

Machine learning is a sub-field of computer science that focuses on creating programs that are given training data and that make a decision or prediction based on this data it has “learned” about. Machine learning falls under the umbrella of AI and uses a concept known as neural networks to create these programs. Neural networks essentially (not exactly but a similar concept) simulate the way the human brain makes decisions. For example, let’s say you want a program that would decide if an image contained a cat or a dog. You would first train it on thousands of unique images of dogs and cats using a powerful GPU. Attached to each image would be data of whether it was actually a dog or cat. The program (a programmed model) would then slowly learn what a dog and a cat are and how to identify them. Once it is trained, you can show it images of a cat or a dog and it will give you a prediction of which animal is pictured with a weight (usually a percentage in decimal form) of essentially how confident it is in its prediction. Machine learning has numerous applications and is used in everything from traffic camera vehicle identification to agricultural forecasting and plant analysis. I personally plan to go into this field as I have experience with it and find it very fascinating.