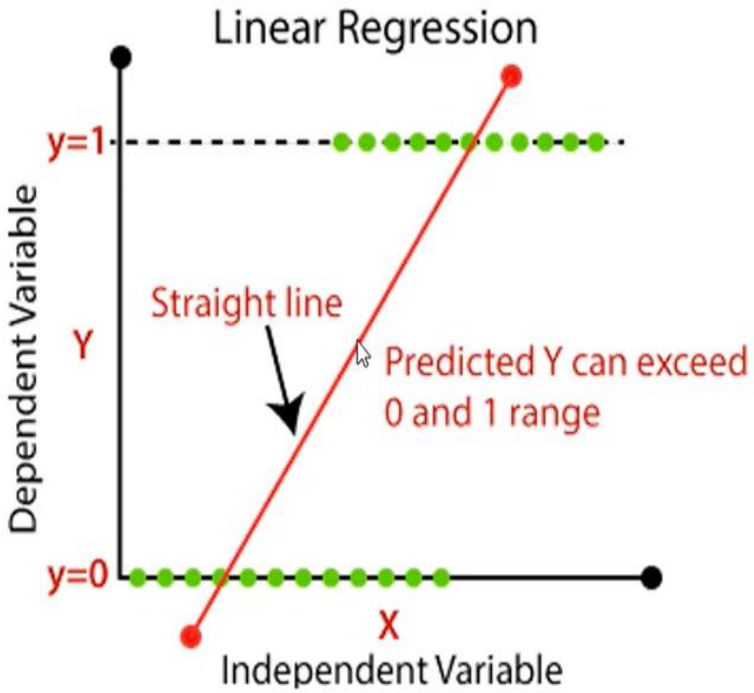
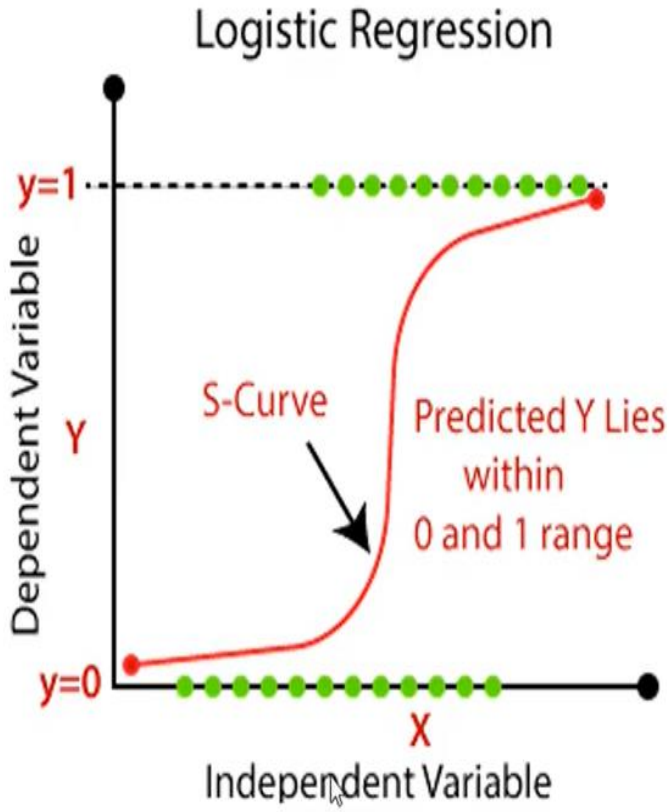
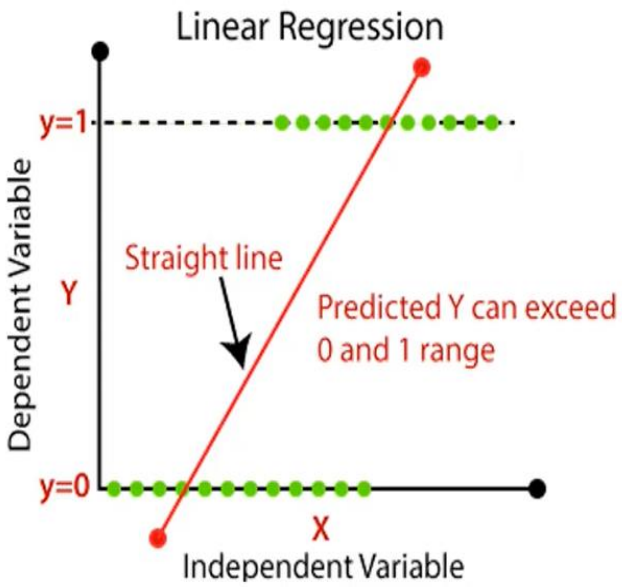
