

Poisson Regression

* USED TO model count variables (ie number of instances or occurrences) based on a set of predictor variables.

* where \hat{Y} is the predicted number of occurrences

$$\ln[\hat{Y}] = b_0 + b_1 x_1 + b_2 x_2 \dots$$

$$\hat{Y} = e^{b_0 + b_1 x_1 + b_2 x_2 \dots}$$

* For Poisson Regression to be valid

IMPORTANT. $E[Y] = \text{VAR}[Y]$

i.e. mean of sample data should be close to value of sample variance.