

Regresné modely - vybrané vzorce

Matice: Ak matica $\mathbf{A}$ má hodnotu r a je v tvare

$$\mathbf{A} = \begin{pmatrix} \mathbf{A}_{11} & \mathbf{A}_{12} \\ \mathbf{A}_{21} & \mathbf{A}_{22} \end{pmatrix},$$

kde $\mathbf{A}_{11}$ má rozmery $r \times r$ a tiež hodnotu r , potom jedna zovšeobecnená inverzia je v tvare

$$\mathbf{A}^- = \begin{pmatrix} \mathbf{A}_{11}^{-1} & \mathbf{0} \\ \mathbf{0} & \mathbf{0} \end{pmatrix}.$$

Generalized least squares:

$$\hat{\beta} = (\mathbf{X}^T \mathbf{W}^{-1} \mathbf{X})^{-1} \mathbf{X}^T \mathbf{W}^{-1} \mathbf{Y}.$$

Exp. trieda:

$$f(y|\theta, \varphi) = e^{\frac{y\theta - b(\theta)}{a(\varphi)} + c(y, \varphi)}$$

$$E(y) = b'(\theta), \quad D(y) = a(\varphi)b''(\theta).$$

$\mathbf{X} \sim N(\mu, \Sigma)$ (pre n -rozmerné $\mathbf{X}$) ak

$$f(\mathbf{x}) = \frac{1}{(2\pi)^{n/2} \det(\Sigma)^{1/2}} e^{-\frac{(\mathbf{x}-\mu)^T \Sigma^{-1} (\mathbf{x}-\mu)}{2}}, \quad \mathbf{x} \in \mathbb{R}^n.$$