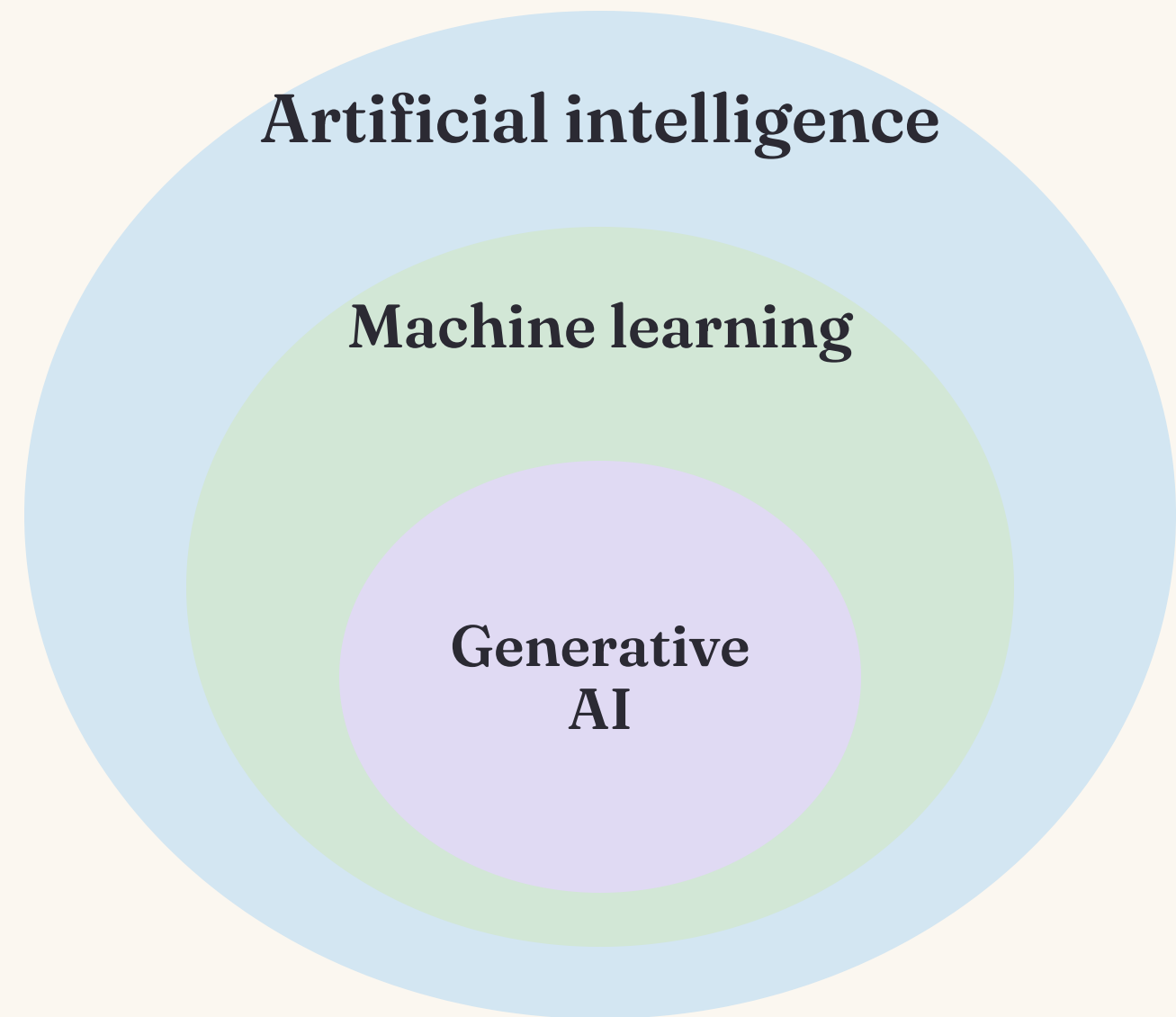
Show it **10,000 photos** labeled cat or dog, and it works out what makes a cat a cat.

