

Understanding AI: The 4 Levels of Knowledge Behind Every Answer

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Contents

Introduction	4
AI Is Not One Brain — It’s a Multi-Layer Knowledge System	5
The 4 Levels of Knowledge in AI (Summary Table)	6
Knowledge Levels Overview	6
Key Insight (Very Important)	6
Level 1: Core Knowledge (The Frozen Brain of AI)	8
What Does This Mean?	8
Why Is It Called “Frozen”?	8
What Makes This Level So Important?	8
Strengths of Core Knowledge	9
Limitations of Core Knowledge	9
Very Important Insight	9
Level 2: External Knowledge (Dynamic Access to Data).....	10
What Does This Level Include?.....	10
How Does AI Use This Data?	10
Why This Is Critical.....	10
Simple Example	10
Strengths of External Knowledge	11
Limitations of External Knowledge	11
Key Insight	11
Level 3: Enhanced Knowledge (RAG, Fine-Tuning, and Modern AI Techniques)	12
What Is the Goal of This Level?.....	12
The Core Technologies	12
What RAG Does Well.....	12
2. Fine-Tuning.....	13
What Makes It Powerful.....	13
Its Limitation	13

What's New Today? (The Evolution of This Level)	13
Advanced RAG (Smarter Than Before)	14
Key Insight	14
Simple Way to Understand It.....	14
Important Reality	14
Level 4: Expanded Knowledge (Full Model Retraining)	15
What Does Full Retraining Mean?	15
What Actually Changes?.....	15
Why Is It So Powerful?	15
Why Is It So Rare?	16
Limitations of Full Retraining.....	16
Key Insight	16
Simple Way to Understand It.....	16
Final Thought Before Moving On	17
Dependency Between Knowledge Levels (The Most Important Truth).....	18
The Core Principle	18
How the Dependency Works	18
Very Important Insight	18
What This Means in Reality	18
Simple Example	19
Why This Changes Everything	19
Key Message	19
When Knowledge Is Missing (Why AI Becomes Weak Sometimes)	20
What Does "Missing Knowledge" Mean?	20
What Happens in This Case?	20
1. Lower Accuracy	20
2. Weak Understanding of Context.....	20
3. Reduced Creativity	20
4. Overconfidence (Very Important)	20
Even With External Data (Important Connection)	21
Simple Example	21
Key Insight	21
Why This Matters for Users	21

Powerful Takeaway 21

Introduction

When people use AI tools today, they often believe something very simple: “The AI is searching the internet and giving me answers.” But the reality is very different.

AI is not just searching... and it is not learning from you in real time the way many people think.

Behind every answer, there is a structured way of “knowing” — a combination of what the AI already learned, what it can access, and how it processes new information.

The challenge is that most users see only the final answer... but they don’t see **how that answer was built**.

And this is where the confusion starts.

In this article, we will simplify this idea and explain it in the easiest possible way:

AI does not rely on one source of knowledge, It operates through **multiple levels of knowledge working together**

By understanding these levels, you will start to see:

- Why AI is very accurate sometimes
- Why it can be weak or confusing in other cases
- And why technologies like RAG and fine-tuning even exist

AI Is Not One Brain — It's a Multi-Layer Knowledge System

When we interact with AI, it feels like we are talking to a single intelligent system that “knows” things and gives answers. But in reality, AI does not rely on one single source of knowledge.

It works more like a **multi-layer knowledge system**, where different levels of knowledge work together to produce one final answer.

Think of it like this:

AI is not just answering

It is **combining different types of knowledge at the same time**

Some of this knowledge is:

- Already built inside the model
- Some comes from external sources
- And some is added through advanced techniques like connecting to data or retraining

What makes this important is that: Not all knowledge levels are equal... and not all of them work in the same way.

This is why:

- Sometimes AI gives very strong and accurate answers
- And other times it struggles, even if the information seems available

The key difference is **which level of knowledge is being used**, and how strong that level is.

To make this simple and clear, we can break AI knowledge into **four main levels**.

Let's look at them in a structured way.

