

MODULE 1 · WEEK 1 · LESSON 4

The AI Family Tree: ML, Deep Learning, GenAI, LLMs

Know which tool you are holding

WHAT YOU WILL BE ABLE TO DO

- Draw the nested relationship: AI contains ML contains DL
- Define generative AI and large language models precisely
- Choose the right family for a given problem

LESSON CONTENT

Nested dolls, not rivals

AI is the outer circle. Machine learning sits inside it: systems that learn from data. Deep learning sits inside ML: neural networks with many layers. Generative AI is a capability layer on top: models that produce new content. An LLM is a specific kind of generative model trained on text.

What each family is good at

Classic ML shines on tables of numbers: fraud scoring, demand forecasting. Deep learning shines on perception: images, speech, medical scans. Generative AI shines on creation: drafting, summarising, images, code. Matching problem to family is a core professional skill.

Multimodal is the new normal

Modern models mix text, images, audio and video in one system. When you send a photo of a receipt and ask for a spreadsheet, you are using a multimodal model. Knowing the family tells you what to expect - and what to verify.

KEY TERMS

Machine learning	Systems that improve at a task by learning from data.
Deep learning	Neural networks with many layers; strong at perception.
Generative AI	Models that create new text, images, audio or video.
LLM	Large language model: predicts text at massive scale.
Multimodal	One model handling text, images, audio together.

HANDS-ON TASK

Family tree sketch · Tools: Paper, or Canva free

1. Draw four nested or linked shapes: AI, ML, DL, GenAI/LLM.
2. Write one real example inside each shape.
3. Add one problem from your own life and place it in the right shape.

KEY TAKEAWAYS

- ✓ Before you go, three takeaways from this lesson.
- ✓ One: Draw the nested relationship: AI contains ML contains DL.

- ✓ Two: Define generative AI and large language models precisely.
- ✓ Three: Choose the right family for a given problem.
- ✓ And your hands-on task: family tree sketch.
- ✓ Draw four nested or linked shapes: AI, ML, DL, GenAI/LLM.
- ✓ When it is done, mark the lesson complete on your dashboard, keep the artifact for your portfolio, and step into the next lesson.
- ✓ I will see you there.

Watch the lesson video on your dashboard, complete the task, then mark the lesson complete. Your artifact belongs in your Portfolio of Evidence.