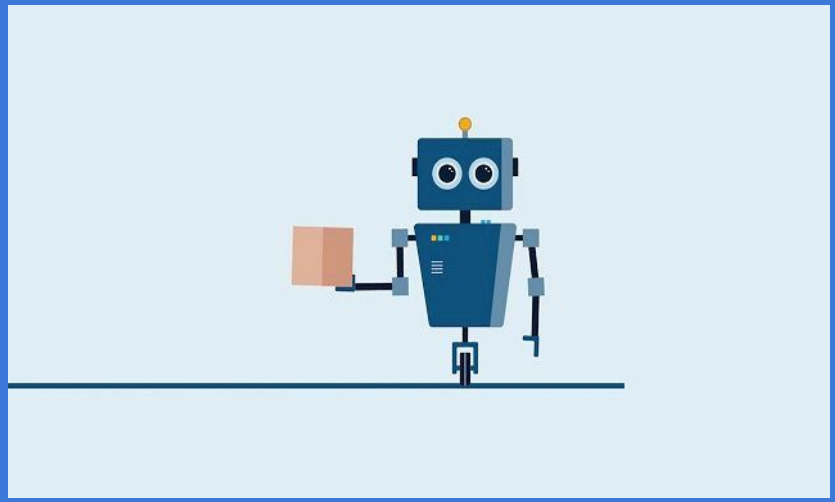
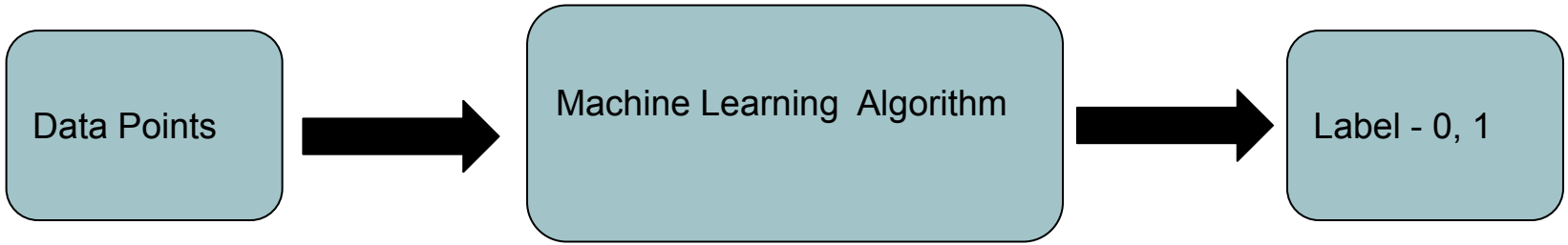
Machine Learning



A guide to Understand the Basic Concept

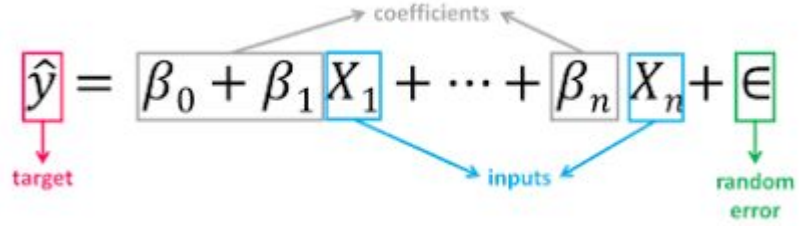
What is Machine Learning?

In simple terms, ‘Machine Learning’ is a process of injecting the data into a very complicated equation, called “Machine Learning Algorithm” and labeling it.



Machine Learning Algorithms:

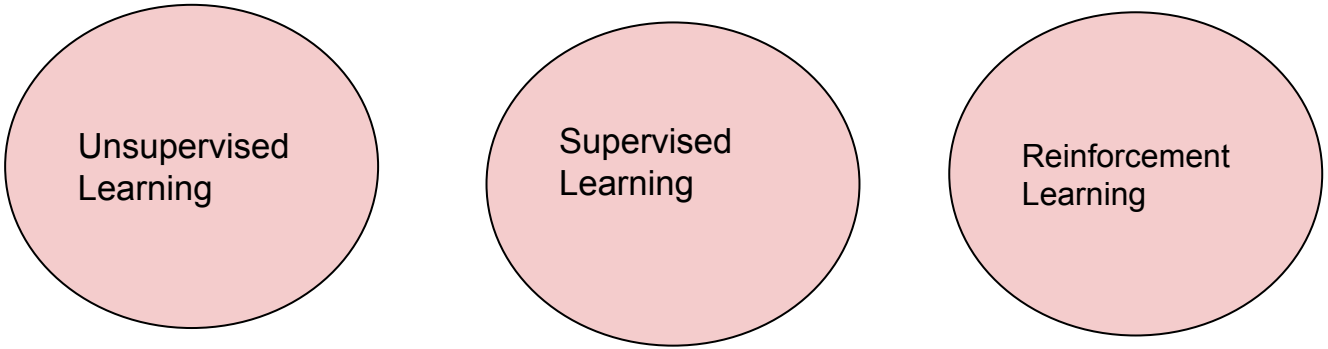
Machine Learning algorithms are complicated equations with internal parameters that converts the data into labels.



