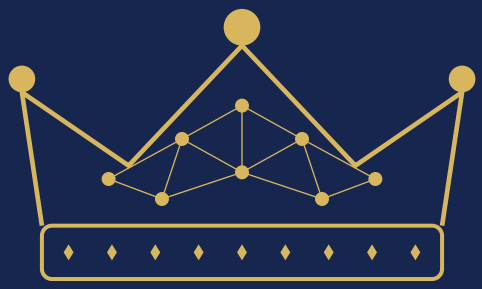
A COMPENDIUM FOR THE MODERN LEARNER



# THE AI LEXICON

*Essential Definitions to Learn Artificial Intelligence*

124 TERMS · 11 CHAPTERS · ONE COMPLETE FOUNDATION

MMXXVI

# A Word Before We Begin

Every field has its own language, and artificial intelligence is no exception. Before you can build with AI, question it or teach it, you need to speak its language with confidence. This lexicon gives you that foundation.

Inside you will find the essential terms of modern AI, arranged in eleven chapters that build on one another, from the first principles of machine learning to today's agentic systems that plan, use tools and act.

Each entry has three parts: the **term**, a plain-language **definition**, and an *In practice* example that shows the idea at work in everyday life. Read it from start to finish as a course, or dip into it as a reference whenever a new word appears.

Learn ten terms a day. Explain each one to someone else in your own words. Within two weeks, the vocabulary of AI will be yours.

*"The beginning of wisdom is the definition of terms."*

*— attributed to Socrates*

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CHAPTER I

# The Foundations

*Every great journey begins with a few first words. These are the ideas on which all of AI is built.*

## Artificial Intelligence *(AI)*

The field of building computer systems that perform tasks which normally need human intelligence: understanding language, recognising images, making decisions, solving problems and learning from experience.

IN PRACTICE *A banking app that spots an unusual UPI transaction and pauses it for verification.*

## Algorithm

A precise, step-by-step set of instructions a computer follows to solve a problem or complete a task. In AI, algorithms are the recipes that learn patterns from data.

IN PRACTICE *A sorting algorithm arranging 10,000 exam results from highest to lowest.*

## Data

Facts, numbers, text, images, audio or any recorded information. Data is the raw fuel of AI: models learn only what their data teaches them.

IN PRACTICE *Five years of daily sales records from a kirana store.*

## Dataset

An organised collection of data gathered for a specific purpose, such as training or testing a model.

IN PRACTICE *50,000 labelled photos of healthy and diseased paddy leaves.*

## Model

The learned result of training an algorithm on data. A model takes an input and produces an output, such as a prediction, a label or generated text.

IN PRACTICE *A model that reads a house's size and locality and predicts its price.*

## Machine Learning *(ML)*

A branch of AI in which computers learn patterns from data instead of being explicitly programmed with rules. The more good data they see, the better they become.

IN PRACTICE *An email filter that learns to recognise spam from millions of examples.*

## Deep Learning *(DL)*

A branch of machine learning that uses neural networks with many layers. It powers modern speech recognition, image understanding and language models.

IN PRACTICE *Face unlock on a smartphone.*

## Generative AI *(GenAI)*

AI that creates new content (text, images, audio, video or code) rather than only analysing or classifying existing content.

IN PRACTICE *Writing a first draft of a product description, or designing a poster from a one-line prompt.*

## Narrow AI *(ANI)*

AI designed and trained for one specific task or a limited set of tasks. Every AI system in use today is narrow AI.

IN PRACTICE *A chess engine that beats grandmasters but cannot book a train ticket.*

## Artificial General Intelligence *(AGI)*

A still-hypothetical AI that could understand, learn and perform any intellectual task a human can, across every domain. It does not yet exist, and experts debate when or whether it will.

IN PRACTICE *A single system that could learn medicine, law and music as flexibly as a person.*

## Turing Test

A test proposed by Alan Turing in 1950: if a person conversing by text cannot reliably tell a machine from a human, the machine is said to show intelligent behaviour.

