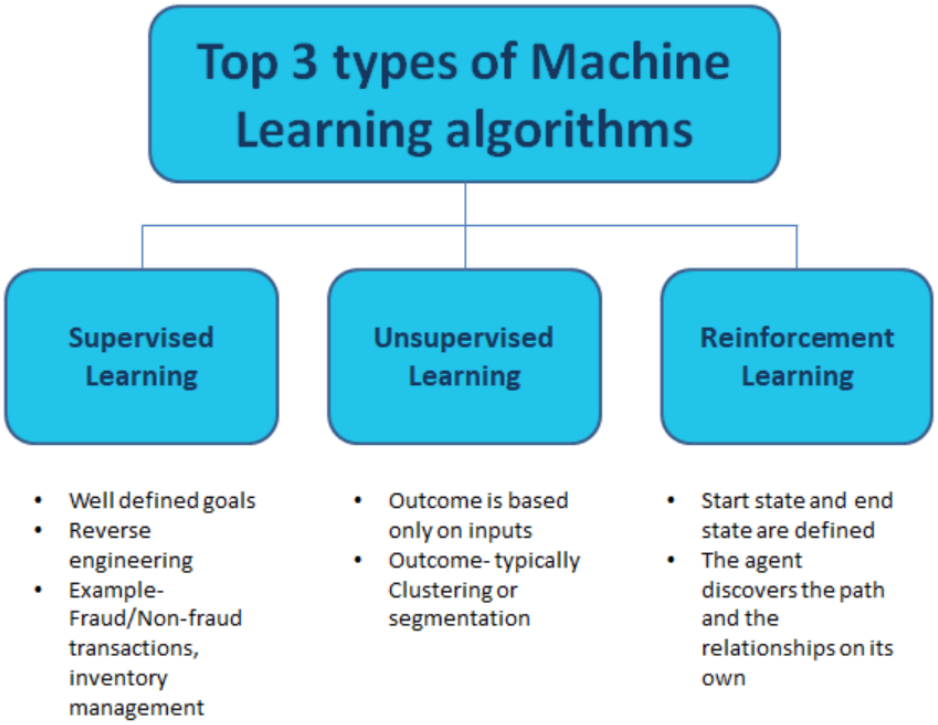
Machine Learning:



Supervised:

All data is labeled and the algorithms learn to predict the output from the input data.
Supervised learning problems can be further grouped into regression and classification problems.
Classification: A classification problem is when the output variable is a category, such as “red” or “blue” or “disease” and “no disease”.
Regression: A regression problem is when the output variable is a real value, such as “dollars” or “weight”.

Supervised Algorithms:

- Support-vector machines.
- Linear regression.
- Logistic regression.
- Naive Bayes.
- Linear discriminant analysis.
- Decision trees.
- K-nearest neighbor algorithm.
- Neural networks (Multilayer perceptron)

Unsupervised:

