AI

Artificial Intelligence covers anything related to enabling computers to behave like humans. Havent you heard about the famous turing test? Here, you place a computer and a human on one side and a human evaluator on the other side. If the evaluator can’t recognize which candidate is human and which candidate is a computer after a series of questions, the computer successfully passed the Turing test. Till date, no AI bot has passed the test. Machine Learning is a part of AI and Deep learning in turn is a part of Machine Learning.

Note - AI need nt include Machine Learning. The ghost that tracks you when you play pacman, uses a simple distance algorithm and still behaves like a human. This also forms a part of AI.

ML

It is a specific application of AI. So, in order for the machine to behave like humans, we much teach the machine to behave so. When the machine “learns”, It gives us a feel of human intelligence.

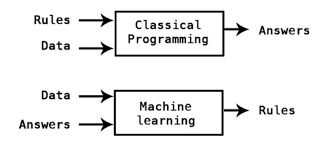
This may feel like a magic. But this is totally logical!

Lets look at an example. Suppose you created a cool android application and published it in play store. You are counting the number of downloads per week.

| week | downloads |
| --- | --- |
| 1 | 3 |
| 2 | 9 |
| 3 | 27 |
| .. | ... |

Then what would be the predicted downloads in the end of 5 weeks? Logically, it’d we 3^5 = 243. So, here you brain noticed the pattern and found the function as 3^n . The same can be done by a machine. ‘Learning patterns, modifying/ correcting them and testing if you get the answer with the pattern.’

Below diagram shows the key difference between classical programming and machine learning



DL

Deep learning was specifically developed as a significant part within ML inspired by the working of our brain. (Note - these neurons do not behave like our biological neurons; It is exrtemely hard to fully understand how our neurons work.)

A concept of ‘neural network’ was created from this inspiration where each set of neurons would alter the data and pass it to the next set, like the neurons in our body. The main difference between ML and DL is that, in ML, we had to explicitly find what features contributed in creating the patterns, while in DL, the neural network figures it out by itself what the patterns are! Sounds interesting right. But since this is a course curated for Machine Learning, We’ll delve into deep learning later.

You can try [this video](https://www.youtube.com/playlist?list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi) to quench your thirst for knowledge.

DS

Data science is not a member of AI universe, but it may have some parts of AI embedded in it. It deals with the concept of handling data;be it extracting it, the various ways in which we can twist and turn and filter data, the insights we can derive from it (Mostly with the help of ML/DL models) et cetera.