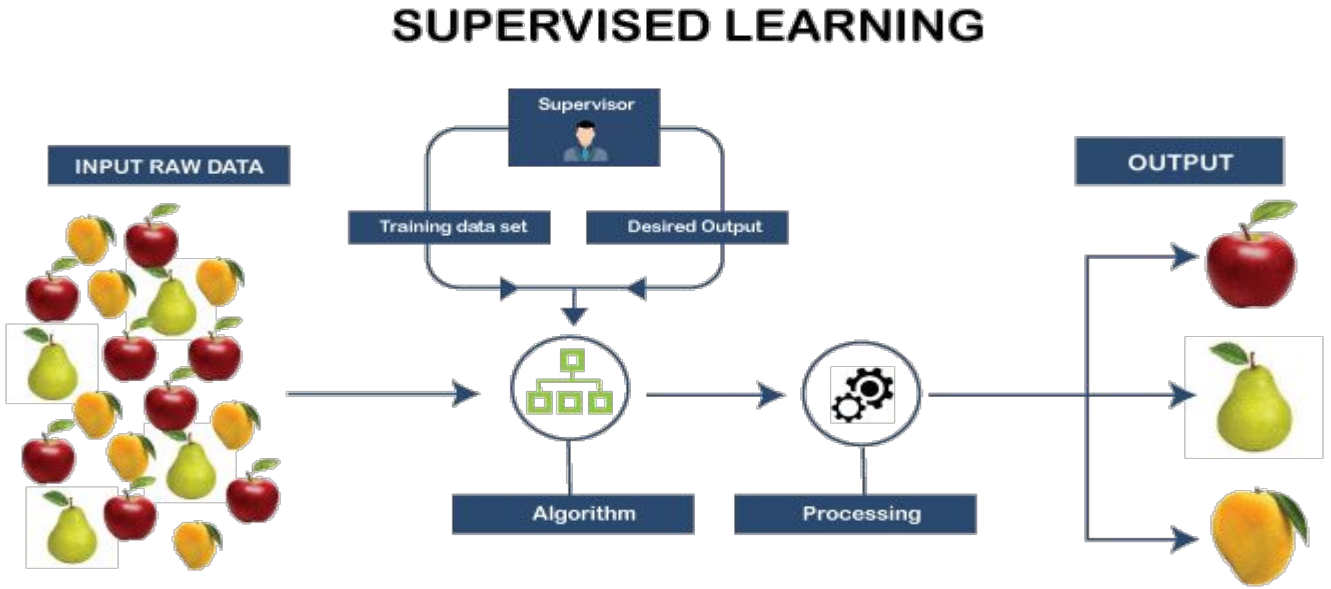
Tip:

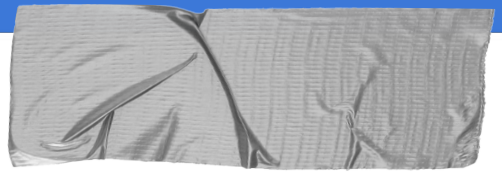
You provide the machine certain hyperparameters and certain guidelines, but the machine figures out the final equation.

Categories of Machine Learning:



Supervised Learning: When the machine is trained on a data with the labels already provided. The data of people with diabetes: like, blood sugar, weight, age and the outcome of whether they have diabetes or not are included for training the machine.

