



**Law Society**  
of Ontario

**Barreau**  
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**TAB 5**

# Technology and Legal Practice

## What is AI?

What is Artificial Intelligence?

**Uwais Iqbal**  
*simplexica*

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# What is Artificial Intelligence?

 by Uwais Iqbal

## Who am I?

My name is **Uwais Iqbal**.

I've been designing and building AI systems in the legal tech space for close to a decade now.

I've held roles as a **Machine Learning Engineer** as well as a **Senior Data Scientist** across leading startups like **Eigen Technologies** and **Thought River** and at **Thomson Reuters Labs**.



THOMSON REUTERS




I'm the Founder & CEO of **simplexico - The Legal AI Consultancy**. We offer white-glove AI education, design and development services for legal .

We are on a mission to help legal professionals step into a future of collaboration with AI .








## Overview

We've got a pretty tasty plate to get through starting with introducing AI, clearing up some buzzword and then diving into the real meat with Legal AI!

Let's go! 

## Table of contents

-  [Introducing AI](#)
-  [Beating Buzzwords](#)
-  [Why is there so much fuss about AI in legal?](#)
-  [The Legal AI Essentials Course](#)
-  [Questions](#)

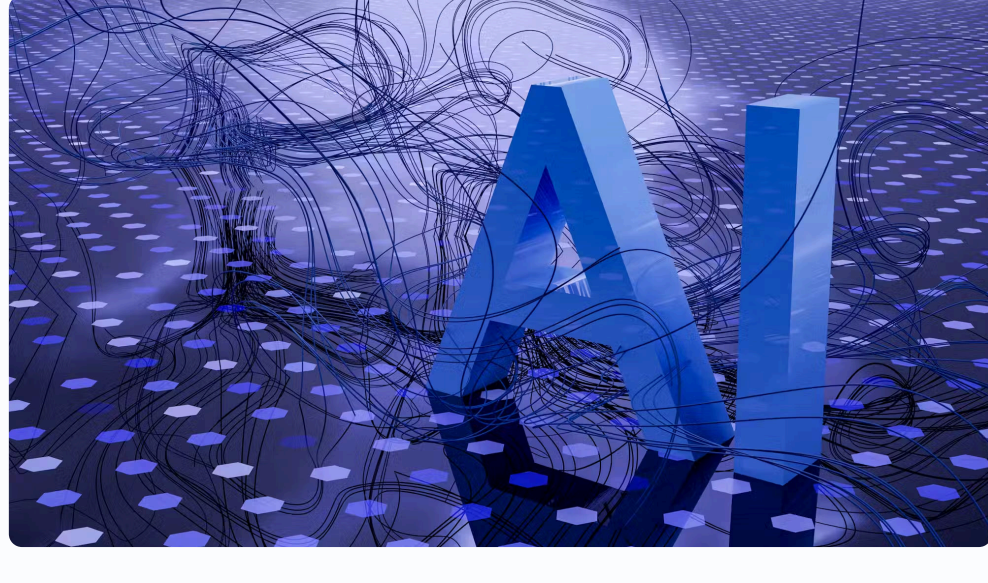




# Introducing AI



## Defining AI



In 1956, one of the founding fathers of AI, John McCarthy, defined artificial intelligence as

*machines that can perform tasks that are characteristic of human intelligence.*

AI tends to get thrown about as a buzzword more than it should. You probably already know that AI stands for **artificial intelligence**.

With all of the hype around AI, a good place to start is by clearing up what we actually mean by AI.



We can think of artificial intelligence as a technique that *uses machines to replicate the problem-solving and decision-making capabilities of the human mind.*



## + Artificial + Intelligence



### Artificial

The *artificial* part in AI means that it's complete mimicry and imitation. There's nothing beyond that!



### Intelligence

The *intelligence* part in AI means that we want to try and replicate some *uniquely human* capability around problem-solving.



## The Different Kinds of AI

A common categorisation of the different kinds of AI is based on what the AI system is capable of doing. Researchers usually break AI down into two kinds: **Strong AI** and **Weak AI**.



