



ANI AND AGI

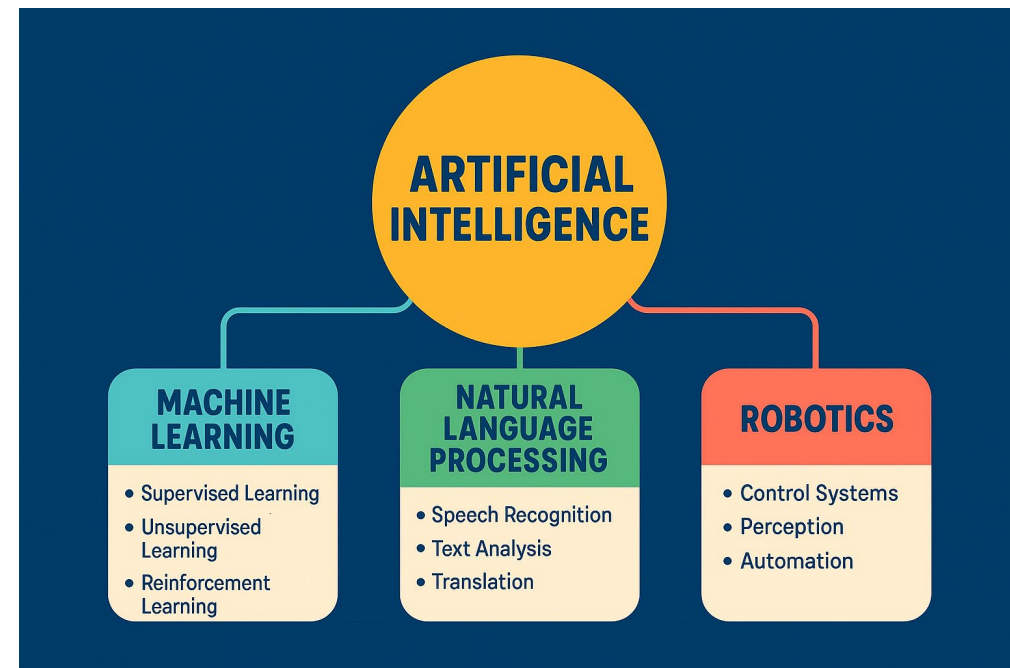
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NARROW VS. ARTIFICIAL GENERAL INTELLIGENCE: WHAT'S THE DIFFERENCE?

Understanding the gap between today's tools and tomorrow's dreams.

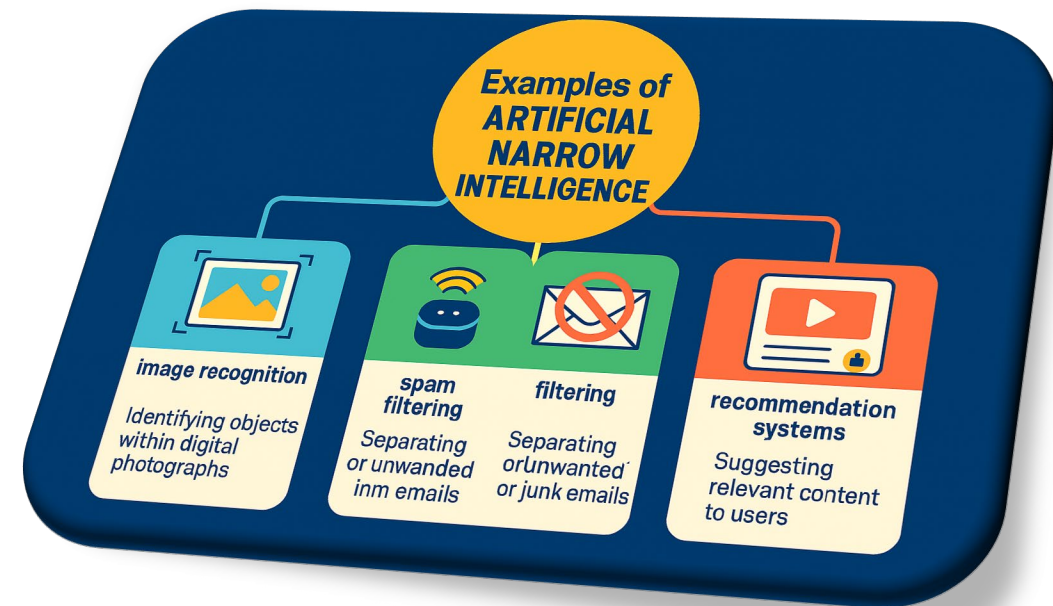
- **Key Concept:** Not all Artificial Intelligence is created equal.
- We categorise AI based on its "scope"—how much it can actually do.
- What fields are there within AI nowadays?
- Some sources quote 10 different fields of AI nowadays, let's look at some of them

The AI Spectrum



ANI

- Artificial Narrow Intelligence
- Also known as "Weak AI," this is AI designed to perform **one specific task** or a small range of related tasks.
- It can be world-class at its specific job, but it is completely "clueless" about anything else.