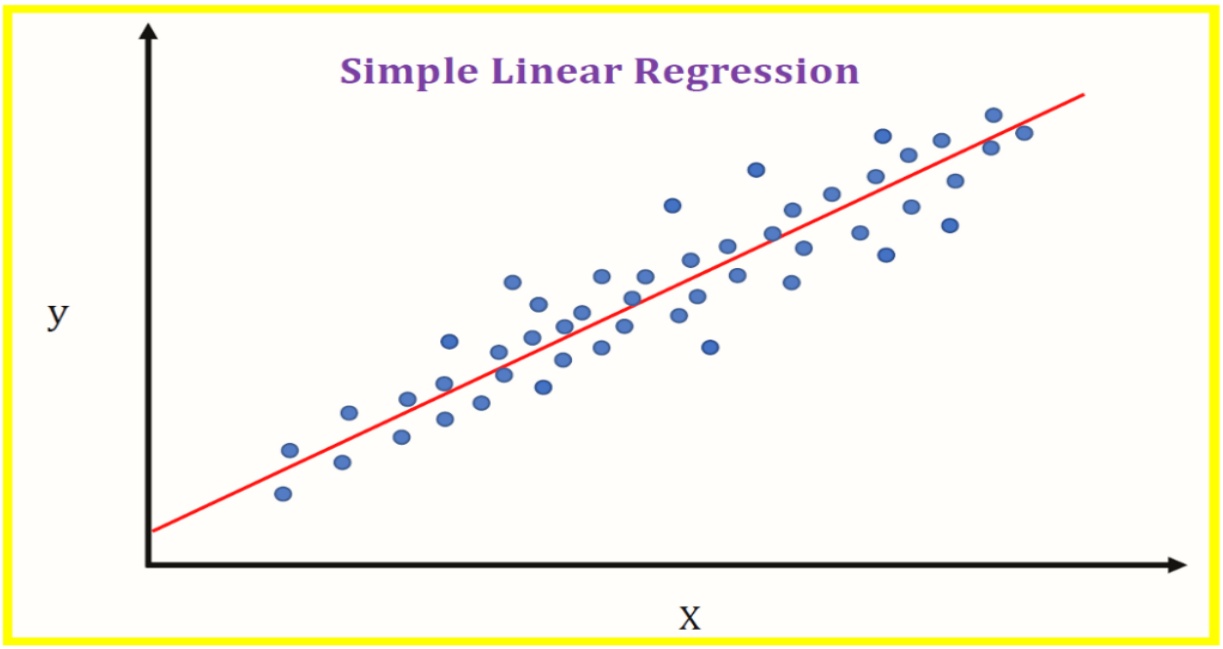
All data is unlabeled and the algorithms learn to inherent structure from the input data.
Clustering: A clustering problem is where you want to discover the inherent groupings in the data, such as grouping customers by purchasing behavior.
Association: An association rule learning problem is where you want to discover rules that describe large portions of your data, such as people that buy X also tend to buy Y.

Unsupervised Algorithms:

- K-means clustering.
- KNN (k-nearest neighbors)
- Hierarchal clustering.
- Anomaly detection.
- Neural Networks.
- Principle Component Analysis.
- Independent Component Analysis.
- Apriori algorithm.

Linear Regression:

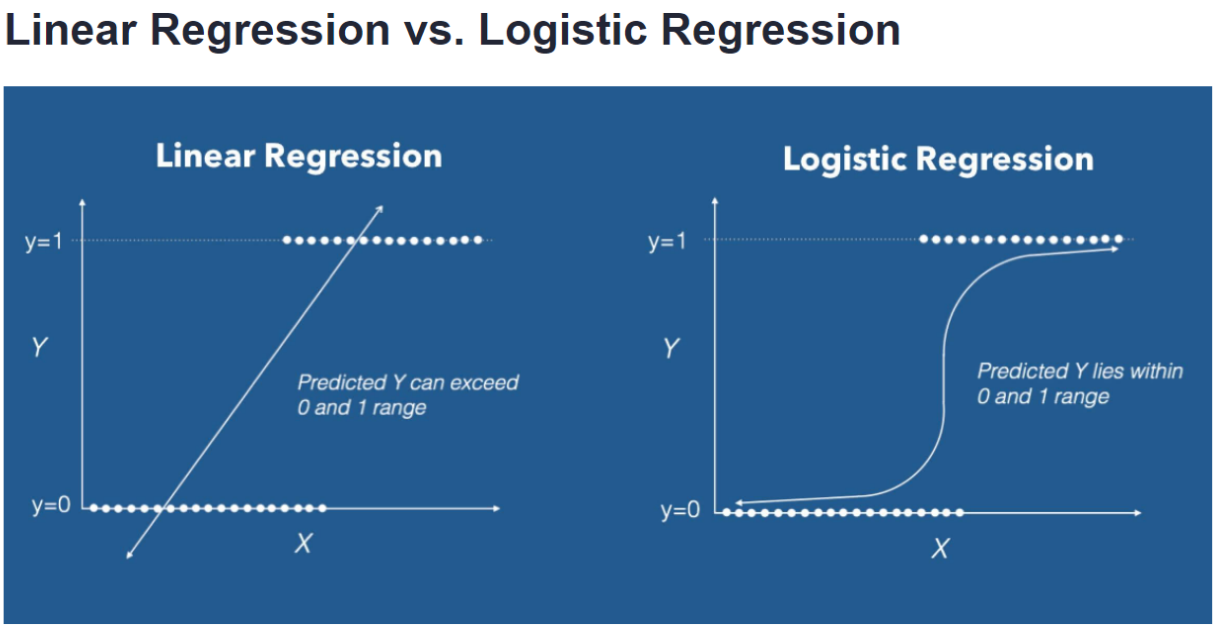
https://towardsdatascience.com/linear-regression-detailed-view-ea73175f6e86



