Overview of Machine Learning

Machine Learning is the branch of artificial intelligence which learn itself to produce the accurate result from the data given to it. Machine learning is the part of artificial intelligence which tries to follow the learning pattern of human and increase its accuracy over time. It can also be defined as the mathematical or statistical model which can learn itself without programming it explicitly.

Data is the part of information which is collected or stored for specific purposes. In today's world, data driven decision is the best decision that any organization can make. So, there is huge importance of data for every organization. These data can be used to make prediction, fraud detection, creating recommendation system. Pattern recognition is important to get insight of those data. Pattern recognition can be done using machine learning algorithms more specifically deep learning which is the part of machine learning is mostly used for pattern recognition. Pattern recognition is useful in making the decision. Also, advanced pattern recognition techniques can help to increase the prediction and accuracy of machine learning models. Accuracy is defined as the number of correctly predicted result over total data set. Accuracy shows how well our model is working. Accuracy depends on system to system and depends on data set used to train it as well as algorithms.

There is the relationship between artificial intelligence and machine learning. Artificial intelligence is the broader term while machine learning is the part of artificial intelligence. Artificial Intelligence is the technology that simulate the human intelligence while machine learning is the mathematical model which learns from past data and predicts the accurate result for the data that it has never seen. Machine learning can be considered as the subset of Artificial Intelligence.

The examples of two modern machine learning applications are recommendation system and autonomous vehicles. These applications cannot be built with traditional algorithms because is not possible to explicitly program what object to show and how to detect. It will be easier to let the model learn from the data and derive insight from that data.

Observation can be defined as the number of rows in data set. Features are the column in data set and often referred to as attributes. Quantitative data is referred to as the numeric data like 1,2,3 and so on and qualitative data is referred to as categorical data like true, false. These terms have special importance in machine learning because these are all the terms related to data set and we will be dealing with a lot of data in Machine Learning. It is necessary to know about these terms before digging deep into Machine Learning.

I do have great interest in learning and implementing Machine Learning. I have also involved in couples of projects related to Machine Learning. I worked with PHD student and a professor in the field of machine learning for a year. I was also the researcher at ACM UTD where I worked on stress detection project. I would like to learn Machine Learning by implementing it to the real-world projects. Also, I want to use my knowledge and skills of Machine Learning to advance my career in research in future. I do have an interest on healthcare domain and business domain so want to learn to be able to implement in those fields.