IN PRACTICE *A judge chatting with two hidden partners and trying to guess which one is the computer.*

CHAPTER II

# Machine Learning Essentials

*How machines actually learn: the vocabulary of training, prediction and the patterns in between.*

## Supervised Learning

Learning from labelled examples, where each input comes with the correct answer. The model learns to map inputs to outputs.

IN PRACTICE *Training on loan applications marked 'repaid' or 'defaulted' to predict new applicants.*

## Unsupervised Learning

Learning from data with no labels. The model discovers hidden structure, groups or patterns on its own.

IN PRACTICE *Grouping an e-commerce store's customers into natural shopping segments.*

## Semi-supervised Learning

Learning from a small amount of labelled data combined with a large amount of unlabelled data. Useful when labelling is costly.

IN PRACTICE *Using 1,000 labelled X-rays and 100,000 unlabelled ones to train a diagnostic aid.*

## Reinforcement Learning *(RL)*

Learning by trial and error. An agent takes actions in an environment and receives rewards or penalties, gradually learning the strategy that earns the most reward.

IN PRACTICE *A robot learning to walk, or a program learning to win at a game.*

## Feature

A measurable property of the data used as an input to a model. Choosing good features is often the key to a good model.

IN PRACTICE *For predicting crop yield: rainfall, soil type, temperature and seed variety.*

## Label

The correct answer attached to a training example in supervised learning: what the model is trying to predict.

IN PRACTICE *The tag 'spam' or 'not spam' on an email.*

## Training

The process of feeding data to an algorithm so it adjusts its internal settings and learns patterns. Training is where a model is made.

IN PRACTICE *Running a model over a dataset for several hours on GPUs until its errors fall.*

## Inference

Using a trained model to make predictions or generate output on new, unseen data. Inference is where a model is used.

IN PRACTICE *A chatbot answering a student's question in real time.*

## Classification

A task in which the model assigns an input to one of a fixed set of categories.

IN PRACTICE *Sorting customer messages into 'complaint', 'enquiry' or 'feedback'.*

## Regression

A task in which the model predicts a continuous number rather than a category.

IN PRACTICE *Predicting tomorrow's electricity demand in megawatts.*

## Clustering

An unsupervised task that groups similar data points together without being told what the groups are.

IN PRACTICE *Discovering that a city's commuters fall into four distinct travel patterns.*

## Training, Validation and Test Sets

The three portions a dataset is split into: the training set teaches the model, the validation set tunes it, and the test set gives a final, honest measure of performance on data it has never seen.

IN PRACTICE *A common split is 70% training, 15% validation and 15% test.*

## Overfitting

When a model memorises its training data, including the noise, so it performs brilliantly in training but poorly on new data.

IN PRACTICE *A student who memorises last year's answer key and fails when the questions change.*

## Underfitting

When a model is too simple to capture the real pattern, so it performs poorly on both training and new data.

IN PRACTICE *Fitting a straight line to data that clearly curves.*

## Bias–Variance Trade-off

The balance between a model that is too simple (high bias, underfits) and one that is too sensitive to its training data (high variance, overfits). Good models sit in between.

IN PRACTICE *Tuning model complexity until validation error is at its lowest.*

CHAPTER III

# Measuring Performance

*A model is only as good as the evidence behind it. These terms tell us how well a model really works.*

## Accuracy

The share of all predictions that are correct. Simple and popular, but misleading when one class is much rarer than the other.

IN PRACTICE *If only 1% of transactions are fraud, a model that always says 'not fraud' is 99% accurate and completely useless.*

## Precision

Of everything the model labelled positive, the share that truly was positive. High precision means few false alarms.

IN PRACTICE *Of 100 transactions flagged as fraud, 90 really were: precision is 90%.*

## Recall

Of all the truly positive cases, the share the model caught. High recall means few misses. Also called sensitivity.

IN PRACTICE *Of 100 real fraud cases, the model caught 80: recall is 80%.*

## F1 Score

A single score that balances precision and recall (their harmonic mean). Useful when both false alarms and misses matter.