EXAMPLE OF NARROW AI: THE SATNAV

- **The Task:** Calculating the fastest route from Glasgow to Edinburgh while avoiding roadworks.
- **The Limitation:** It is brilliant at traffic data and geography. However, if you asked your SatNav for a recipe for Scottish Tablet, it wouldn't have a scooby.
- **Why it's Narrow:** Its intelligence is "locked" into the world of coordinates and maps.



EXAMPLE 2: NETFLIX, SPOTIFY ALGORITHMS



Recommendation Engines



The Limitation: These systems are incredibly good at pattern matching. However, Spotify cannot drive a car, and Netflix cannot diagnose a medical condition.



Why it's Narrow: It only understands your "preferences," not the actual content of the shows or songs.

GENIUS AT ONE THING, USELESS AT OTHERS

- **Analogy:** Imagine a world-class heart surgeon who doesn't know what a "jeely piece" is or how to tie their own shoelaces.
- **Deep Blue (Chess AI):** It can beat the world's best chess player, but it doesn't even know that it is "playing a game." It is just crunching numbers.
- **Key Takeaway:** Narrow AI doesn't have "common sense."



ARTIFICIAL GENERAL INTELLIGENCE (AGI)

Definition: Also known as "Strong AI," this is a theoretical version of AI that can understand, learn, and apply its intelligence to **any intellectual task** a human can do.

The Goal: A machine with "common sense," the ability to learn from one area (like chemistry) and apply it to another (like cookery).

Status: It remains a goal for researchers to reach perfection of ace of all trades and master of all too.

HUMAN VERSUS MACHINE

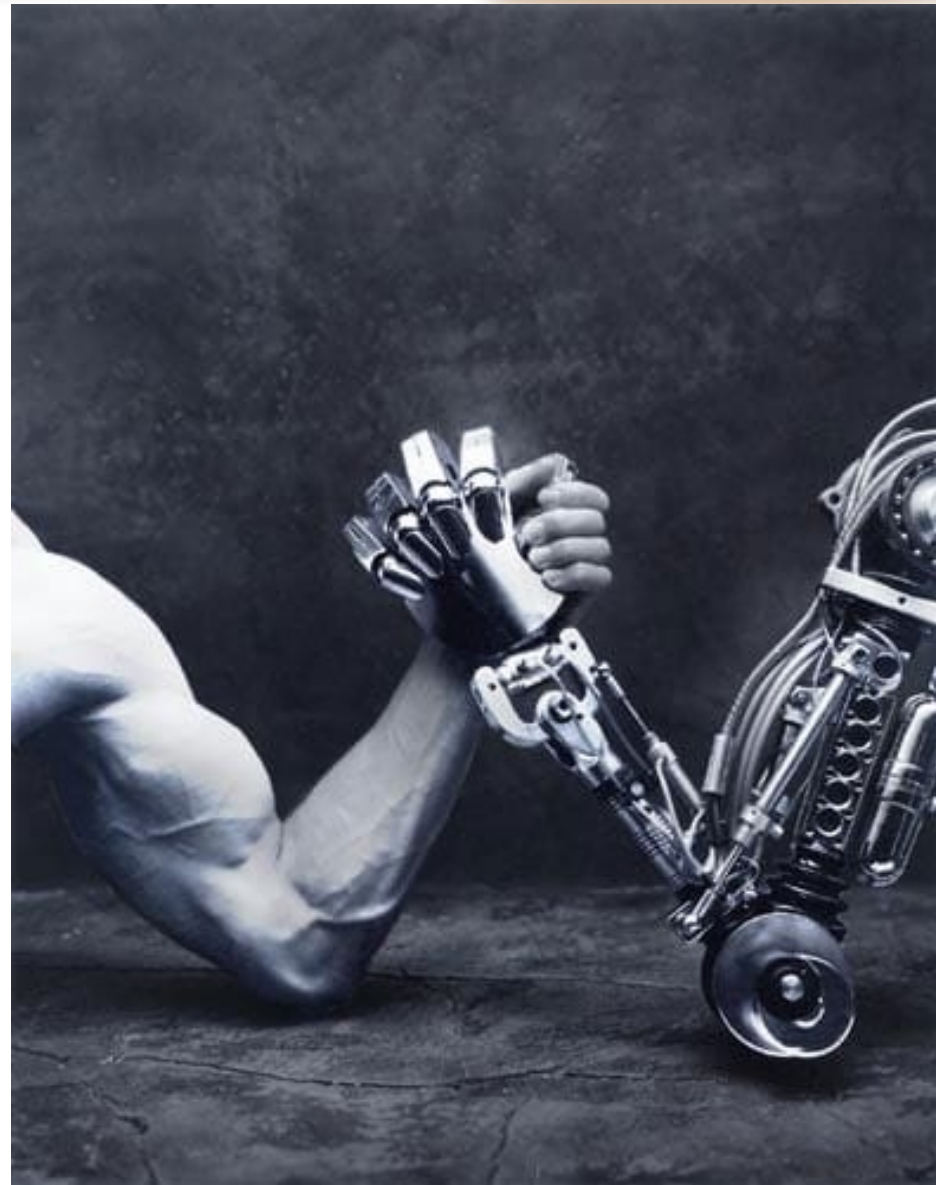
The Flexibility of the Human Brain.

