Vocabulary Guide

Living in the Age of Intelligence

Vocabulary Guide

Terms you'll encounter during the lectures. Don't worry about memorizing these—just getting familiar with the words will help you follow along.

Lecture 1: What is an LLM?

The Basics

AI (Artificial Intelligence) Machines that can do tasks we'd normally think require human smarts. A broad term covering everything from chess programs to self-driving cars to ChatGPT.

LLM (Large Language Model) The specific type of AI we'll be discussing. Systems like ChatGPT, Claude, and Gemini that can read and write human language. "Large" refers to the massive scale of their training.

Model In AI, a "model" is the trained system itself—the thing that takes your input and produces output. When someone says "the model predicted…" they mean the AI system made a guess.

How It Works

Token The basic unit these systems work with. Roughly a word or part of a word. When ChatGPT responds to you, it's generating one token at a time, predicting what should come next.

Neural Network A computer system loosely inspired by how brains work—lots of simple connected units that together can recognize patterns and make predictions. The "brain" inside the AI.

Weights The settings inside a neural network that determine how it behaves. Training adjusts these weights. GPT-3 has 175 billion of them. Think of them as the "knowledge" encoded in the system.

Training How AI learns. You show the system billions of examples (in this case, text from the internet and books), and it gradually adjusts its weights to get better at predicting patterns.

Transformer The specific type of neural network architecture that powers modern LLMs. Introduced in 2017, it's particularly good at understanding relationships between words in a sentence.

Key Concepts

Next-Word Prediction The core of how LLMs work. Given some text, the model predicts the most likely next word (or token). Then it adds that word and predicts again. Your entire conversation is built one word at a time.

Temperature A setting that controls randomness in the AI's responses. Low temperature = more predictable, "safe" answers. High temperature = more creative, surprising (sometimes weird) outputs.

Hallucination When an AI confidently generates something that's plausible-sounding but wrong. Not lying (it has no intent)—more like a confident guess that happens to be incorrect. A key limitation to understand.

Prompt Whatever you type to the AI. Your question, instruction, or the context you provide. "Prompting" is the skill of crafting inputs that get useful outputs.

Context Window How much text the AI can "see" at once. Like short-term memory. Older models could only handle a few thousand words; newer ones can work with book-length text.

Parameters Another word for "weights"—the adjustable values inside the model. When you hear "GPT-4 has over a trillion parameters," that's describing its scale.

Lecture 2: What Is Intelligence?

Core Concepts

Computation The processing of information according to rules. The thesis of Lecture 2 is that life itself is a form of computation—processing information to survive and reproduce.

Intelligence The ability to predict and respond to the environment effectively. In this series, we explore intelligence as existing on a continuum—not unique to humans.

Prediction A core function of intelligence. Brains (and AI) are fundamentally prediction machines—anticipating what comes next to navigate the world.

Theory of Mind The ability to understand that others have their own thoughts, beliefs, and intentions. A key capability that enables social intelligence and cooperation.

Types of Intelligence

Distributed Intelligence Intelligence spread across a system rather than centralized. Octopuses have neurons in their arms; ant colonies exhibit collective intelligence; plants communicate through networks.

Collective Intelligence Intelligence that emerges from groups. Ant colonies, beehives, and even human societies can solve problems no individual member could.

Embodied Intelligence The idea that intelligence isn't just in the brain—it's shaped by having a body that interacts with the world. Our thinking is influenced by our physical form.

Evolution and Life

Natural Selection Evolution's "learning algorithm." Organisms that predict and respond to their environment better survive to reproduce. Over time, this produces increasingly sophisticated solutions.

Major Evolutionary Transition A fundamental shift in how life organizes—like cells combining into multicellular organisms, or individuals forming societies. Some argue AI represents another such transition.

Symbiosis Different species living together in close relationship. The mitochondria in your cells were once separate organisms. Human-AI relationships might be understood as a new form of symbiosis.

Lecture 3: "Anthropocentrism is Dead"?

Philosophical Terms

Anthropocentrism The belief that humans are the central or most important entities in existence. The lecture questions whether AI challenges this view.

Human Exceptionalism The belief that humans are fundamentally different from (and superior to) all other entities. Related to anthropocentrism but focused on uniqueness.

Technological Determinism The idea that technology shapes society in inevitable ways. The counterargument: we have agency in how technology develops and is used.

Perspectives on AI

AI Doomerism The view that AI poses existential risks to humanity and may lead to catastrophe. One end of the spectrum of views on AI's future.

AI Utopianism The view that AI will solve humanity's problems and lead to unprecedented flourishing. The other end of the spectrum.

Grounded Hope The position this series advocates—neither naive optimism nor apocalyptic despair, but realistic hope based on evidence and agency.

Practical Concepts

Automation Using technology to perform tasks without human intervention. AI extends automation to cognitive tasks previously thought to require human intelligence.

Augmentation Using technology to enhance human capabilities rather than replace them. A more optimistic framing of human-AI collaboration.

Agency The capacity to make choices and take action. A key theme: we have agency in shaping how AI develops and integrates into society.