### Strong AI



Strong AI is also known as **General AI** or **Artificial General intelligence (AGI)**.

Strong AI refers to an AI system which has reached a level of human intelligence.

The system can learn, perceive, understand, and function completely like a human being.

At the moment, we haven't developed such systems so Strong AI is still something purely theoretical.



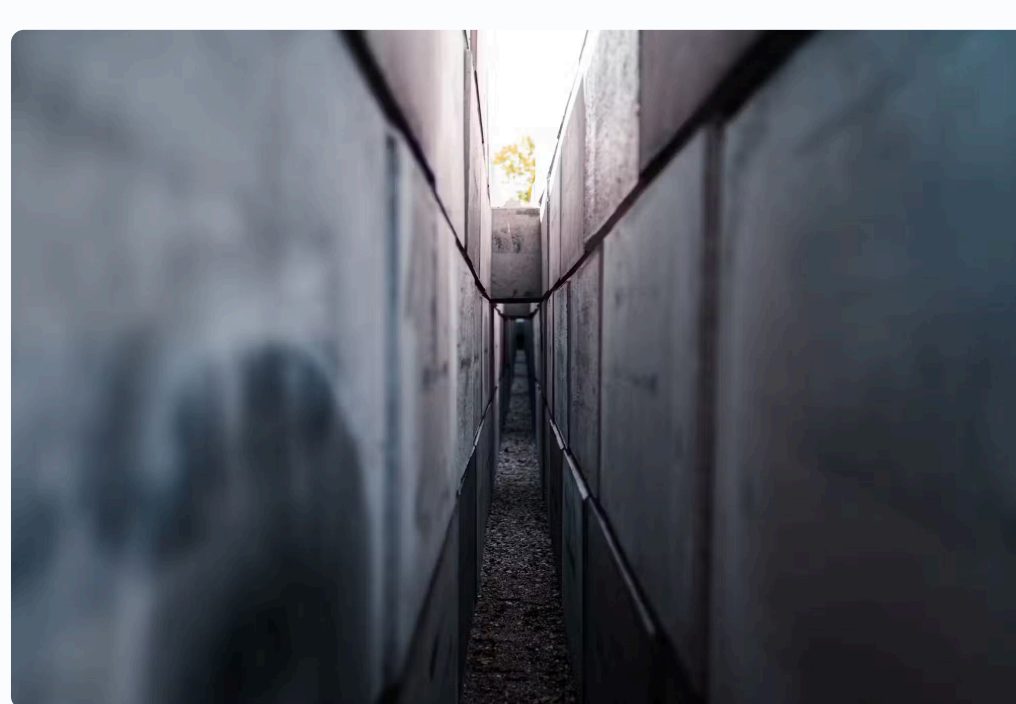
Many researchers are sceptical as to whether Strong AI systems are even possible.



### Weak AI

Weak AI refers to an AI system that can perform a specific and precise task like extracting a field from a contract or clustering a set of documents.

