# The difference between AI and General AI

**AI**, **Artificial Narrow Intelligence(ANI)**, or “**weak AI**”. It is designed to perform a single function that can outperform a human in a narrowly defined and structured task. Such as internet search, face recognition, or speech detection under various constraints and limitations. Most common techniques are machine learning, NLP, and computer vision. ANI or weak AI are not thinking for themselves but simulating human behavior based on a set of rules, parameters, and contexts that they are trained with. ANI depends on data, update changes in small steps,only has the ability to excel human in small accuracy tasks.

**General AI**, **AGI**,or “**strong AI**” allows machines to apply knowledge and skills in different contexts. The objective of AGI is to create machines that can reason and think just like human is capable of doing. AGI has the ability to achieve complex goals in a difficult environment with limited computational resources and has the ability to transfer learning from one domain to other domain.

# Discuss whether Bitcoin is Turing Complete

In computability theory, a system of data-manipulation rules (such as a computer's instruction set, a programming language, or a cellular automaton) is said to be **Turing-complet**e or computationally universal if it can be used to simulate any Turing machine (devised by English mathematician and computer scientist Alan Turing). This means that this system is able to recognize or decide other data-manipulation rule sets. Turing completeness is used as a way to express the power of such a data-manipulation rule set. Virtually all programming languages today are Turing-complete.

“The concept of a Turing machine has been well defined. It would be sufficient to show that Bitcoin uses a dual-stack architecture that acts as a dual counter machine. Such systems have already been demonstrated as being Turing complete. We demonstrate that Bitcoin script is a minimal family of which λλλλ and R are members. Further, using the compositional product rule and the iteration rule, we demonstrate that **Bitcoin scripting is Turing complete with the limitations imposed on any real-world computer.** The limitation is that there cannot be an infinite tape. Iterations can be simulated using an “unrolled” loop function with allocation to the “Alt” stack. As the product rule says, if A, B are machines, then A.B is also a machine. The iteration rule shows that if A is a machine, then (A) is also a machine. Further, the minimum power of A under which the observed square of the final configuration is blank. The consequence of such rules is that for every partial recursive function of in variables we can show that it can be evaluated by a machine of the proposed family. **“*Wright, C. S. (2019, September). A Proof of Turing Completeness in Bitcoin Script. In Proceedings of SAI Intelligent Systems Conference (pp. 299-313). Springer, Cham.***

# Discuss what role blockchain might play working with AI in the future

* Having ample data is important to train the AI applications. Blockchain can offer reliable, traceable data that will make AI developing more efficient.
* The decentralized leger ensures that no one server handle the operation of the AI application. The AI training can be training and operate without supervised.
* Blockchain is cryptographic information that protect the privacy of the network runs AI training and operation.
* In the future, blockchain will use its feature, traceable, transparent, cryptographic, decentralized, AI could improve the network between software and software. Some service can be automatically distributed or performed quickly and efficiently.