The 4 Levels of Knowledge in AI (Summary Table)

To understand how AI really works, we can simplify everything into **four main levels of knowledge**. Each level plays a different role in how AI generates answers—and not all levels have the same strength, accuracy, or cost.

Knowledge Levels Overview

#	Knowledge Level	Source of Knowledge	How It Works (Simple)	Accuracy Level	Cost / Complexity
1	Core Knowledge (Frozen)	Training data (books, websites, datasets)	Built during training and stored inside the model	High (especially in strong domains)	Very High
2	External Knowledge (Dynamic Access)	User data + public data (documents, web)	AI uses its core knowledge to understand and interpret external data	Medium to High (depends on core strength)	Low to Medium
3	Enhanced Knowledge (RAG & Fine-Tuning)- (or similar technologies)	Structured external data or domain-specific data	RAG retrieves relevant info; Fine-tuning teaches the model deeply	High (domain-focused)	Medium to High
4	Expanded Knowledge (Full Retraining)	Massive new datasets	The entire model is retrained and expanded with new parameters	Very High	Extremely High

Key Insight (Very Important)

The most important thing to understand is this:

AI does not treat all knowledge equally.

- The **core knowledge (Level 1)** is the foundation
- All other levels depend on it in different ways

This means:

Even when AI accesses external data, it still relies on what it already “understands” internally

Simple Way to Think About It

- Level 1 → What AI already knows
 - Level 2 → What AI can access
 - Level 3 → How we improve AI understanding
 - Level 4 → How companies rebuild AI completely
-

Level 1: Core Knowledge (The Frozen Brain of AI)

At the heart of every AI system, there is a foundation that everything else depends on.

This is what we call: **Core Knowledge (or Frozen Knowledge)**

What Does This Mean?

Before an AI model is released, it goes through a long and complex process:

- It is trained on massive amounts of data
- This includes books, websites, articles, and many types of content
- The goal is to help the AI understand language, patterns, and relationships

During this process, the AI builds what we call: **Parameters**

These parameters are not data like a database.

They are more like:

- Patterns
 - Relationships
 - Probabilities of how ideas connect
-

Why Is It Called “Frozen”?

Once the training is completed:

- The knowledge is **locked inside the model**
- It does not keep learning from users in real time
- It does not update itself automatically

It becomes a **fixed foundation**

What Makes This Level So Important?

This level is the **most critical part of AI** because:

- It defines how the AI understands everything
- It affects how the AI interprets questions
- It controls how the AI uses any external data later

In simple terms: This is the “thinking engine” behind every answer.

Strengths of Core Knowledge

- Strong general understanding across many domains
- Fast response (no need to search every time)
- Ability to connect ideas and generate insights

Limitations of Core Knowledge

- It may not include very recent information
- Some domains are stronger than others
- It cannot adapt instantly to new or niche data

Very Important Insight

Even when AI uses external data later (like documents or the web): It still relies on this core knowledge to understand that data

Which means: If the foundation is weak in a certain area, everything built on top of it becomes weaker.

Level 2: External Knowledge (Dynamic Access to Data)

After the core knowledge, AI has another important capability: It can access and use **external data**

This is what we call: **External or Dynamic Knowledge**

What Does This Level Include?

This level mainly comes from two sources:

1. User Data

- Documents you upload
- Files, notes, or internal company data

2. Public Data

- Websites
 - Articles
 - Online content
-

How Does AI Use This Data?

Here is the most important point:

AI does NOT “learn” this data in real time

Instead:

- It reads the data
- It analyzes it
- It tries to understand it

But... It does all of this using its **core (frozen) knowledge**

Why This Is Critical

This means: AI does not understand external data on its own, It understands it through what it already knows

Simple Example

If AI is strong in a domain like finance:

- It can read financial reports
- It can summarize them accurately
- It can extract insights

But if the domain is very niche or unfamiliar:

- It may misunderstand parts of the data
 - It may miss important context
 - The answer becomes weaker
-

Strengths of External Knowledge

- Access to up-to-date information
 - Ability to work with user-specific data
 - Expands the scope beyond the original training
-

Limitations of External Knowledge

- Depends heavily on core knowledge
 - Not true learning (no permanent memory)
 - Can lead to weaker results in unfamiliar domains
-

Key Insight

External data does not make AI smarter by itself, It only extends what the AI can access

The real intelligence still comes from: **Level 1 (Core Knowledge)**

Level 3: Enhanced Knowledge (RAG, Fine-Tuning, and Modern AI Techniques)

At this level, we move beyond just accessing data... We start **enhancing how AI understands and uses knowledge**

This is where technologies like **RAG** and **Fine-Tuning** come into play—along with more advanced approaches built on top of them.