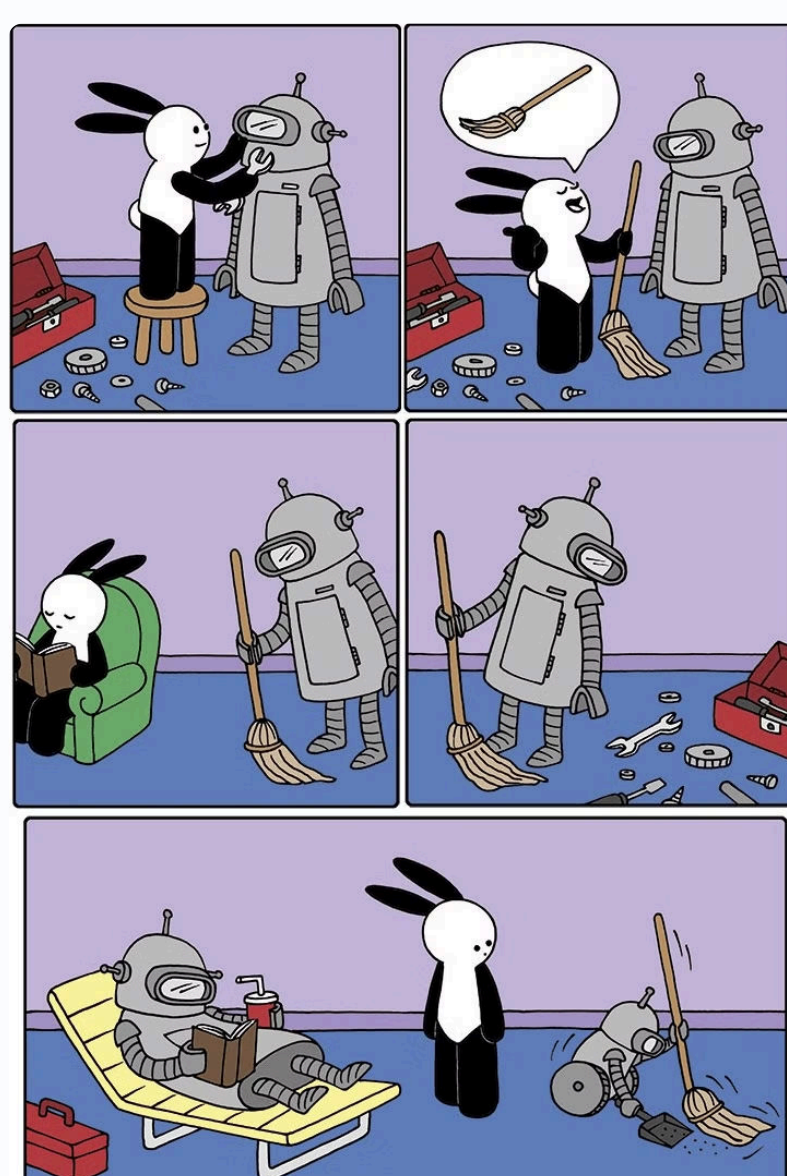
The AI systems we have today are all examples of Weak AI.



Weak AI is also known as **Narrow AI**.



## Thinking about AI



The comic on the left is sarcastic but it's actually quite accurate (apart from the final strip).

An easy way to think about where AI can be applied is to think of AI as a way of:

- Capturing Expertise** - What is the particular human cognitive skill you are looking to imitate through the use of a machine?
- Scaling Expertise** - How do you benefit from being able to replicate machines?