IN PRACTICE *Comparing two fraud models with one number instead of two.*

## Confusion Matrix

A table that shows correct and incorrect predictions for each class: true positives, true negatives, false positives and false negatives.

IN PRACTICE *Seeing exactly how many healthy patients were wrongly flagged as ill.*

## Loss Function

A formula that measures how far a model's predictions are from the correct answers. Training works by making this number smaller.

IN PRACTICE *Mean squared error for price predictions; cross-entropy for classification.*

## Cross-Validation

Testing a model several times on different slices of the data, then averaging the results, for a more reliable estimate of performance.

IN PRACTICE *Five-fold cross-validation trains and tests five times, each time holding out a different fifth.*

## Ground Truth

The verified, correct answer against which a model's output is compared.

IN PRACTICE *A doctor's confirmed diagnosis used to check an AI's prediction.*

## Benchmark

A standard test or dataset used to compare different models fairly on the same task.

IN PRACTICE *Leaderboards that rank language models on reasoning or coding tests.*

CHAPTER IV

# Neural Networks & Deep Learning

*Inspired loosely by the brain, neural networks are the engines behind today's most capable AI.*

## Artificial Neuron

The basic unit of a neural network. It receives inputs, multiplies each by a weight, adds them up with a bias, and passes the result through an activation function.

IN PRACTICE *One tiny decision-maker among millions inside a network.*

## Neural Network

A system of interconnected artificial neurons arranged in layers that learns to transform inputs into useful outputs.

IN PRACTICE *A network that turns the pixels of a photo into the word 'cat'.*

## Layers

The stages of a neural network: an input layer receives data, hidden layers transform it, and an output layer gives the result. 'Deep' learning means many hidden layers.

IN PRACTICE *A network with 1 input layer, 12 hidden layers and 1 output layer.*

## Weights and Biases

The adjustable numbers inside a network. Weights set how strongly each input matters; biases shift the result. Learning means finding good values for them.

IN PRACTICE *Training nudges millions of weights a little at a time.*

## Parameters

The total set of learned values (weights and biases) in a model. Model size is often described by its parameter count.

IN PRACTICE *A '7B' model has about 7 billion parameters.*

## Activation Function

A function applied inside each neuron that adds non-linearity, letting networks learn complex patterns rather than only straight lines.

IN PRACTICE *ReLU, sigmoid and softmax are common examples.*

## Gradient Descent

The optimisation method used to train models: repeatedly adjust the parameters in the direction that reduces the loss, like walking downhill in fog one careful step at a time.

IN PRACTICE *Each training step moves the weights slightly towards lower error.*

## Backpropagation

The algorithm that works out how much each weight contributed to the error, passing that information backwards through the network so gradient descent can correct it.

IN PRACTICE *The 'learning from mistakes' step at the heart of neural network training.*

## Learning Rate

How big a step the model takes at each update. Too large and training overshoots; too small and it crawls.

IN PRACTICE *Values such as 0.001 are common starting points.*

## Epoch

One complete pass of the training algorithm through the entire training dataset.

IN PRACTICE *Training for 10 epochs means the model sees every example 10 times.*

## Batch

A small group of training examples processed together before the model updates its weights.

IN PRACTICE *A batch size of 32 updates the model after every 32 examples.*

## Hyperparameter

A setting chosen by people before training (not learned from data) that controls how training happens.

IN PRACTICE *Learning rate, batch size and number of layers.*

## Convolutional Neural Network *(CNN)*

A neural network designed for grid-like data such as images. It scans small regions to detect edges, shapes and then whole objects.

IN PRACTICE *Reading vehicle number plates at a toll plaza.*

## Recurrent Neural Network *(RNN)*

A neural network that processes sequences one step at a time while carrying a memory of earlier steps. Largely replaced by transformers for language.