What Is the Goal of This Level?

Unlike Level 2 (just accessing data), this level focuses on: Improving **accuracy, relevance, and domain understanding**

Especially when working with:

- Company data
 - Specialized industries
 - Complex or structured information
-

The Core Technologies

1. RAG (Retrieval-Augmented Generation)

RAG works by:

- Searching for relevant information from external sources
- Injecting that information into the AI's response

Think of it as: Giving AI the right information at the right moment

What RAG Does Well

- Provides **up-to-date information**
 - Works well with large document collections
 - Faster and more flexible than retraining
-

Its Limitation (Very Important)

Even with RAG: AI still depends on its core knowledge to understand the retrieved data

So: If the base understanding is weak, even correct data may not be fully used

2. Fine-Tuning

Fine-tuning goes deeper than RAG. Instead of just giving access to data: It **trains the model again on specific data**

What This Means

- The AI learns new patterns
- It improves understanding in a specific domain
- It becomes more consistent and reliable

In simple terms: Fine-tuning is like sending AI back to school—but for one subject only

What Makes It Powerful

- Strong domain understanding
 - Better consistency in answers
 - More reliable behavior in specific use cases
-

Its Limitation

- Requires high-quality data
 - Needs time and resources
 - Still depends on the original base model
-

What's New Today? (The Evolution of This Level)

RAG and Fine-Tuning are still the foundation... But modern AI systems have evolved beyond using them alone.

Today, the real power comes from: **Combining Multiple Techniques**

Instead of relying on one approach, systems now combine:

- RAG (for accessing knowledge)
- Fine-tuning (for deeper understanding)

- Smart retrieval methods (better search and ranking)
 - Memory and caching layers
 - External tools and APIs
-

Advanced RAG (Smarter Than Before)

RAG today is more intelligent than early versions:

- Multi-step retrieval (search → refine → search again)
- Better ranking of relevant information
- Context-aware understanding of the question

It's no longer just "search and answer", It's **guided and optimized retrieval**

Key Insight

At this level, we clearly see:

Not all improvements are the same

- **RAG → improves access to knowledge**
 - **Fine-Tuning → improves understanding of knowledge**
 - **Modern systems → combine both to maximize performance**
-

Simple Way to Understand It

- RAG = "Give AI better information"
 - Fine-Tuning = "Teach AI to understand better"
 - Modern AI = "Build a smarter system around the AI"
-

Important Reality

Even with all these advancements: AI is still not fully independent

Everything still connects back to: **Level 1 (Core Knowledge)**

Level 4: Expanded Knowledge (Full Model Retraining)

This is the most advanced—and most expensive—level of knowledge in AI.

At this stage, we are no longer:

- Accessing data (Level 2)
- Enhancing understanding (Level 3)

We are **rebuilding the AI itself**

What Does Full Retraining Mean?

Full retraining means: Training the entire model again from the beginning using new or expanded datasets

This includes:

- Adding massive new data
 - Rebuilding the internal parameters
 - Improving the model across multiple domains
-

What Actually Changes?

Unlike other levels:

- The **core knowledge itself is updated**
- The **“frozen brain” becomes a new version**
- The model may have:
 - More parameters
 - Better reasoning
 - Broader and deeper understanding

This is how new generations of AI models are created

Why Is It So Powerful?

Because it directly improves:

- The foundation of understanding
- The way AI interprets information

- The performance across all other levels

In simple terms: Instead of helping the AI...we upgrade the brain itself

Why Is It So Rare?