Great when the rules are too fuzzy to write down.

Regular software follows a recipe. AI learns by tasting thousands of dishes.

Three words, sorted

AI, machine learning, and generative AI



AI Any computer system doing things that usually need human intelligence.

Machine learning The most common way to build AI today: learning patterns from data.

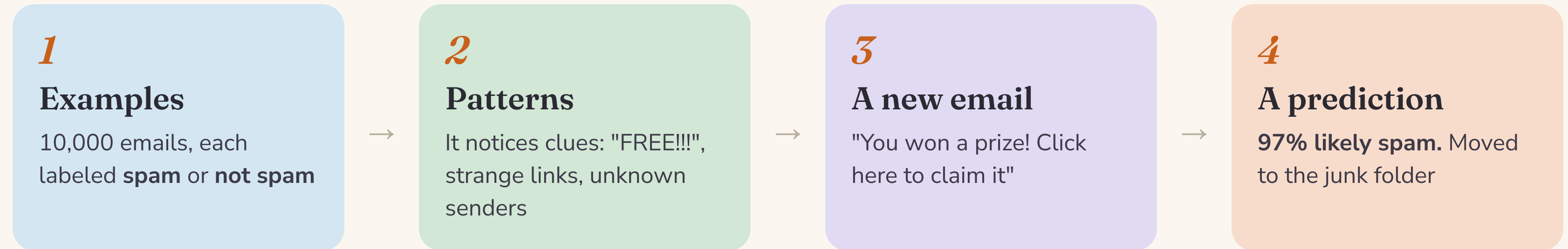
Generative AI Machine learning that creates new things: text, images, audio, code.

LESSON 2 OF 6

How machines *learn*

No magic. Just lots of examples, and patterns.

How a spam filter learns, in four steps



Notice Nobody wrote a rule for this exact scam. The filter recognized the pattern on its own, and it gives a likelihood, not a certainty.

Two phases

First it learns. Then it gets used.

Training

The AI studies huge amounts of examples, adjusting itself until its guesses get good. This takes a lot of time and computing power, and happens **before** you ever use it.

Using it

You give it something new, and it applies what it learned, in a second or two. Most AI tools **don't learn from each conversation** the way people do.

Like studying for an exam, then taking it. The studying happens first.

Data decides what it learns

An AI is only as good as its examples

Good examples

Lots of them, correctly labeled, covering many real situations. The AI works well for everyone it meets.

Gaps

If it never saw snowy roads in training, a driving AI may struggle in snow. Missing examples mean blind spots.

Bias

If most of its photos of "doctors" show men, it may assume doctors are men. It copies the patterns it was shown, fair or not.

Remember Garbage in, garbage out. AI doesn't know what's fair or true. It knows what was common in its data.

