

ARTIFICIAL INTELLECTUAL PROPERTY

Good morning everyone. For those I haven't had the chance to meet yet my name's Tk and today I'll be talking to you about [click]



Photographer: Balint Por

Technology

Only Humans, Not AI Machines, Get a U.S. Patent, Judge Says

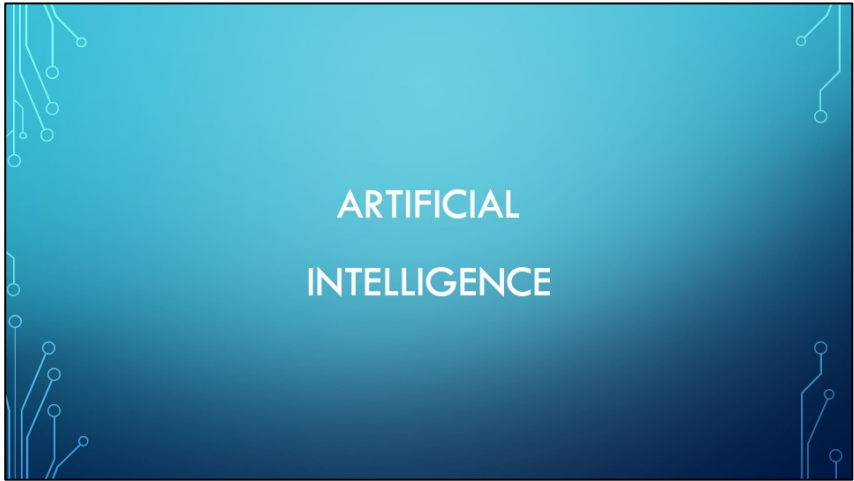
By [Susan Decker](#)

3 September 2021, 10:16 am GMT-4 Updated on 3 September 2021, 3:06 pm GMT-4

Only humans, not AI machines, get a U.S. patent. There's a lot going on with this so we'll start with a quick primer for both AI and patents. From there we'll get into the specifics of the case itself. And we'll finish up by address some of the wider questions around this ruling



Now a quick note before we begin. We're going to be covering a lot of ground in not a lot of time, and some of the more nuanced details are going to be lost. So for anything I say, assume there's an asterisk attached that says "It's actually more complicated than that." With that out of the way [click]



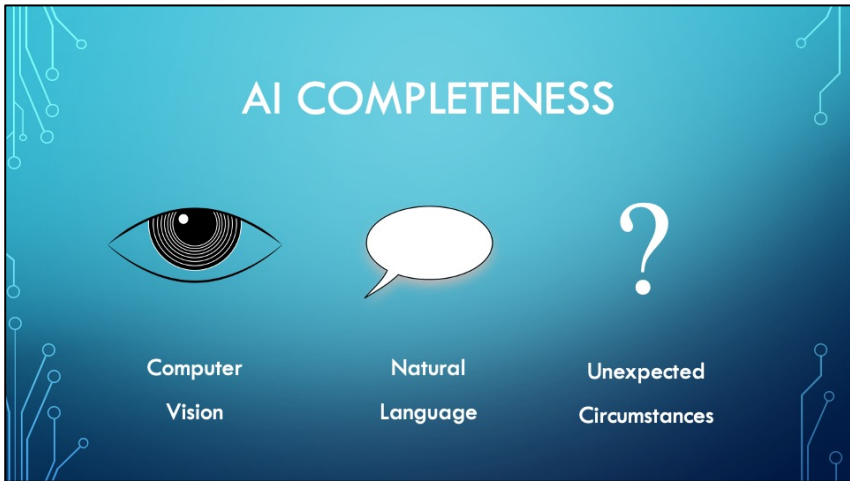
What is artificial intelligence? I'd imagine everyone in this room has come across the term sometime in their life, and possibly even has an image in their head of what it looks like. For me, it's this guy [\[click\]](#)



The Terminator, from the eponymous 1984 film, displays all the characteristics of being human despite being an android. Historically this is what Artificial Intelligence meant, but these days we need to use a slightly more specific term.