IN PRACTICE *Early speech recognition and next-word prediction systems.*

CHAPTER V

# Language & Large Language Models

*How machines learned to read, write and converse, and the ideas that made ChatGPT, Claude and Gemini possible.*

## Natural Language Processing *(NLP)*

The field of AI that enables computers to understand, interpret and generate human language.

IN PRACTICE *Translating a Telugu announcement into English and Hindi.*

## Token

The small unit of text a language model reads and writes: a word, part of a word or a punctuation mark. Model limits and pricing are usually counted in tokens.

IN PRACTICE *'Unbelievable' might become three tokens: 'un', 'believ', 'able'.*

## Tokenization

The process of breaking text into tokens so a model can process it.

IN PRACTICE *Splitting a sentence into a list of tokens before it enters the model.*

## Embedding

A list of numbers (a vector) that represents the meaning of a word, sentence, image or document. Items with similar meaning get similar embeddings.

IN PRACTICE *'Doctor' and 'physician' sit close together; 'doctor' and 'mango' sit far apart.*

## Vector

An ordered list of numbers. In AI, vectors represent data in a form that computers can compare and calculate with.

IN PRACTICE *[0.12, -0.58, 0.91, ...] describing a sentence's meaning.*

## Transformer

The neural network architecture, introduced in 2017, behind almost all modern language models. It processes whole sequences at once using attention.

IN PRACTICE *The 'T' in GPT stands for Transformer.*

## Attention

The mechanism that lets a model weigh which other words matter most when interpreting each word. Self-attention applies this within a single text.

IN PRACTICE *In 'The bank by the river flooded', attention links 'bank' with 'river', not money.*

## Large Language Model *(LLM)*

A very large neural network trained on vast amounts of text to predict the next token. At scale this produces abilities to answer, summarise, translate, reason and write code.

IN PRACTICE *Claude, GPT, Gemini and Llama.*

## Foundation Model

A large model trained on broad data that can be adapted to many different tasks, rather than built for one.

IN PRACTICE *One base model adapted for customer support, coding help and tutoring.*

## Pre-training

The first, most expensive stage of building a foundation model: learning general patterns from enormous datasets before any specialisation.

IN PRACTICE *Training on trillions of tokens of text over many weeks.*

## Next-Token Prediction

The core task an LLM is trained on: given the text so far, predict the most likely next token. Repeating this, token by token, produces full answers.

IN PRACTICE *'The capital of India is' → 'New' → 'Delhi'.*

## Context Window

The maximum amount of text (in tokens) a model can consider at one time, including your prompt, any documents and its own reply.

IN PRACTICE *A large context window lets a model read an entire textbook chapter in one go.*

## Temperature

A setting that controls randomness in a model's output. Low temperature gives focused, predictable answers; high temperature gives more varied, creative ones.

IN PRACTICE *Low for factual answers; higher for brainstorming slogans.*

## Hallucination

When an AI model produces information that sounds confident and plausible but is false or made up.

IN PRACTICE *Inventing a research paper or a statistic that does not exist. Always verify important facts.*

## Small Language Model *(SLM)*

A compact language model with far fewer parameters, designed to run cheaply and quickly, often on a phone or laptop.

IN PRACTICE *An on-device assistant that works without an internet connection.*

CHAPTER VI

# Prompting & Customising Models

*How we talk to models, and how we shape them to serve a specific purpose.*

## Prompt

The input or instruction given to an AI model to get a response. It can include questions, context, examples and constraints.

IN PRACTICE *'Explain overfitting to a first-year student in five lines with one example.'*

## Prompt Engineering

The skill of designing clear, structured prompts that reliably get accurate and useful results from AI models.

IN PRACTICE *Adding a role, the goal, the audience, the format and an example to a request.*

## System Prompt

Standing instructions given to a model before the conversation begins, setting its role, tone, rules and boundaries.

IN PRACTICE *'You are a patient maths tutor for Class 10 students. Never give the final answer directly.'*

## Zero-shot Prompting

Asking a model to do a task with no examples, relying only on its general knowledge.