## Living with AI

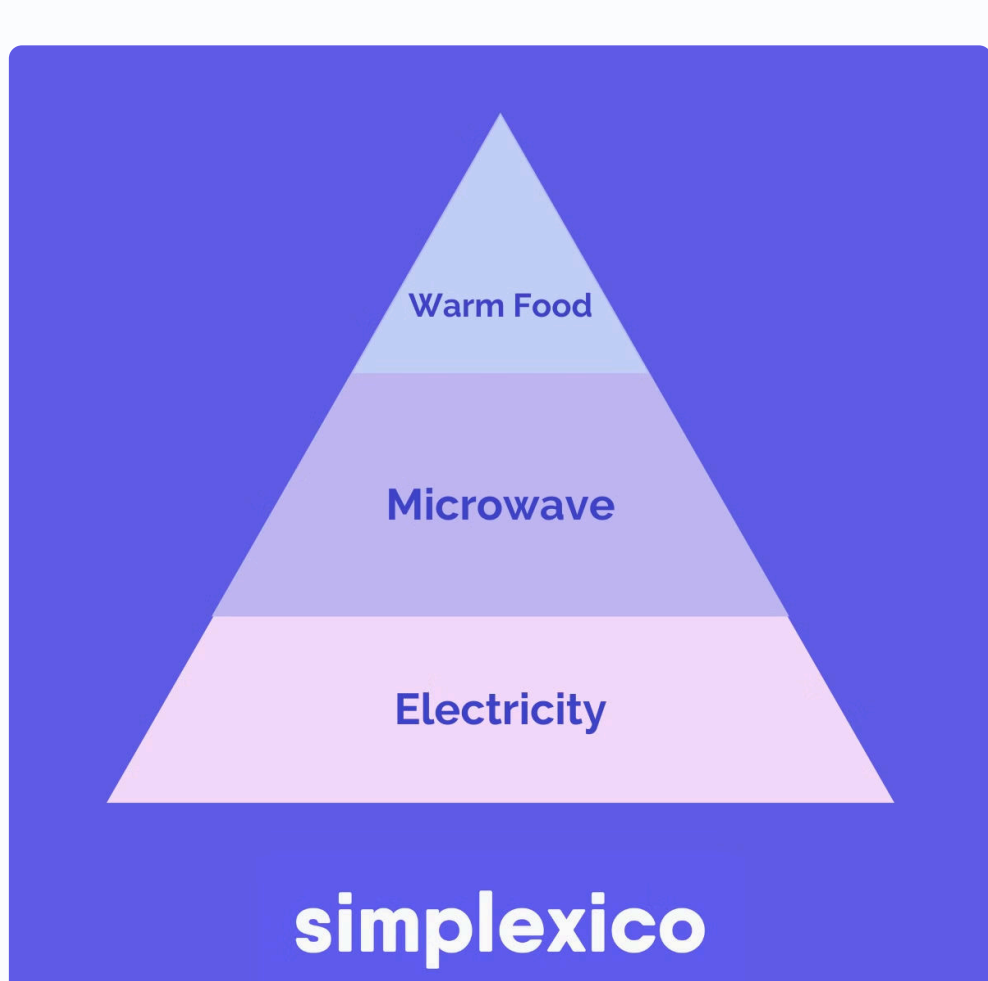


We can think of AI in the same way we think of electricity. There are three main areas to consider:

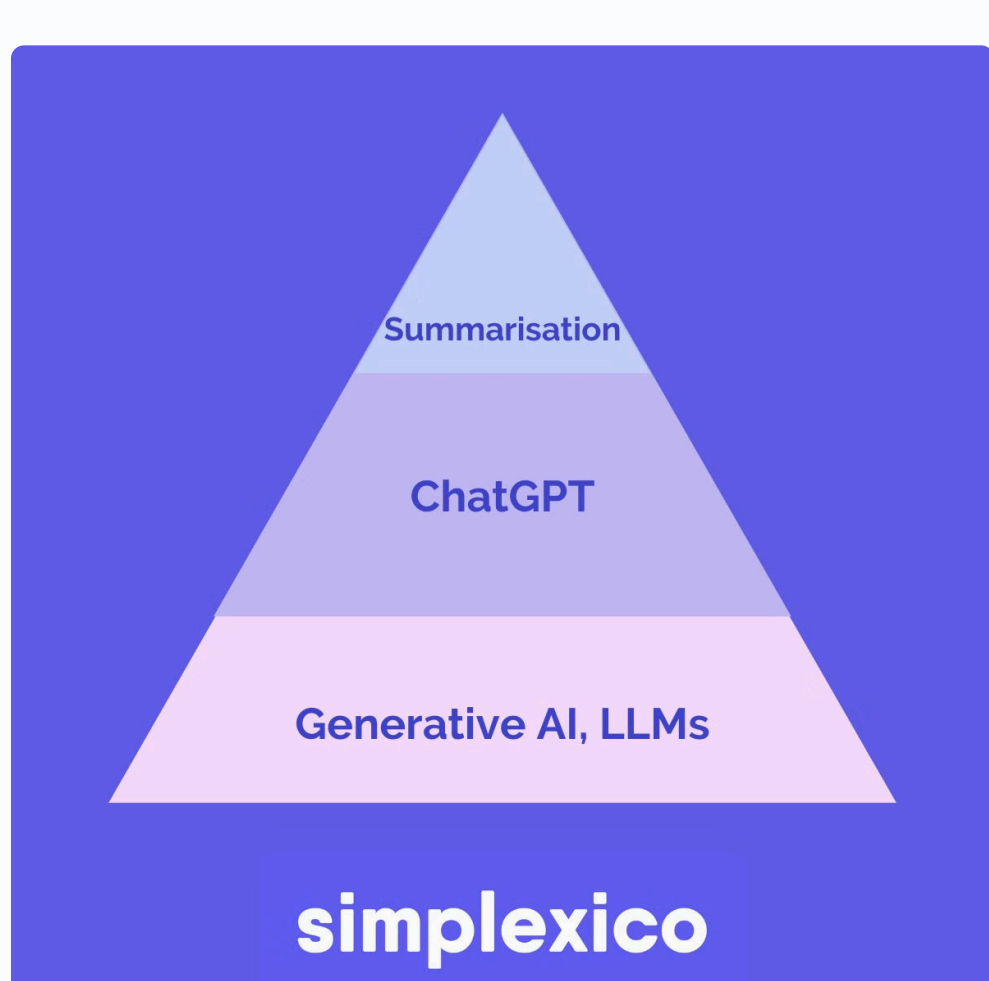
- Technology** - What is the underlying technology powering it?
- Application** - What is the application that makes use of the technology?
- Use** - What uses does the application enable?