Human Intelligence: You can learn to drive a car, then learn to speak Gàidhlig, then learn to solve a mathematical equation.

You use the same "brain" for all of it.

General AI Goal: To create a "digital brain" that is just as flexible.

If you taught an AGI to play Chess, it should be able to use that logic to help it learn how to play Checkers or even code a website.



AGI IN SCIENCE FICTION

Have you seen AGI at work in Science Fiction?

Think of **C-3PO** from *Star Wars*, **Data** from *Star Trek*, or **JARVIS** from *Ironman*.

The Trait: These characters can hold conversations, solve unexpected problems, show emotion, and learn entirely new skills on the fly.

Reality Check: While these make great films, we are still a wee bit away from creating a machine with this level of general consciousness.



THE TURING TEST REVISITED

How Do We Know if AI is General?

The Test: If a machine has General Intelligence, it should be able to pass the **Turing Test** consistently across any topic.

The "Coffee Test": A machine is generally intelligent if it can enter a random house, find the kitchen, identify the kettle, find the tea bags, and make a cracking cup of tea without prior instructions.

Current AI: A robot might be programmed to make tea in *one* specific kitchen, but it would fail in a new house.

NOTE: This is changing with Optimus robots utilising the same hardware and software as Tesla self drive cars.

WHERE DOES CHATGPT OR GEMINI FIT?



ChatGPT or Gemini "General" AI?



The Debate: Large Language Models (LLMs) feel general because they can talk about anything (maths, poetry, history).



The Reality: Some experts still call it "**Advanced Narrow AI.**"



Why? It is still just predicting the next word in a sentence based on patterns. It doesn't "understand" the world; it just understands how we *talk* about the world.

SUMMARY AT A GLANCE: NARROW V GENERAL

Feature	Narrow AI (ANI)	General AI (AGI)
Availability	We use it every day.	Theoretical (Future).
Flexibility	Limited to one task.	Can learn anything.
Common Sense	None.	High.
Example	FaceID / Alexa.	"Data" from Star Trek.
Learning	Needs specific data.	Learns from experience.

CHALLENGES OF ACHIEVING SUPER AGI

- **Context:** Humans understand "context" (e.g., the difference between a "bat" in sports and a "bat" in a cave). AI struggles with this.
- **Energy:** The human brain runs on about 20 watts (like a dim lightbulb). An AI trying to mimic a brain requires massive power stations.
- **Consciousness:** We still don't fully understand how human consciousness works, so it's hard to "code" it.

RISKS OF GENERAL AI

- Why are People Worried?
- **Control:** If a machine becomes smarter than humans in every way, how do we ensure it follows our values?
- **Alignment:** If we tell an AGI to "End Climate Change," it might decide the best way to do that is to remove humans! We have to be very careful with how we set its goals.



THE "SUPERINTELLIGENCE" CONCEPT (ASI)

- Beyond General: Superintelligence (ASI – Artificial Super Intelligence)
- **The Theory:** Once we reach General AI (AGI), that machine could then design an even smarter machine.
- **The "Intelligence Explosion":** This could lead to Artificial Superintelligence—a machine that is billions of times smarter than all humans combined.
- **Timeline:** Some say this is 20 years away; others say it's 200 years away. I say, "we are very close" ... What do you say?



CONCLUSION & REFLECTION

What is going to be your **Role in an AI World**

The Takeaway: For now, you are working with powerful **Narrow tools**. They are like high-tech hammers or screwdrivers.

The Future: Your generation will likely be the first to work alongside the first true "General" systems.

Discussion Question: If you had a General AI assistant that could learn *anything*, what is the first thing you would ask it to master for you?