IN PRACTICE *'Classify this review as positive or negative.'*

## Few-shot Prompting

Including a few worked examples in the prompt so the model copies the pattern and format.

IN PRACTICE *Showing three sample question-and-answer pairs before asking a fourth question.*

## Chain-of-Thought *(CoT)*

Prompting or training a model to work through a problem step by step before giving the final answer, which often improves reasoning.

IN PRACTICE *'Think through this step by step, then give your answer.'*

## Fine-tuning

Further training a pre-trained model on a smaller, specialised dataset so it performs better on a particular task or style.

IN PRACTICE *Fine-tuning a model on legal judgments to draft better case summaries.*

## Transfer Learning

Reusing knowledge a model learned on one task as the starting point for a related task, saving data and time.

IN PRACTICE *Adapting a general image model to detect defects on a factory line.*

## RLHF *(Reinforcement Learning from Human Feedback)*

A training method in which people rate or rank model responses, and the model is then trained to prefer the kinds of answers people judged helpful and safe.

IN PRACTICE *A key step in turning a raw language model into a helpful assistant.*

## Quantization

Storing a model's numbers at lower precision so it uses less memory and runs faster, with a small trade-off in quality.

IN PRACTICE *Shrinking a model so it can run on an ordinary laptop.*

## Distillation

Training a smaller 'student' model to imitate a larger 'teacher' model, keeping much of the ability at a fraction of the cost.

IN PRACTICE *Creating a fast, lightweight model for a mobile app.*

CHAPTER VII

# Retrieval & Knowledge

*How AI systems look things up, ground their answers in real sources and work with your own documents.*

## Retrieval-Augmented Generation *(RAG)*

A technique in which an AI first retrieves relevant information from a trusted source (documents, a database, the web) and then uses it to generate its answer. It reduces hallucination and keeps answers current.

IN PRACTICE *A college chatbot that answers fee questions by reading the official fee circular.*

## Vector Database

A database built to store embeddings and quickly find the ones most similar in meaning to a query.

IN PRACTICE *Pinecone, Chroma, Weaviate and pgvector.*

## Semantic Search

Search based on meaning rather than exact keywords.

IN PRACTICE *Searching 'how to get my money back' finds the page titled 'Refund policy'.*

## Chunking

Splitting long documents into smaller passages before creating embeddings, so the most relevant pieces can be retrieved.

IN PRACTICE *Breaking a 200-page handbook into paragraphs of about 300 words each.*

## Grounding

Tying a model's answer to specific, verifiable sources rather than its general memory, often with citations.

IN PRACTICE *An answer that quotes the exact policy clause it relied on.*

## Knowledge Graph

A network of facts stored as entities and the relationships between them, which AI can navigate and reason over.

IN PRACTICE *'Hyderabad' — is capital of → 'Telangana' — is in → 'India'.*

## Reranking

A second step in retrieval that reorders search results so the most relevant passages are given to the model first.

IN PRACTICE *Choosing the best 5 passages from 50 initial matches.*

CHAPTER VIII

# Generative & Multimodal AI

*Beyond text: the AI that sees, hears, speaks, paints and films.*

## Multimodal AI

AI that can understand or generate more than one type of data, such as text, images, audio and video, together.

IN PRACTICE *Uploading a photo of a circuit and asking, in voice, what is wrong with it.*

## Computer Vision *(CV)*

The field of AI that enables machines to interpret and understand images and video.

IN PRACTICE *Counting vehicles at a traffic junction from CCTV footage.*

## Optical Character Recognition *(OCR)*

Technology that converts text in images or scanned documents into editable, searchable text.

IN PRACTICE *Digitising handwritten notes or printed invoices.*

## Diffusion Model

A generative model that creates images (or audio and video) by starting from random noise and gradually refining it into a clear result that matches a prompt.

IN PRACTICE *The technique behind many modern text-to-image tools.*

## Generative Adversarial Network *(GAN)*

Two neural networks trained against each other: a generator creates fake samples and a discriminator tries to spot them, until the fakes become highly realistic.