### Electricity



### Artificial Intelligence





# Beating Buzzwords

## What is Generative AI?



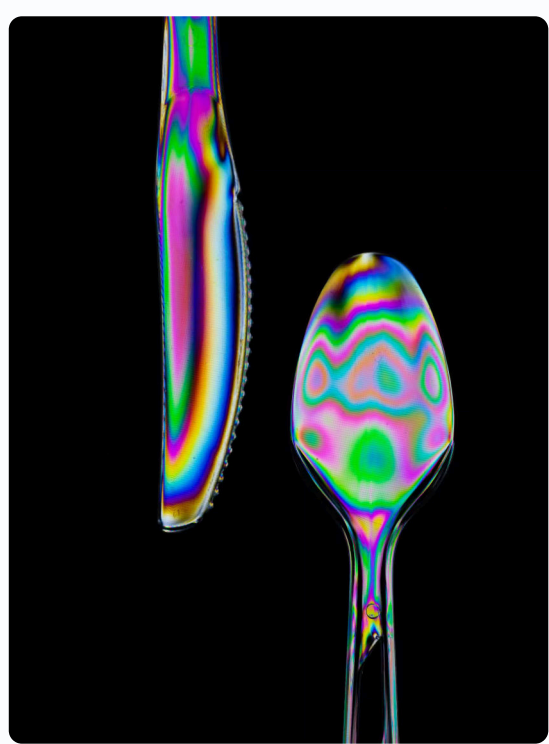
Generative AI refers to AI systems that are capable of generating content whether that be text, images, audio etc.

③ GPT-4 and Mid-journey are examples of Generative AI models.

Generative AI models mimic two human cognitive skills:

1. **Memory** - Recalling past information from their training data
2. **Composition** - Composing new things from existing memories

③ These models **hallucinate** because they only live in a fantasy world! They don't have access to reality like we do to turn off the daydreaming.