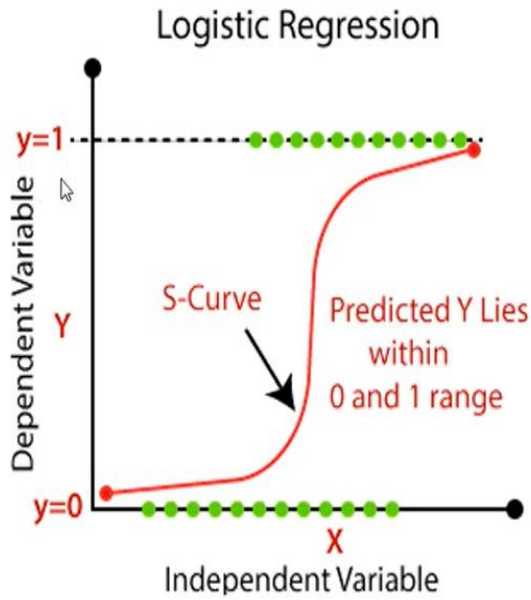
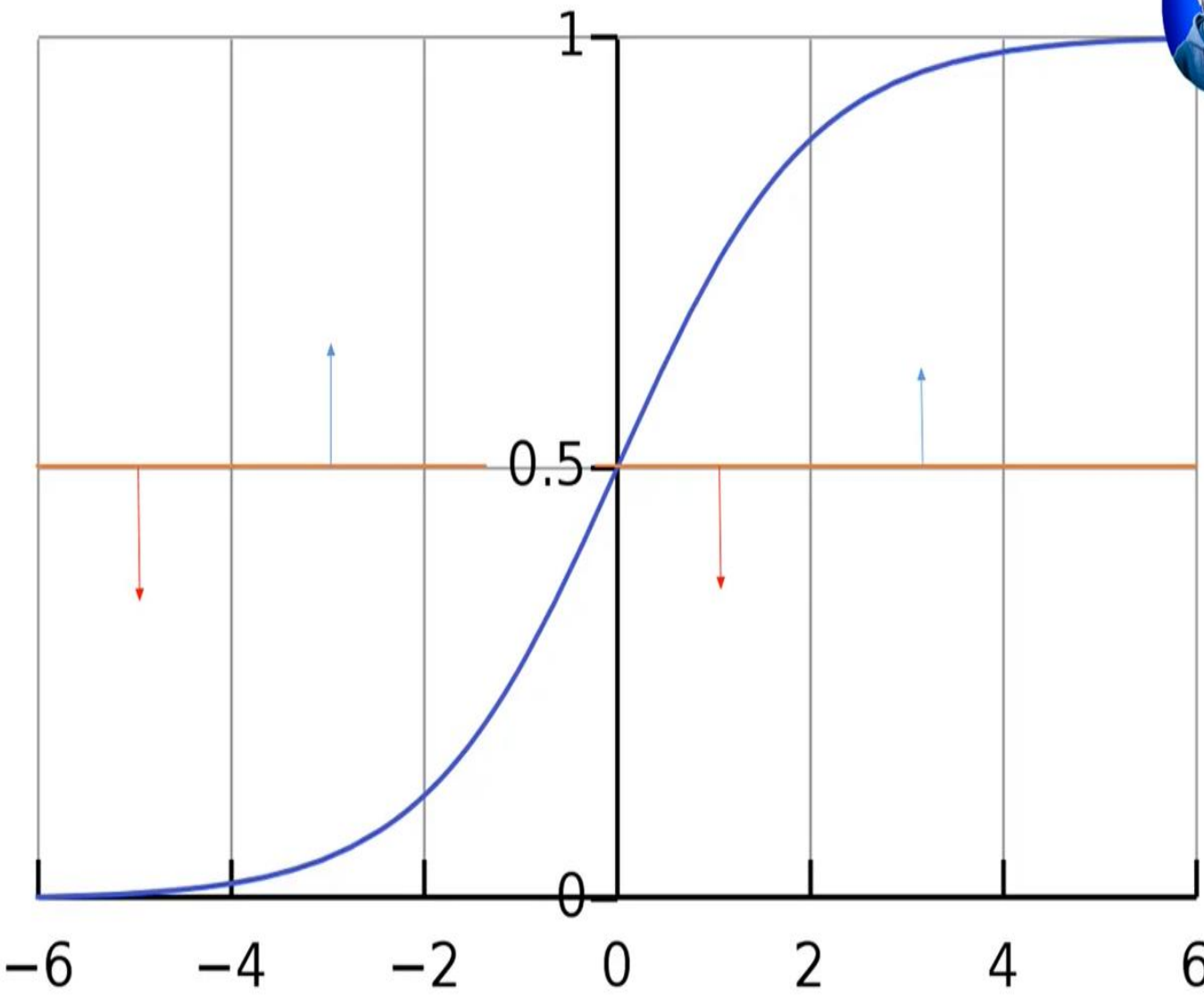