Example of a two dimensional representation of the equation where the x axis refers to an input and the y refers to the output. **Source: Benjamin Obi Tayo**

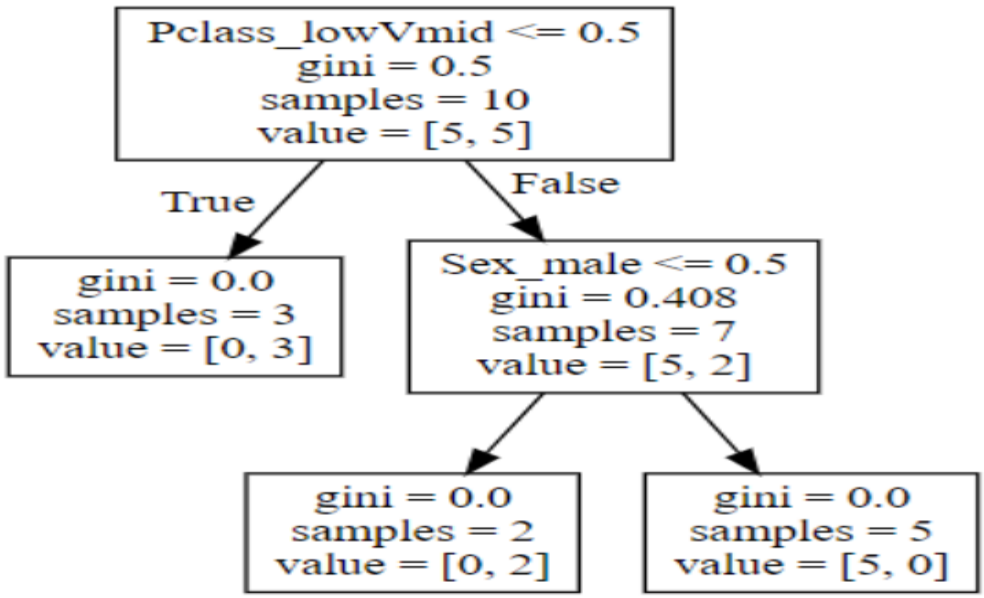
Logistic Regression:

https://towardsdatascience.com/logistic-regression-detailed-overview-46c4da4303bc



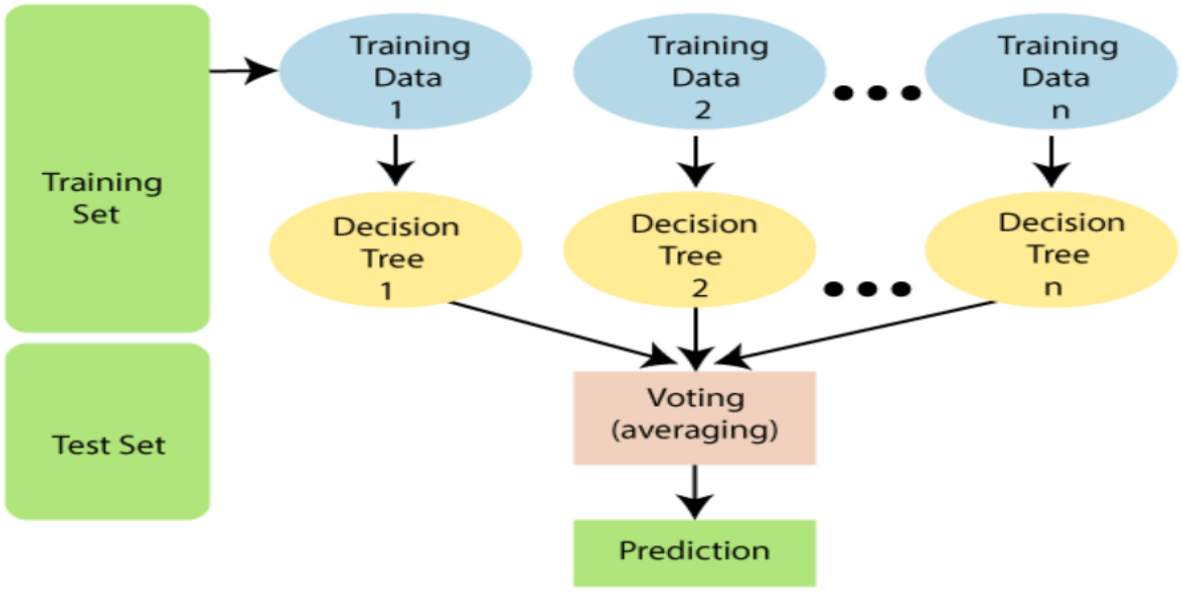
Decision Tree:

