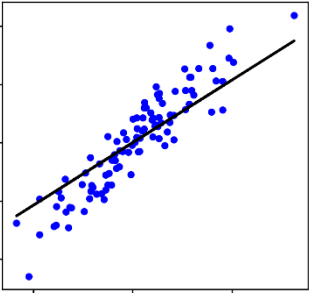
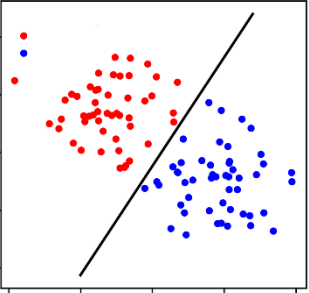
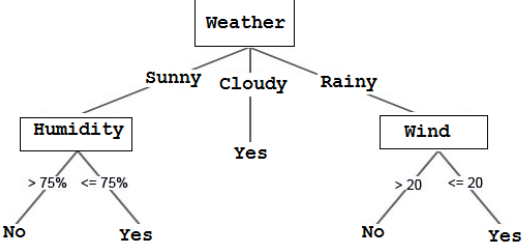


Algorithm	Categories	Concept	Advantages	Example
Linear Regression	Supervised	Regression model and predict a continuous output	<ul style="list-style-type: none"> Only support liner curve solution Assume input residuals to be normal distributed Assume linear relationship between independent and dependent variables 	Stock price, market trend, used car forecasting
Logistic Regression	Supervised	Adapt linear regression algorithm so that it can forecast problem where data is classified into groups.	<ul style="list-style-type: none"> Only handle linear solution Find relationship between independent and dependent variables Outcome probabilities are modelled using logistic functions 	Email spam detection, credit card fraud, tumour prediction
Decision Tree	Supervised	Data is continuously divided at each row based on certain rules until the final outcome is generated. The main components are: <ul style="list-style-type: none"> Decision Nodes, which is where the data is split or, say, it is a place for the attribute. Decision Link, which represents a rule. Decision Leaves, which are the final outcomes 	<ul style="list-style-type: none"> Support non-linearity solution Used to solve regression and classification problems Regression trees used for dependent variable with continuous values and classification trees. 	Real life decision making, for example, predicting salaries
SVM (Support Vector Machine)	Supervised	In the context of classification, SVM is a maximum margin linear classifier . Support vector classifier works by putting data points, above and below the classifying hyperplane there is no probabilistic explanation for the classification.	<ul style="list-style-type: none"> SVM works relatively well when there is a clear margin of separation between classes. SVM is more effective in high dimensional spaces. 	Face detection, text and hypertext categorization, classification of image, bioinformatics

Linear Regression, Logistic Regression	Decision Tree	Instance-based algorithms
<div data-bbox="338 300 427 320">Regression</div>  <div data-bbox="674 300 779 320">Classification</div> 	 <pre> graph TD Weather[Weather] -- Sunny --> Humidity[Humidity] Weather -- Cloudy --> Yes1[Yes] Weather -- Rainy --> Wind[Wind] Humidity -- "> 75%" --> No1[No] Humidity -- "<= 75%" --> Yes2[Yes] Wind -- "> 20" --> No2[No] Wind -- "<= 20" --> Yes3[Yes] </pre>	