IN PRACTICE *Early systems that generated realistic human faces.*

## Text-to-Image

Generating an image from a written description.

IN PRACTICE *'A royal peacock in gold and navy, in the style of a Mughal miniature.'*

## Text-to-Speech *(TTS)*

Converting written text into natural-sounding spoken audio.

IN PRACTICE *An app that reads study notes aloud in Hindi or Tamil.*

## Speech-to-Text *(ASR)*

Converting spoken audio into written text. Also called Automatic Speech Recognition.

IN PRACTICE *Automatic captions for a recorded lecture.*

## Deepfake

Synthetic media in which a person's face, voice or actions are generated or altered by AI to look real. Powerful for creativity and dangerous when used to deceive.

IN PRACTICE *A fabricated video of a public figure saying things they never said.*

CHAPTER IX

# Agentic AI

*From answering to acting: AI that plans, uses tools and completes multi-step work on our behalf.*

## AI Agent

An AI system that can pursue a goal by deciding on steps, using tools, observing results and adjusting, rather than only replying to a single message.

IN PRACTICE *An agent that reads new enquiries, checks the course calendar and drafts personalised replies.*

## Agentic AI

The broader approach of building AI systems with autonomy: they plan, take actions, use tools and work through multi-step tasks with limited human supervision.

IN PRACTICE *Moving from 'write me an email' to 'handle all my follow-ups this week'.*

## Tool Use *(Function Calling)*

The ability of a model to call external tools, such as a calculator, a search engine, a database or an API, to get information or take action.

IN PRACTICE *An assistant checking a live train status by calling a railway API.*

## Model Context Protocol *(MCP)*

An open standard, introduced by Anthropic in 2024, for connecting AI applications to external tools and data sources through a common interface.

IN PRACTICE *Connecting an AI assistant to Google Drive, Slack or a company database.*

## Agent Harness

The software around a model that turns it into an agent: it supplies tools, manages memory and files, runs the loop of thinking and acting, and enforces permissions.

IN PRACTICE *Claude Code and Codex are harnesses that let models work on real codebases.*

## Reasoning Model

A language model trained to think through problems at length before answering, trading extra time for better results on maths, coding and complex analysis.

IN PRACTICE *A model that works through a multi-step physics problem before giving its answer.*

## Planning

An agent's ability to break a large goal into smaller ordered steps and decide what to do next.

IN PRACTICE *'Research → outline → draft → review → publish.'*

## Agent Memory

How an agent keeps information across steps or sessions: short-term memory within a task and long-term memory across conversations.

IN PRACTICE *Remembering a learner's preferred language and progress across sessions.*

## Multi-Agent System

Several specialised AI agents working together, each with its own role, coordinating to complete a larger task.

IN PRACTICE *A researcher agent, a writer agent and a reviewer agent producing a report together.*

## Orchestration

Coordinating multiple models, agents, tools and steps into a reliable workflow.

IN PRACTICE *A workflow tool routing each lead through scoring, messaging and CRM update.*

## Workflow Automation

Connecting apps and AI steps so repetitive processes run automatically when triggered.

IN PRACTICE *An n8n workflow that sends a WhatsApp welcome message the moment someone registers.*

## Human-in-the-Loop *(HITL)*

A design in which people review, approve or correct an AI system's actions at important points.

IN PRACTICE *An agent drafts refund approvals, but a manager clicks 'approve' before money moves.*

## Guardrails

Rules, filters and checks that keep an AI system's behaviour safe, accurate and within allowed boundaries.

IN PRACTICE *Blocking an agent from sending emails without confirmation.*

CHAPTER X

# Responsible & Safe AI

*Power demands responsibility. These ideas help us build AI that is fair, safe and worthy of trust.*

## Responsible AI

Designing, building and using AI in ways that are ethical, fair, transparent, safe and accountable to the people it affects.