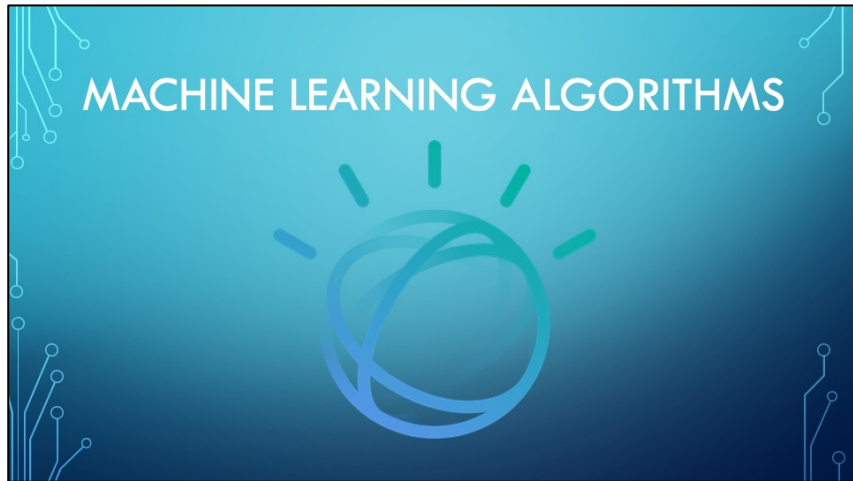
While originally the idea of a robot passing for a human seemed realistic, these days the consensus is either that we're still a long way from it, or that it's outright impossible.



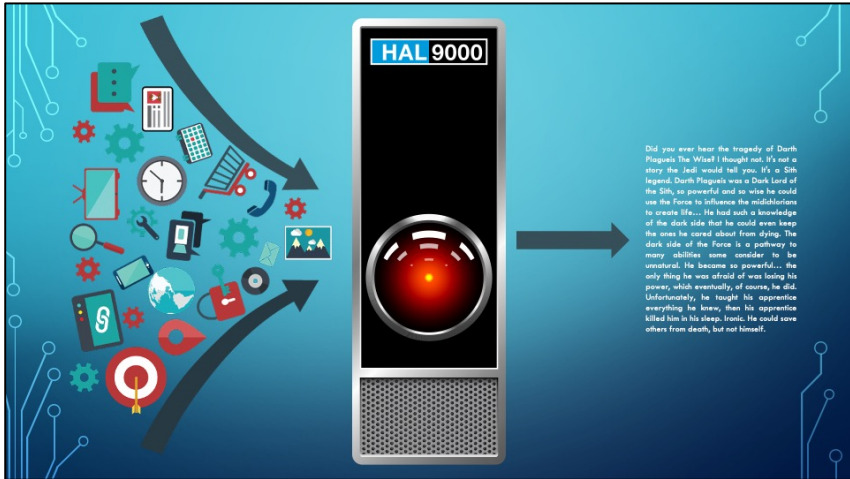
And that's because of these problems here, known as the AI complete problems. In order to be considered a strong AI, it would need to possess all three of these things. Conveniently, if we can prove any one to be true then we should be able to prove all of them. Alternatively if we can prove any of them impossible, we will know that strong AI is beyond our reach. But if AI isn't currently within our reach, who's that strange woman that lives in my phone?



Formally, these are called weak AI. However “weak” doesn’t do well from a marketing perspective, more often it’s referred to as [click]



Machine learning algorithms are a subset of AI that powers some of the world's most advanced technology, from Siri and Alexa to IBM's Watson, to the Deep Blue chess machines. The things all these have in common is the ability to complete only a specific task, such as running medical diagnostics or playing chess, without the ability to generalize. But how do they work?



What exactly goes on in the box we don't really need to know about for now. We input a whole lot of data, magic happens, and we get an output. An example that you might have seen in the news lately is the group of scientist who took photos of people who don't exist



For their input they used millions of photos of people's faces, their algorithm processed the data and looked for trends, and then used that information to create faces that don't exist. Albeit some of them are more convincing than others

