Tutorial 3

Thursday, January 28, 2021 1:44 AM

$Y_i \sim N(\mu_i, \sigma)$

$\mu_i = BX_i$ Linear regr

$Y_i \sim Ber(p_i)$

$P_i = \cancel{B}X$ ⟸

$\text{logit}(p_i) = X_i B \Rightarrow$

$\text{logit}(p_i) = \log\left(\frac{p_i}{1-p_i}\right)$

$= X_i B \Rightarrow$

$\text{logit}^{-1}(p_i) = \exp(X_i B)$

λ

$Y \sim \text{Poisson}(\lambda)$

$E[Y] = \lambda$

$Var[Y] = \lambda \implies SD[Y] =$

$sd = \sqrt{}$

$Var =$

$\sqrt{Var}$

SD^2

$\sqrt{2}$

$1+\exp(x_i\beta)$

$$Y_i \sim P(\lambda_i)$$
$$\lambda_i = \exp(x_i\beta)$$

$\lambda_i = u_i e$

$$g^{-1}(u) = \log(u)$$

$$\log(\lambda_i) = \cancel{\log(\exp(}x_i\beta\cancel{))}$$
$$= x_i\beta$$

Poisson model

$$sd(Y|X) = \sqrt{E(Y|X)}$$

NB model

$$sd(Y|X) = \sqrt{E[Y|+}$$

$$\phi \to \infty$$

$\log(a \cdot b) = \log a$

$\exp(X_i\beta) \Rightarrow$

$\log(\lambda_i) = \log(v_i \exp(X_i\beta))$

$= \log(v_i) + \log(\exp$

$= \log(v_i) + X_i\beta$

$\lim_{\phi \to \infty} sd(Y \mid X)$

$) + \frac{E[Y \mid X]^2}{\phi}\Bigg), \lim_{\phi \to \infty} \frac{E[Y \mid}{\phi}$

$a + b g b$

$\exp(x_i B))$

$)$

$x]^2 - O$