ML Algorithms

Linear Regression is supervised learning that makes use of an independent variable to predict outcome of a dependent variable, with the dependent variable being continuous and having unlimited possible outcomes. It has many application in real life including being used to determine relationship between advertising spend and revenue for business, relationship between dosage and blood pressure in medicine, determining the effect of fertiliser and water on crop yield in agriculture as well as the effect of different training regimens on performance in sports.

Logistic Regression as supervised learning is used when the response variable is categorical and has limited options to predict the probability of a dependent variable given an independent variable. The probable outcome could be binary/binomial with only two possible potions (True/False, Yes/No Win/Loss), multinominal with 3 or more unordered options (Type A, Type B, Type C) or ordinals with 3 or more ordered options (Poor, Good, Very Good, Excellent). It is useful in detecting spam, diabetes prediction and cancer detection

Decision Tree is a supervised predictive machine learning modelling tool for predicting outcomes (represented as leaves) which could be categorical (classification tree) or continuous (regression tree) using decision nodes. It helps identify strategies most likely to reach goals and choose which course of action to take

Support Vector Machine (SVM) is a supervised learning model largely used for classification and makes use of hyper planes (or lines) with each data item plotted as support vectors (coordinates). It’s application is found in face detection, text and hypertext categorisation, classification of images, bioinformatics, protein fold and remote homology detection, handwriting recognition and general predictive control

Naïve Bayes

K-Nearest Neighbours (KNN)

K-Means

Random Forest

Is it Supervised/Unsupervised/Reinforcement learning?•What does the algorithm do?•In which situations will it be most useful?•(Optional) Can you find any examples of where this algorithm has been used?