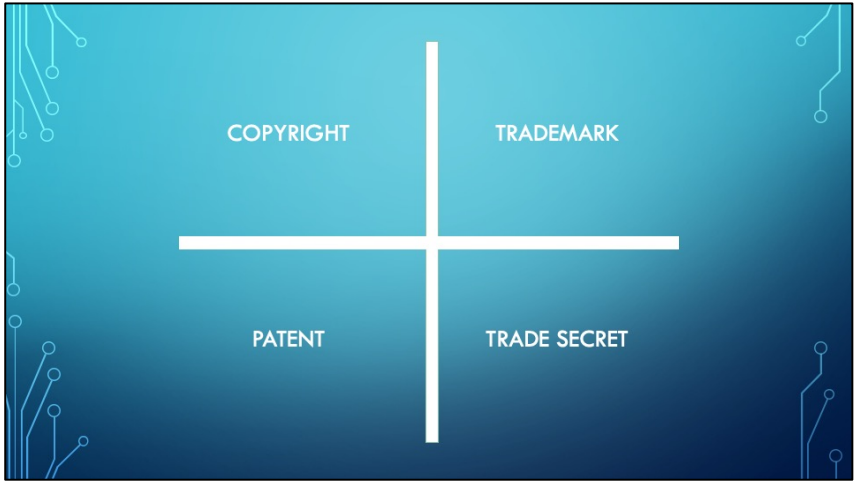


ARTIFICIAL INTELLIGENCE

So that's Artificial intelligence. When the article today references AI bare in mind that they're referring to a machine learning algorithm, although we will touch back on strong AI towards the end of this presentation.



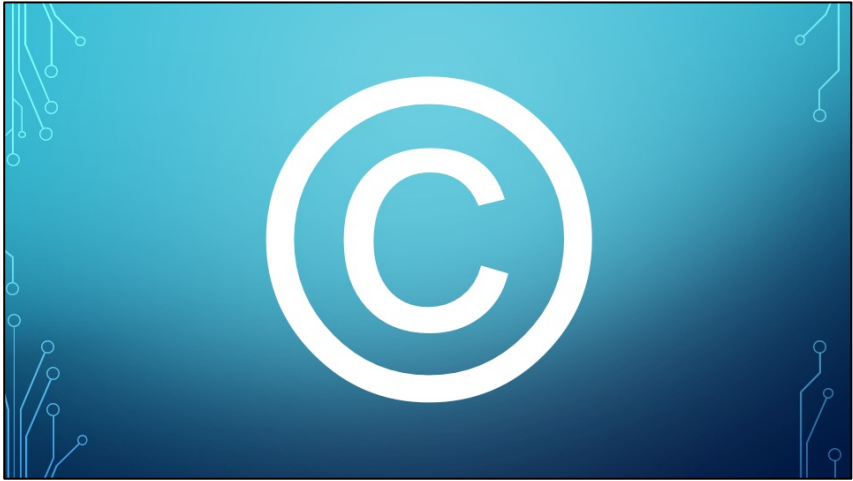
The other thing we need to dive into is intellectual property



There are four main types of intellectual property. For our needs however we only really need to worry about patents.

FIG. 1

A patent is used to claim ownership of a novel idea. The US patent office offers patents for “anyone who invents or discovers any new and useful process, machine, article of manufacture, or compositions of matters”. This example, for instance, is for Apple’s NFC payment system.



A quick note, copyright as a concept is closely related to patents. The key difference is that copyright applies to tangible forms of expression rather than ideas. So for example you might patent a pen, but you'd copyright the story you write with it. Also, while patents last for 20 years, copyright can last the lifetime of the author plus 75 years.