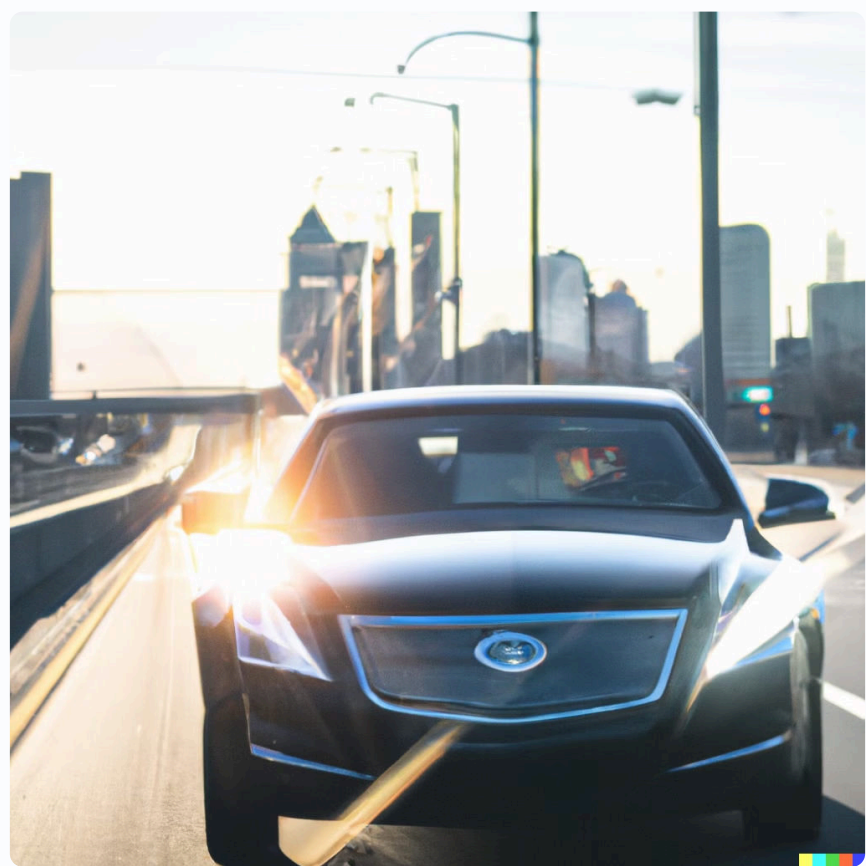


OpenAI's DALL-E 2 is an AI system that can make realistic images from a text description.

👉 This is the image it generated with the prompt:

*A modern, sleek Cadillac drives along the Gardiner expressway with downtown Toronto in the background, with a lens flare, 50mm photography*

③ A Generative Model can *compose* things it has already learnt to generate examples that it has never seen before.



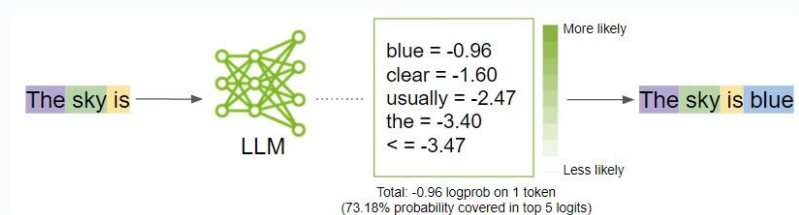
## What is a Language Model?

A language model (LM) is a huge guessing machine. Given a set of words, a language model tries to guess what word will come next based on the text it is provided with.

③ From the simple task of next word prediction emerges the complex capabilities of Language Models.

Barack Obama was the president of the United States of \_\_\_\_\_

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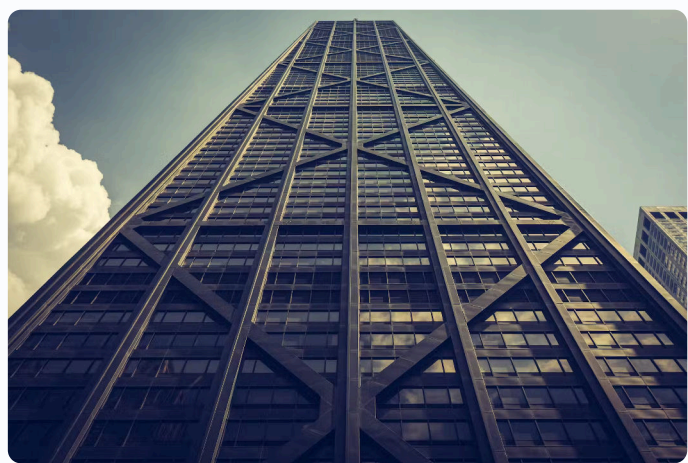
A language model simply takes in a sequence of text and predict probabilities over the words in the vocabulary of the LM.

⚠ Language models don't actually understand anything or know anything about the world. They just predict words



The **large** in large language models (LLMs) is a reference to the number of parameters (decision makers) within the model.

③ GPT-4 is estimated to have **1 trillion** parameters! 🤖



③ GPT-3 was trained on a dataset of **300 billion** words!











# 💥 Why is there so much fuss about AI in legal?

## 🤸 What can AI actually do in Legal?

We can zero in on how AI is used in the legal sector to come up with Legal AI.

AI is usually used to perform a specific task. This describes what **action** can be performed.

