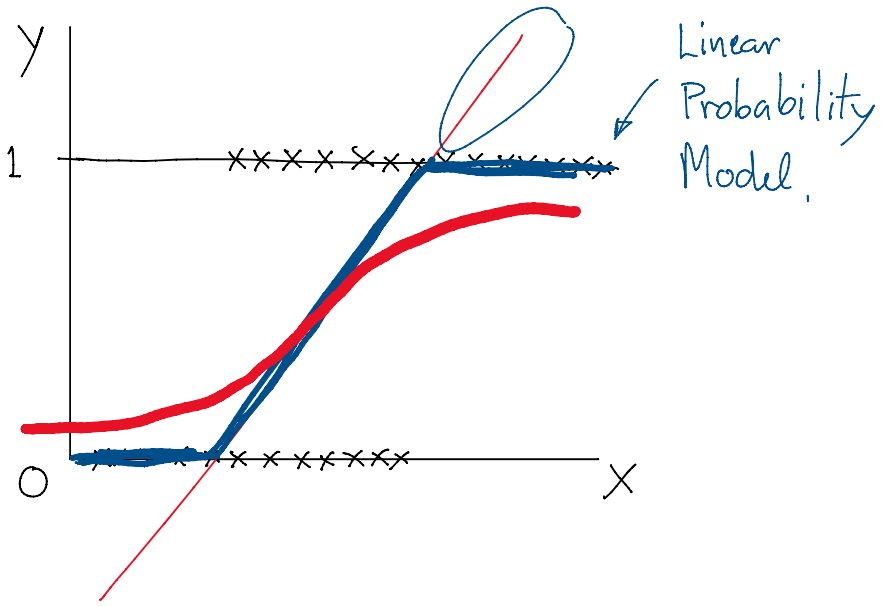
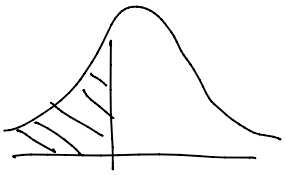
Logit

21 กันยายน 2561 14:15



$$Pr(Y=1|X) = Pr(X\beta+\varepsilon>0)$$

Normal Prob. $f^{N} = \int_{-\infty}^{\varepsilon} \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{\varepsilon^2}{2\sigma^2}} d\varepsilon$



Logistic Prob. $f^{L} = \frac{1}{1+e^{-I}} = P(Y=1)$

$$I = X\beta+\varepsilon$$

$$P = \frac{1}{1+e^{-I}}$$

$$\ln\left(\frac{P}{1-P}\right) = X\beta+\varepsilon$$

Odd Ratio

$$P(Y_i=1) = \frac{1}{1+e^{-I_i}}$$

$$P(Y_i = 0) = 1 - \left(\frac{1}{1+\bar{e}^{I_i}}\right)$$

$$I_i = X_i\beta + \varepsilon_i$$

$i = 1, 2, \ldots, n$

$$L = \prod_{i=1}^{n} \left(\frac{1}{1+\bar{e}^{I_i}}\right)^{Y_i=1} \left(1 - \left(\frac{1}{1+\bar{e}^{I}}\right)\right)^{Y_i=0}$$