THE ARTICLE

With all that out of the way, let's get back to our article



Photographer: Baint Po

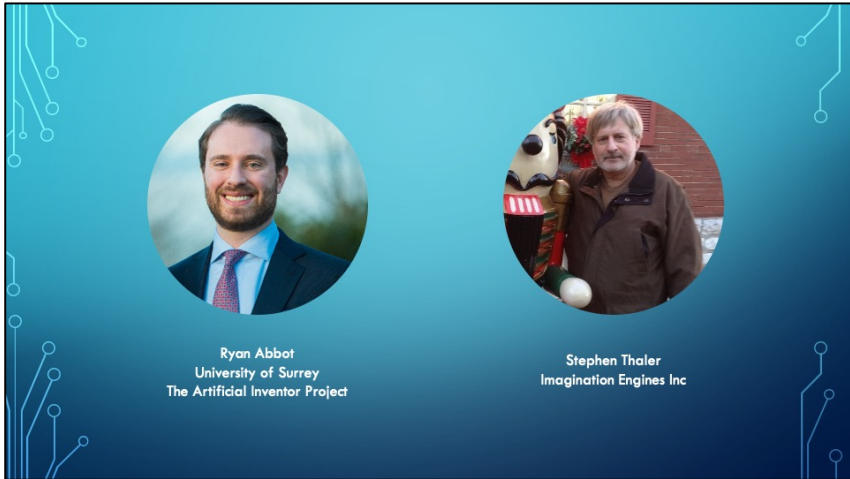
Technology

Only Humans, Not AI Machines, Get a U.S. Patent, Judge Says

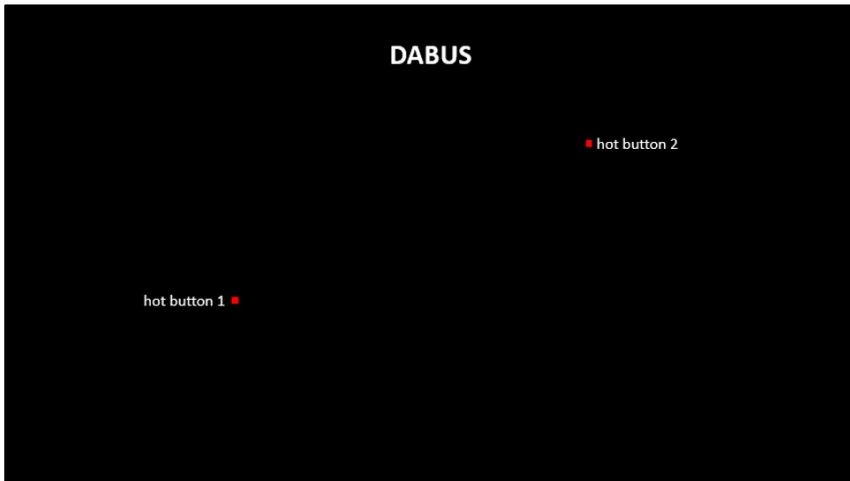
By [Susan Decker](#)

3 September 2021, 10:16 am GMT-4 Updated on 3 September 2021, 3:06 pm GMT-4

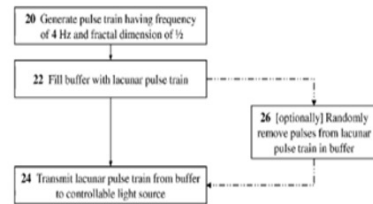
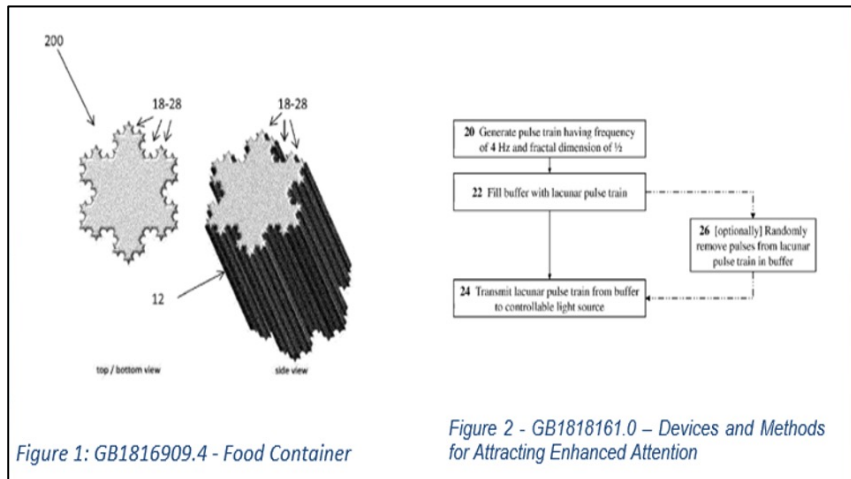
If anyone needs a quick refresher.



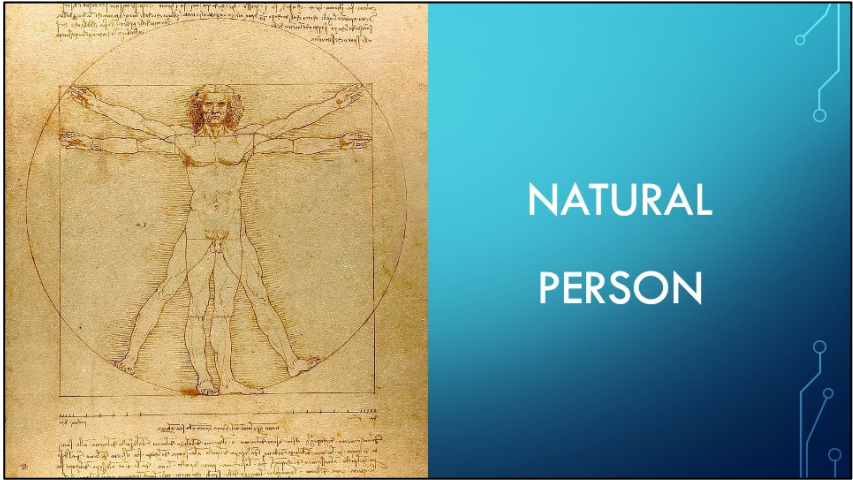
Professor Ryan Abbott runs The Artificial Inventor Project, whose aim is to allow computers to be listed as an inventor. They enlisted the talents of Stephen Thaler who invented a machine that invents things.