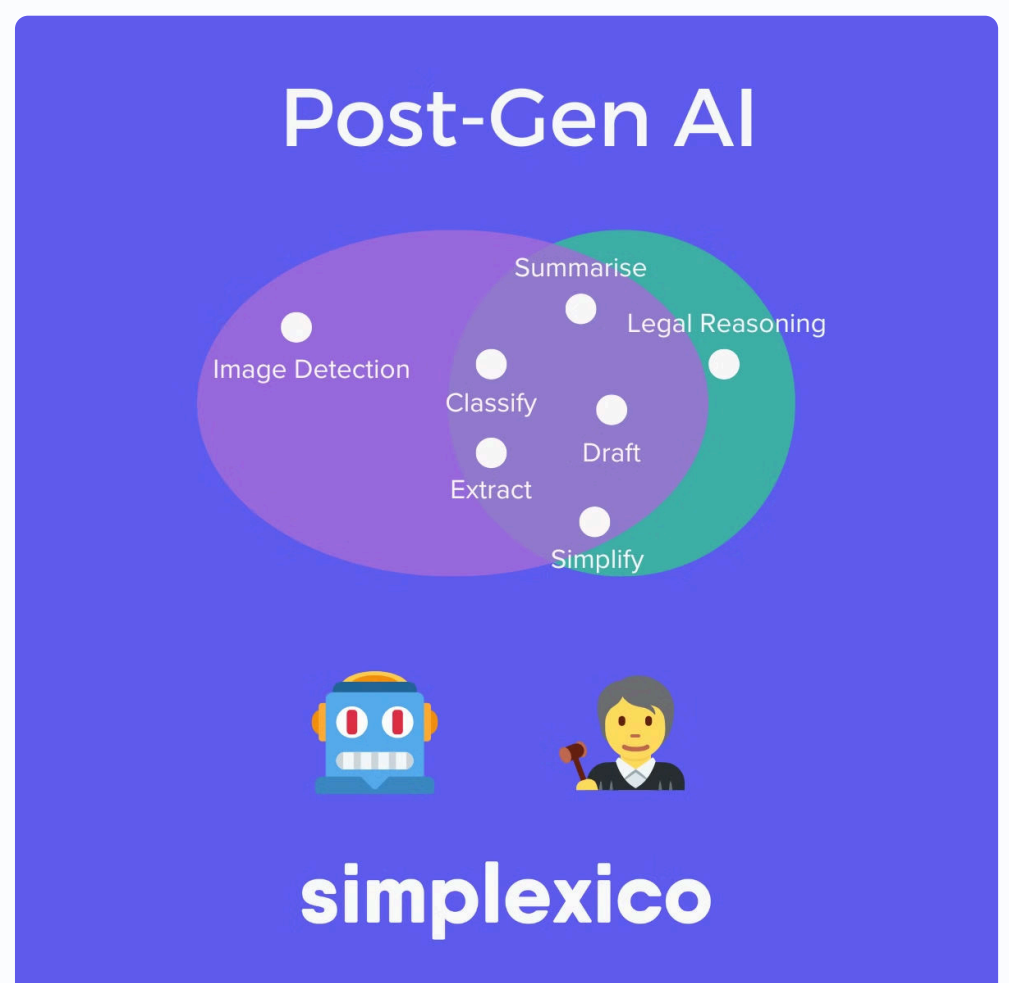
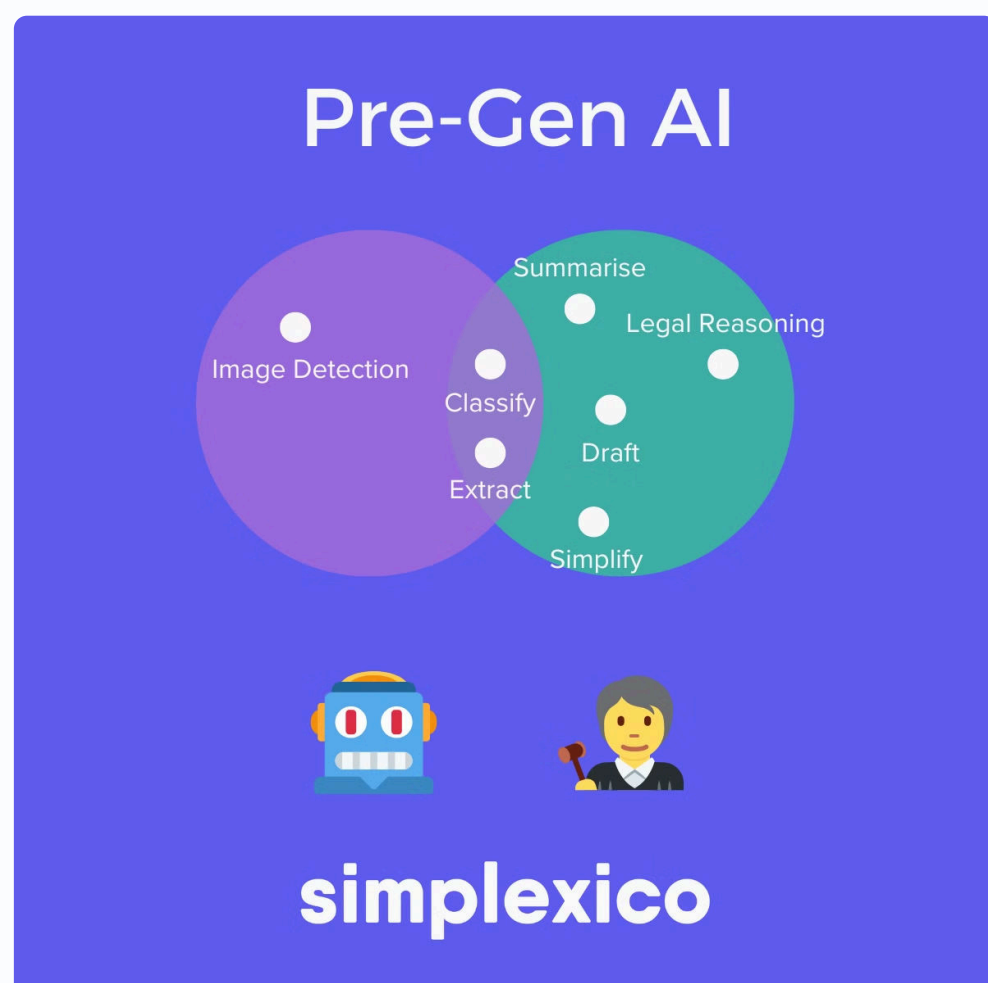
Let's take a look at some actions we can do in Legal with AI.