https://towardsdatascience.com/decision-trees-in-machine-learning-641b9c4e8052



Random Forest:

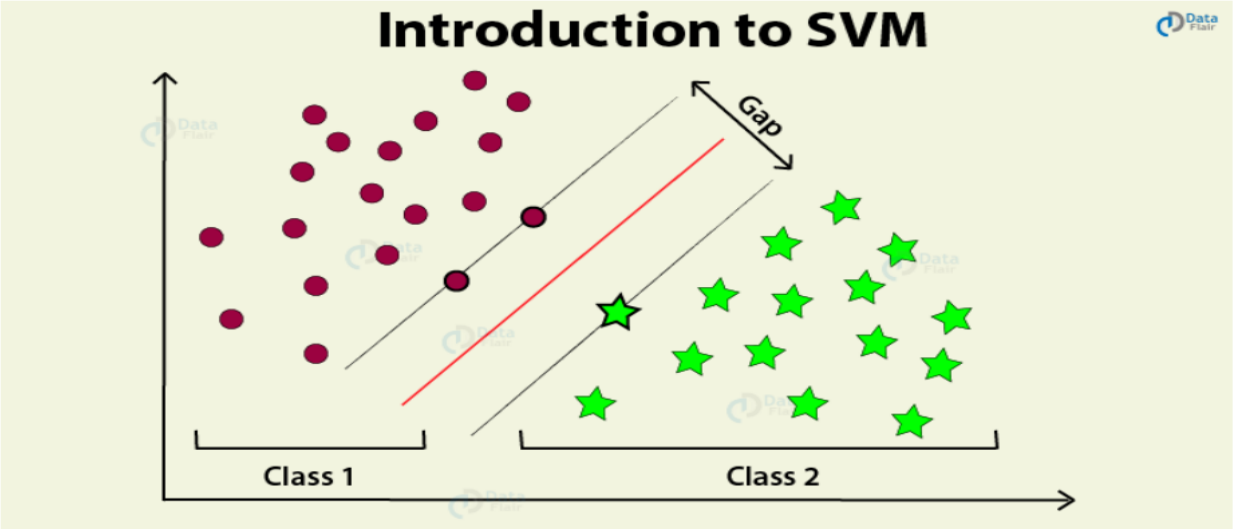
https://towardsdatascience.com/understanding-random-forest-58381e0602d2



Support Vector Machine:

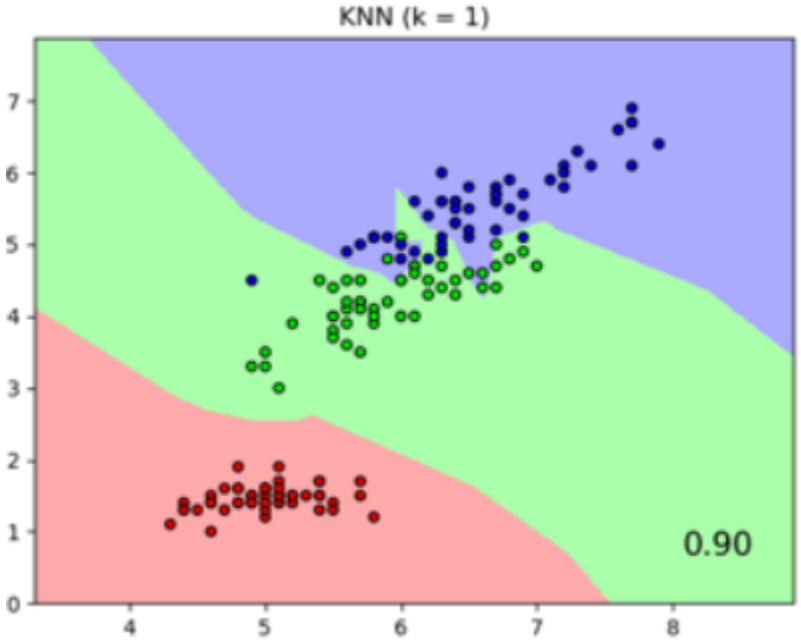
https://towardsdatascience.com/support-vector-machine-introduction-to-machine-learning-algorithms-934a444fca47