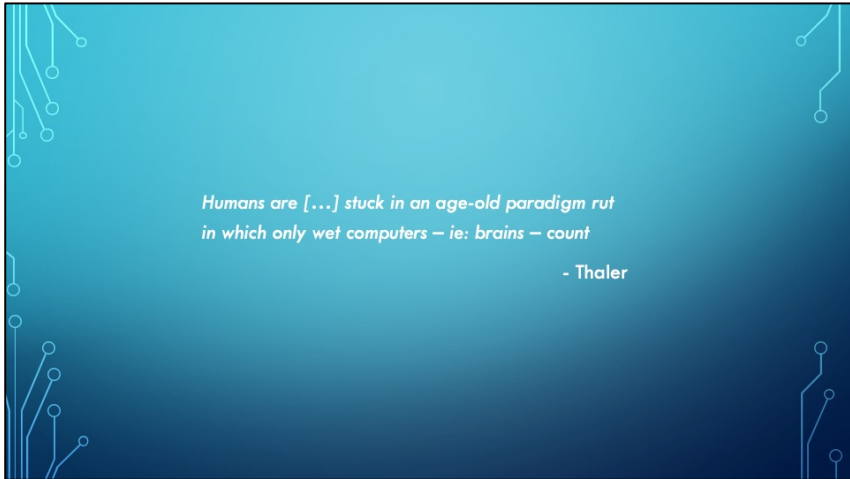
The machine in this case is DABUS. It uses a type of machine learning called a neural net, where it attempts to link together simple ideas to form a more complex one. The end result being a new invention



So far DABUS has been credited as the inventor on two patents. The first being a snowflake shapes lunchbox, and the second a pulse beacon. And they've been successful too, with rulings in their favour in both Australia and South Africa. However when these were submitted to the US patent office they were rejected. Why?



According to federal law, an individual must swear an oath that they are the inventor of their patent, and the judge ruled that an individual is defined as being a natural person Aka an individualized human being. Thaler, of course, disagrees [click]



He's talking about what's called human chauvinism. That is, the belief that humans are in some fundamental way different from all other things. Thaler argues that this isn't the case, that even if it's not the case now then it's only a matter of time and we should be expanding our system to prepare for the inevitability.



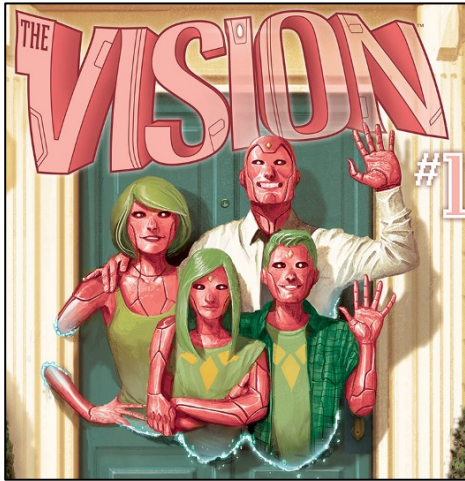
This isn't exclusive to AI by the way. Thaler also asks what would happen if an alien came to earth and tried to patent a ray gun. Based on our current system, the alien would be denied its claim. Although I'm not sure bureaucracy is my key concern in that situation.