LEGAL AI ACTIONS	
Through AI we want to mimic actions that humans can perform. The Legal AI actions capture those actions lawyers tend to be involved where could now be used.	
 <b>EXTRACT</b> Extracting key pieces of information from a passage of text to go from unstructured data to structured data.	 <b>LABEL</b> Tagging a text on a phrase, sentence or paragraph level with a label. This is also known as classification.
 <b>COMPARE</b> Comparing two passages of text on a phrase, sentence, paragraph or document level to identify similarities and differences in wording and meaning.	 <b>ORGANISE</b> Organising a collection of texts so that structure is created by grouping together similar texts. This is also known as clustering.
 <b>FIND</b> Finding relevant information from a collection of texts. This is also known as search or retrieval.	 <b>DRAFT</b> Generating text through drafting.
 <b>SUMMARISE</b> Creating a short-form summary from a long-form text.	 <b>&amp; MORE?</b> Can you think of any other actions? Get in touch and let us know!

## !/? Why is Generative AI important for Legal?


Before



After





# The Legal AI Essentials Course



 simplexico landing page 

**Legal AI Essentials Course | Tailored AI education for le...**

A six-week structured AI education programme targeted for lawyers and legal professionals looking to enhance their AI...

# ? Questions

Thank you for your listening!!!!

❶ I'm also active on **LinkedIn** and post regularly about AI in the legal industry so let's connect and keep in touch!

✅ If you have any questions, feedback or ideas for collaboration you can reach me at **[uwais.iqbal@simplexico.ai](mailto:uwais.iqbal@simplexico.ai)**