This process is extremely demanding:

- Requires massive computing power
- Needs huge, high-quality datasets
- Takes months of training and testing
- Involves large expert teams

That's why only major organizations like OpenAI or Google DeepMind typically perform it

Limitations of Full Retraining

Even though it is powerful, it has challenges:

- Very high cost
- Not flexible for quick updates
- Cannot be done frequently

This is why Levels 2 and 3 exist—to avoid retraining every time

Key Insight

At this level, we clearly see: The best way to improve AI is to improve its foundation, But this is also the hardest and most expensive path

Simple Way to Understand It

- Level 2 → Use external knowledge
 - Level 3 → Improve how AI uses knowledge
 - Level 4 → **Rebuild the knowledge itself**
-

Final Thought Before Moving On

Most users—and even most companies—will never use this level directly. But every time a new AI model is released... It is the result of **this level in action**

Dependency Between Knowledge Levels (The Most Important Truth)

Now that we've explored the four levels of knowledge, we can understand something critical: These levels do not work independently, They depend on each other—and not equally

The Core Principle

At the center of everything is: **Level 1: Core Knowledge (The Frozen Brain)**, All other levels depend on it.

How the Dependency Works

Let's simplify it:

- **Level 2 (External Data)** → Cannot be understood without Level 1
 - **Level 3 (RAG & Fine-Tuning)** → Cannot work effectively without Level 1
 - **Level 4 (Retraining)** → Is actually rebuilding Level 1
-

Very Important Insight

AI does not “read” or “learn” new data like humans, It interprets everything through its existing knowledge

This means:

👉 Even when you give AI:

- Documents
- Websites
- Company data

It still asks internally: “Do I understand this based on what I already know?”

What This Means in Reality

If the core knowledge is strong in a domain:

- External data becomes powerful
- RAG works better
- Fine-tuning becomes more effective

But if the core knowledge is weak:

- External data becomes less useful
 - RAG gives weaker results
 - Even fine-tuning has limitations
-

Simple Example

Think of a person:

- If they understand finance well → they can read reports easily
- If they don't → even with the same reports, they struggle

AI works in the same way

Why This Changes Everything

Most people believe: “If I give AI more data, it will become smarter”

But the truth is: Data alone is not enough, Understanding comes from the foundation

Key Message

AI intelligence is not only about access to data, It is about the strength of the core knowledge behind it

“AI does not become smarter just because it sees more data—it becomes smarter when it understands that data.”

When Knowledge Is Missing (Why AI Becomes Weak Sometimes)

Now that we understand how the knowledge levels depend on each other, we can clearly see what happens when something is missing.

When the core knowledge is weak—or not well developed in a certain area—AI performance starts to drop.

What Does “Missing Knowledge” Mean?

It doesn't mean AI knows nothing.

It means:

- The domain was not deeply covered during training
 - The patterns are weak or limited
 - The understanding is not strong enough
-

What Happens in This Case?

When AI faces a topic outside its strong knowledge areas:

1. Lower Accuracy

- The answer may contain mistakes
 - Some details may be incorrect or incomplete
-

2. Weak Understanding of Context

- AI may misunderstand the question
 - It may miss important relationships in the data
-

3. Reduced Creativity

- It gives more generic answers
 - It struggles to provide deep insights
-

4. Overconfidence (Very Important)

Sometimes the AI still sounds confident... Even when the answer is not fully correct

This is one of the biggest challenges for users.

Even With External Data (Important Connection)

You might think: “But I gave the AI documents or data... why is the answer still weak?”

Here is the reason: External data does not replace understanding

If the AI cannot fully understand the domain:

- It may misinterpret the data
 - It may ignore important parts
 - It may produce a weaker result
-

Simple Example

Imagine:

- Giving a complex medical report to someone with no medical background

Even if they read it: They won't fully understand it, AI behaves in a very similar way.

Key Insight

The limitation is not always the data... It is often the understanding behind the data

Why This Matters for Users

This explains why:

- AI is brilliant in some topics
- But confusing or weak in others

And why: More data does not always mean better answers

Powerful Takeaway

AI performance is not only about access to information. It is about the depth of understanding inside the model