https://data-flair.training/blogs/svm-support-vector-machine-tutorial/



k-nearest neighbors:

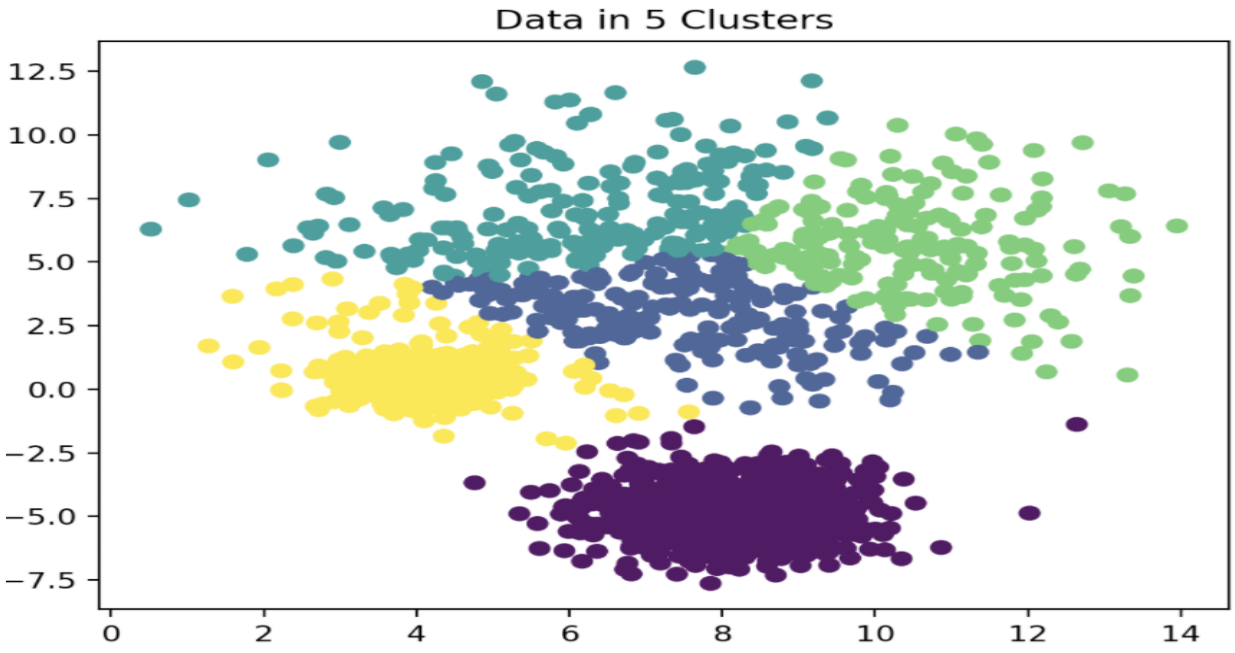
https://towardsdatascience.com/machine-learning-basics-with-the-k-nearest-neighbors-algorithm-6a6e71d01761



K-means clustering:

https://towardsdatascience.com/understanding-k-means-clustering-in-machine-learning-6a6e67336aa1

https://www.ml-science.com/k-means-clustering



XGBoost:

https://towardsdatascience.com/https-medium-com-vishalmorde-xgboost-algorithm-long-she-may-rein-edd9f99be63d