LESSON 3 OF 6

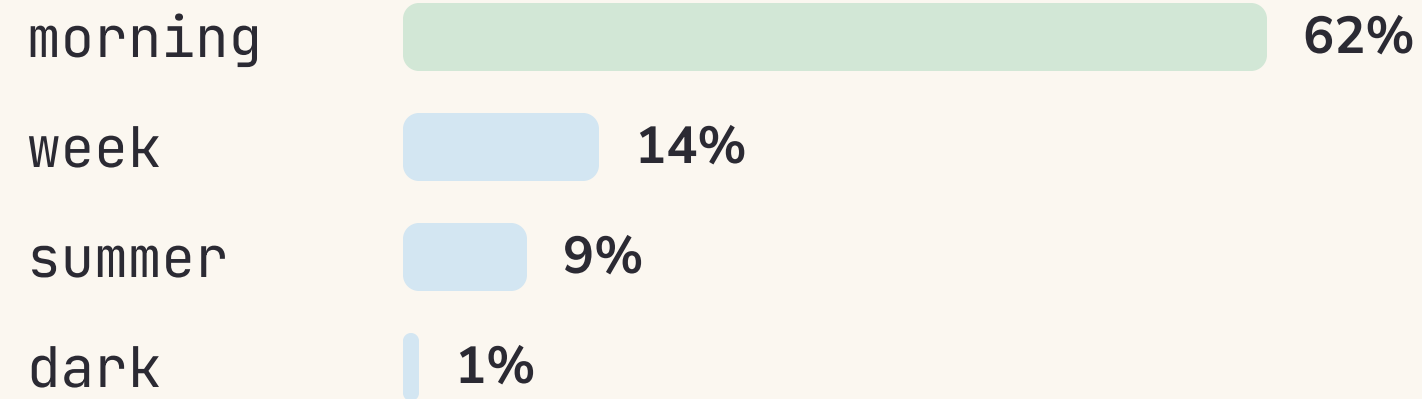
How chatbots *answer*

Large language models, explained without the math.

The big idea

A chatbot predicts the next word, again and again

The café opens at 7 in the ----



Then

It adds the word it picked, and predicts the next one. Word by word, a whole answer appears.

Large

It learned these odds from a huge amount of text: books, websites, articles, and code.

Autocomplete on your phone, with a much, much bigger memory of patterns.

Tokens

AI reads in small pieces, not whole words

Un believ able ! The café is open .

What a token is

A word or a piece of one. Common words are one token; long or rare words get split up.

Rule of thumb

In English, 100 tokens is roughly 75 words.

Why it matters

Tools measure limits and prices in tokens. And it explains odd slips, like miscounting letters.

From predictor to assistant

Three layers turn word prediction into a helpful chat

1 Pretraining

1 Reads a huge amount of text and learns to predict the next word. Now it knows language, facts, and patterns, but it isn't helpful yet.

2 Fine-tuning

2 Trained further on examples of good conversations, and on people rating answers, so it learns to be helpful, honest, and safe.

3 Your conversation

3 Your message, plus the chat so far, goes in each time. That window has a size limit, so very long chats can lose early details.

Why answers vary

Ask the same question twice, get two different answers

Ask: "Describe a café in one sentence."

Try 1: A cozy corner where the smell of fresh coffee greets you at the door.

Try 2: A bright little shop serving warm drinks and quiet conversations.

Why

It doesn't always pick the single most likely word. A little randomness keeps answers natural.

Good for

Brainstorming and writing: ask again for fresh ideas.

Careful with

Facts and numbers: if answers disagree, that's a warning sign.

LESSON 4 OF 6

Good at, *bad at*

Where AI shines, and where it still stumbles.

Where AI is strong

Language tasks, done fast

Drafting

A first version of an email, essay, or post in seconds

Summarizing

The key points of a long article or report

Explaining

A hard idea in simpler words, with examples

Brainstorming

Twenty ideas for a project name, a gift, or a plan

Translating

Between languages, and between formal and casual tone

Coding help

Reading, explaining, and writing code (our Claude Code course!)

Where AI struggles

Know these, and you'll avoid most mistakes

Made-up facts

It can invent names, dates, quotes, or sources that sound real.

Exact math

It predicts words, so long calculations can slip. Use a calculator.

Recent news

Its training stops at a date. Without a search tool, it doesn't know what happened since.

Knowing you

It doesn't know your situation unless you tell it.

Judgment calls

Medical, legal, or money decisions need a qualified person.

Being sure

It sounds equally confident when it's right and when it's wrong.

A helpful way to think about it

Treat AI like a brilliant, brand-new intern

A great intern

Fast, tireless, well-read, and happy to try anything you ask.

But brand-new

Doesn't know your context, makes confident mistakes, and needs you to check the work.

Good use

"Draft an email, and I'll edit it."

"Explain this topic, and give me sources to check."

"Give me ten ideas, and I'll pick."

Risky use

Sending its draft without reading it

Quoting its facts in a report unchecked

Letting it make a health or money decision

LESSON 5 OF 6

Hallucinations, *and how to catch them*

When AI sounds sure, but it's wrong.

What a hallucination looks like

Confident, detailed, and completely made up

Give me a quote about coffee from a famous scientist, with the source.