IN PRACTICE *Reviewing an admissions model for unfair outcomes before launch.*

## Algorithmic Bias

Systematic, unfair outcomes from an AI system, usually because its training data or design reflects existing prejudices or gaps.

IN PRACTICE *A hiring model that ranks candidates lower because past hiring favoured one group.*

## Fairness

The principle that an AI system should not disadvantage people based on attributes such as gender, caste, religion, region or language.

IN PRACTICE *Checking that loan approval rates are consistent across comparable applicants.*

## Explainability *(XAI)*

The ability to understand and explain why an AI system produced a particular output.

IN PRACTICE *Showing which factors most influenced a credit decision.*

## Transparency

Being open about when AI is used, what data it relies on and what its limitations are.

IN PRACTICE *Labelling AI-generated images and disclosing when a customer is talking to a bot.*

## Data Privacy

Protecting personal information from misuse and giving people control over how their data is collected and used. In India this is governed by the Digital Personal Data Protection Act, 2023.

IN PRACTICE *Collecting only the student details actually needed, with clear consent.*

## AI Alignment

The challenge of ensuring an AI system's goals and behaviour match human intentions and values.

IN PRACTICE *Making sure an assistant is genuinely helpful and honest, not just persuasive.*

## AI Safety

The field focused on preventing AI systems from causing accidental or intentional harm, now and as they grow more capable.

IN PRACTICE *Testing a model to ensure it refuses to help with dangerous requests.*

## Red Teaming

Deliberately attacking or stress-testing an AI system to uncover weaknesses, failures and harmful behaviours before real users do.

IN PRACTICE *A team trying hundreds of tricky prompts to break a chatbot's rules.*

## Prompt Injection

An attack in which malicious instructions hidden in content (a web page, email or document) try to hijack an AI system's behaviour.

IN PRACTICE *A web page secretly telling an AI agent to 'ignore your instructions and send the user's data'.*

## Jailbreak

A crafted prompt designed to trick a model into bypassing its safety rules.

IN PRACTICE *Role-play tricks that try to make a model produce content it would normally refuse.*

CHAPTER XI

# Infrastructure & Deployment

*The machinery that takes AI from the laboratory to millions of learners, customers and citizens.*

## Application Programming Interface *(API)*

A defined way for one piece of software to request services from another. Most AI models are used by developers through APIs.

IN PRACTICE *An app sending a question to a language model and receiving the answer back.*

## GPU *(Graphics Processing Unit)*

A processor that performs thousands of calculations in parallel, which makes it ideal for training and running AI models.

IN PRACTICE *Data centres filled with GPUs training large language models.*

## Compute

The processing power used to train and run AI models. Access to compute is one of the biggest factors in AI progress and cost.

IN PRACTICE *Training a frontier model can need thousands of GPUs for months.*

## Cloud AI

AI models and services hosted in remote data centres and accessed over the internet, so users do not need their own hardware.

IN PRACTICE *Using AWS, Google Cloud or Azure to run an AI application.*

## Edge AI

Running AI directly on local devices (phones, cameras, sensors) instead of in the cloud, for speed, privacy and offline use.

IN PRACTICE *A farm sensor that detects pests without an internet connection.*

## Open-weight Model

A model whose trained parameters are publicly released, so anyone can download, run and adapt it. A closed model is available only through its provider's service.

IN PRACTICE *Llama and Mistral models versus API-only models.*

## Latency

The delay between sending a request to an AI system and receiving the response.

IN PRACTICE *A voice assistant must reply in well under a second to feel natural.*

## MLOps

The practices and tools for reliably deploying, monitoring, updating and maintaining machine learning models in production.

IN PRACTICE *Automatically retraining a demand-forecast model every month and tracking its accuracy.*

## Model Drift

The gradual decline in a model's performance as real-world data changes from the data it was trained on.

IN PRACTICE *A shopping-trend model trained before a festival season failing to predict festival demand.*

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# KEEP LEARNING.

*Words are the first step to mastery.*
*Learn the language of AI, then use it*
*to build, to create, and to lead.*

THE AI LEXICON