Linear Regression
y=1
Dependent Variable
Y
Straight line
Predicted Y can exceed
0 and 1 range
y=0
X
Independent Variable

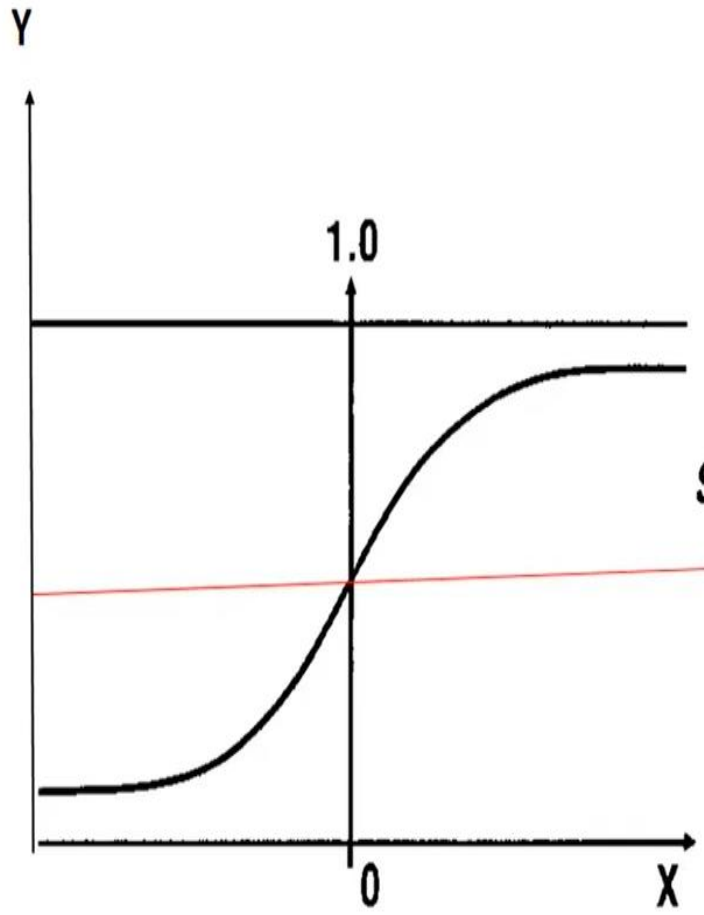

Logistic Regression
y=1
Dependent Variable
Y
S-Curve
Predicted Y Lies
within
0 and 1 range
y=0
X
Independent Variable

VS


Linear Regression
y=1
y=0
Dependent Variable
Y
X
Straight line
Predicted Y can exceed
0 and 1 range
Independent Variable


Logistic Regression
y=1
y=0
Dependent Variable
Y
X
S-Curve
Predicted Y Lies
within
0 and 1 range
Independent Variable


1
0.5
0
−6
−4
−2
0
2
4
6



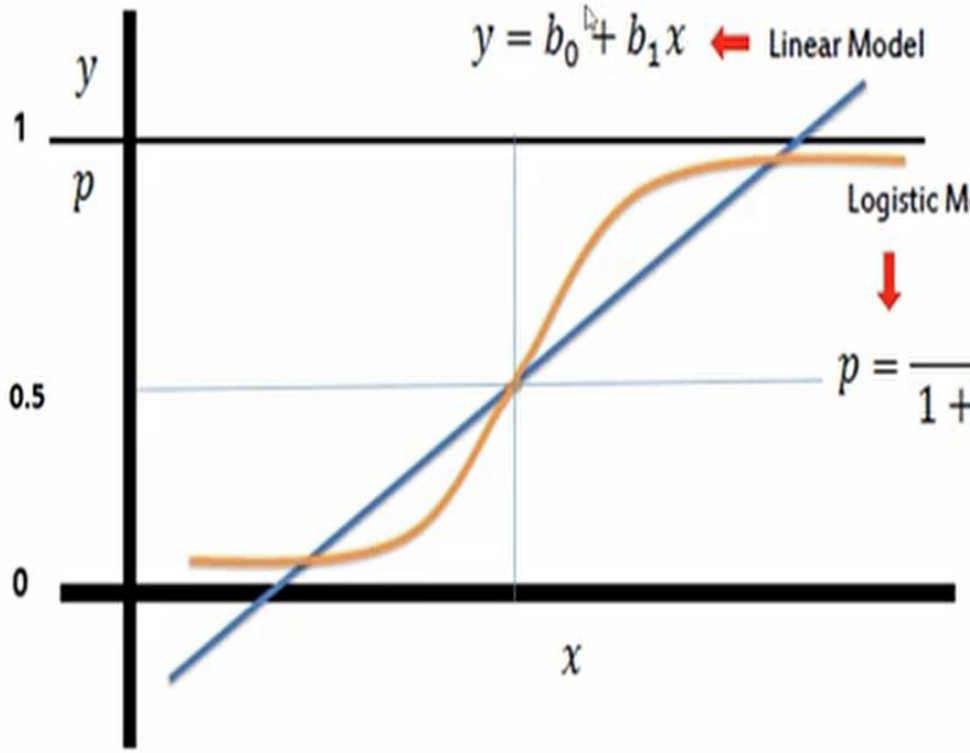
Sigmoid

$$f(x) = \frac{1}{1+e^{-x}}$$

$y = mx + c$

or

$y = b_0 + b_1 x$ ⬅ Linear Model



Logistic Model

$$p = \frac{1}{1 + e^{-(b_0 + b_1 x)}}$$

Sigmoid

$$f(x) = \frac{1}{1+e^{-x}}$$