So that's why they believe that a machine should be able to patent an invention, and as I mentioned they've been successful in two countries already so there's merit to it. So let's take a second to explore the reasons against it

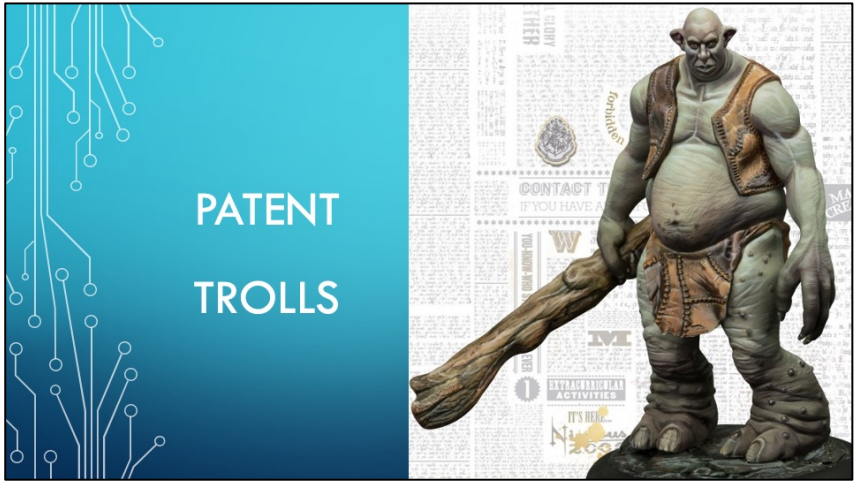


The judge made it clear in their ruling that their role in this is only to enforce the law as it's written, not to change it. And the law currently states that it must be a natural person. When the time comes that AI becomes sufficiently advanced as to warrant patents in their name, it would instead be up to the legislative branch to make updates to the patent laws accordingly.

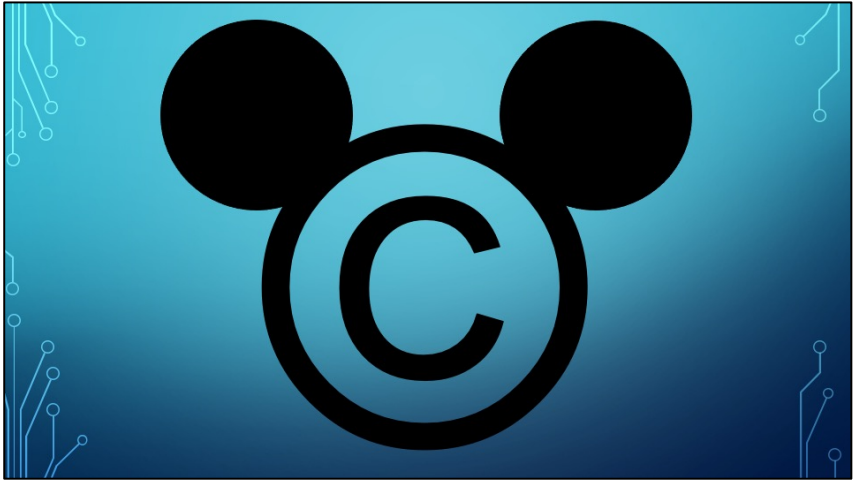


ARTIFICIAL INTELLIGENCE?

Of course this is under the assumption that an AI is even capable of independently inventing something. We saw at the beginning of this presentation that Strong AI currently doesn't exist, so allowing this for a weak AI begs a few questions on the nature of intelligence. Mind you, perhaps we're happy letting weak AI file patents as Australia and South Africa seem to be. Is there anything wrong with that?



If you've never heard of a patent troll the short version is they aim to acquire patents in the hope that one day it will be used by a company who will have to pay them for the right to use them. Drug companies, for instance, hold patents for each of their drugs. If they were able to systematically generate and file for patents, all they would need to do is sit back and wait for one of them to be viable and reap the profits from it. When insulin was invented, for example, they deliberately didn't patent it for the good of all people, which would no longer be possible.



One final note, if we accept that an AI can file a patent, it's plausible that their sibling copyright would follow suit. After all, machine learning algorithms can be fed the works of Shakespeare or Mozart, and output poetry or music respectively. So say if Disney owns that AI would be able to collect the profits from these works, and they're well known for their litigiousness. A curious part of this litigiousness is because of lobbying from companies like Disney, copyright now extends past the death of the author. But can an AI ever truly die?



Photographer: Baint Po

Technology

Only Humans, Not AI Machines, Get a U.S. Patent, Judge Says

By [Susan Decker](#)

3 September 2021, 10:16 am GMT-4 Updated on 3 September 2021, 3:06 pm GMT-4

So in summary, we've taken a look at what exactly an AI is, a group that's trying to use it to create new inventions, their struggle with getting patent approval, and some of the implications about what could happen if they get it. Hopefully you're able to take something away from this presentation, and if it was all a bit much, here's my dog.