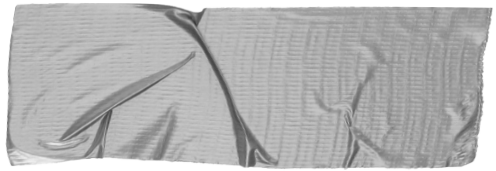




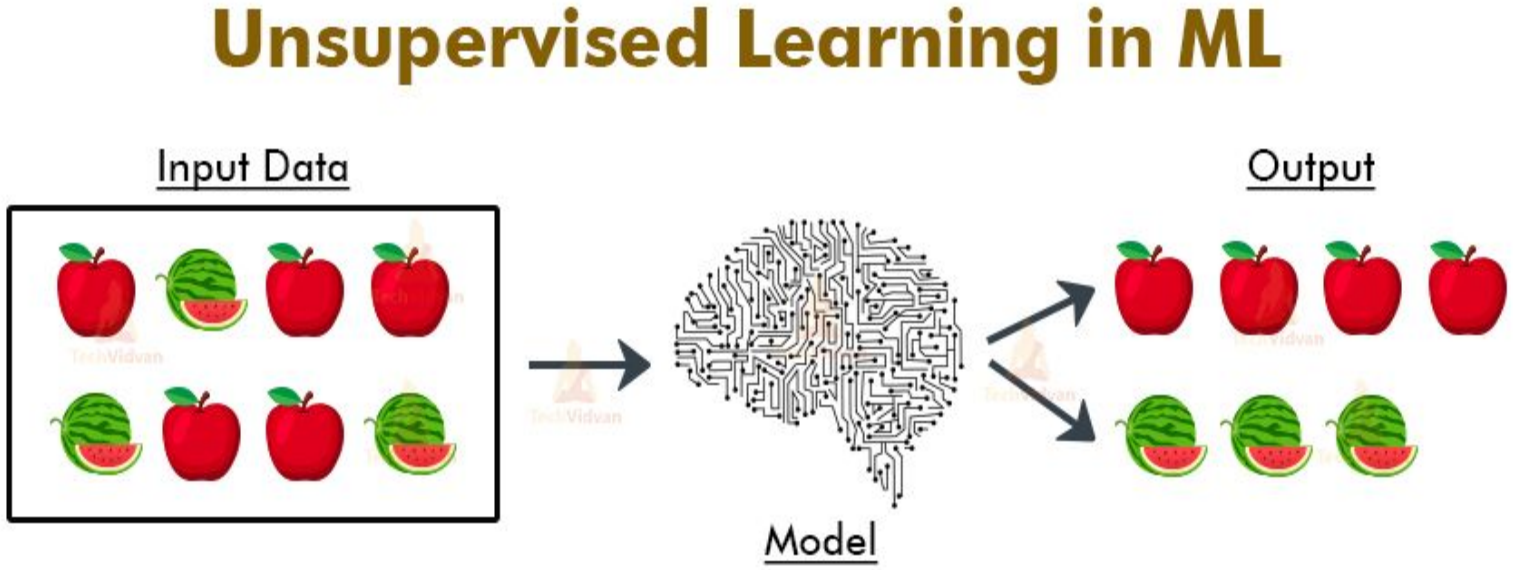
Two main Categories: Classification & Regression

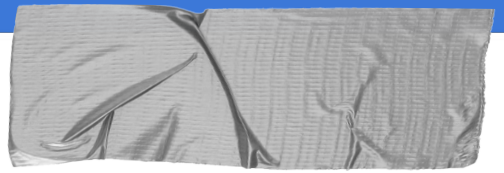
Classification : Classification is category prediction. The idea is that the machine will then predict the results for the new dataset without knowing the outcome. e.g., is it a picture of a cat or a dog?

Regression: Regression is the prediction of the numerical outcome based on continuous data. Prediction of the locations of data points based on the training data points.
E.g., Train data on salaries and house values. And then predict the value of my house by inputting my salary.



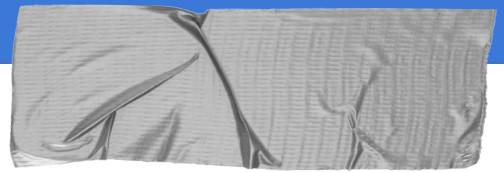
Unsupervised Machine Learning: When you train the machine without knowing the outcome labels. The idea is to find how data points relates to eachother.Here you provide bunch of data points and not sure about which category they belong.



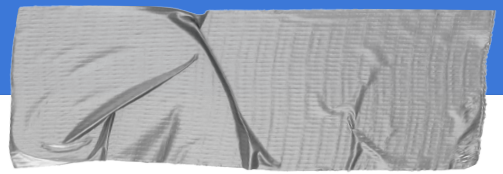


The Clustering of like data to each other is performed by machine. For Example:Recommender System: people who like one kind of movie also like this kind of movie, Customer segmentation, Credit card fraud.

The Dimensionality Reduction: finds the most important features to reduce the original dataset down into smaller and more efficient set and then predict the outcome. e.g., number of visitors to the beach.



Reinforcement Learning: When machine is constantly relearning better ways of doing something.



Article: Machine Learning | Introduction

By: Gavin Edwards

Reference Link:
https://towardsdatascience.com/machine-learning-an-introduction-23b84d51e6d0