"Coffee is the fuel of discovery." Dr. Helena Marsh, *The Chemistry of Morning*, 1987, page 112.

Looks real

A name, a book title, a year, even a page number. Very convincing.

Is invented

In this example, the person, the book, and the quote don't exist. The AI built a quote-shaped answer.

Common spots

Quotes, citations, statistics, people's biographies, and very specific details.

Why it happens

It's built to sound right, not to check facts

It predicts

It produces the most likely-sounding next words. "Likely-sounding" and "true" are usually the same, but not always.

It fills gaps

When it doesn't know, it rarely stops. It fills the gap with something that fits the pattern.

No built-in fact-check

Unless it searches the web or reads a document you gave it, it isn't looking anything up.

Helps Ask it to say when it's unsure, to use only a document you provide, or to search and show its sources.

Three quick checks

Use them before you trust, share, or submit

1

Source

Find it yourself in a trusted place: an official site, a known publisher, your textbook.

Can I open the source and see it?

2

Second opinion

Ask again in a new chat, or ask another tool. Do the answers agree?

Do two answers match?

3

Common sense

Does it fit what you already know? Are the numbers reasonable?

Does this make sense?

The more it matters, the more checks you do.

LESSON 6 OF 6

AI around you, *and what's next*

How AI is changing work, and how you can stay ahead.

Four places it's already making a difference

Health

Helping doctors read X-rays and scans, and spotting patterns in patient records.

School

Tutoring, explaining topics in new ways, and helping teachers prepare materials.

Business

Answering customer questions, writing product descriptions, and forecasting sales.

Public services

Translating information, sorting requests, and planning traffic and transport.

In every case People make the final decisions. AI does the first draft, the sorting, or the spotting.

Jobs change, tasks shift

AI takes over tasks, not whole people

A day in an office job

Writing routine emails

AI helps

Summarizing meeting notes

AI helps

Solving a customer's unusual problem

You lead

Building trust with a client

You lead

Deciding what matters most

You lead

Human strengths

Judgment, empathy, creativity, and taking responsibility.

Your edge

People who know how to use AI well will do more, and do it better.

Your activity · about 10 minutes

Ask three questions. Judge three answers.

Open ChatGPT or Claude (the free plans work). Ask one question of each type, rate the answer, and write how you checked it.

Type	Example question	Your rating	How you checked
A fact	"How tall is the Eiffel Tower?"	Correct · Partly · Wrong	Source
An opinion	"What's the best way to study for an exam?"	Helpful · So-so · Not helpful	Common sense
Something recent	"What happened in the news this week?"	Correct · Partly · Wrong	Second opinion

Watch for Does it admit when it doesn't know something recent? Does the fact match a trusted source?

Quiz and certificate

Ten questions. Eight to pass.

The quiz

Ten multiple-choice questions on all six lessons. About ten minutes.

Pass mark

Score 8 or more. Missed it? Review the lesson, wait ten minutes, and try again.

Your certificate

Ready the moment you pass, with your name, the date, and a link anyone can verify.

Starter Path Finish all four free courses for the Starter Path certificate, plus 20% off the Claude Code course.

Cheat card · screenshot this

AI Foundations on one card

AI Learns patterns from examples, instead of following written rules

Training Happens first, on lots of data. Data decides what it learns

Chatbots Predict the next token, again and again

Answers vary A little randomness, on purpose.
Disagreement is a warning

Strong at Drafting, summarizing, explaining, brainstorming

Weak at Made-up facts, exact math, recent news, judgment calls

Hallucination Confident but false. Common in quotes and citations

Three checks Source · Second opinion · Common sense

Next · Course 2

Generative AI Essentials

Text

Writing, summarizing, and translating with chat assistants

Images

Creating and editing pictures with words

Audio and video

Voices, transcripts, and short clips, used responsibly

Choosing a tool

Free or paid, privacy settings, and what to check first

Continue to Course 2

You'll make a real flyer with AI in your first hour.