

$$Y_i \sim \beta_0 + \beta_1 x_i$$

↑

1/2

⇒ regrese

(snele o ušoret
Σ púvím)

Obecně :

$$Y_1, \dots, Y_n \sim N(\beta_0 + \beta_1 x_i, \sigma^2)$$

$x_i, i=1, \dots, n$ - dané

↙

$n > k$

$$\begin{pmatrix} Y_1 \\ \vdots \\ Y_n \end{pmatrix} = \begin{pmatrix} X_{11} & \dots & X_{1k} \\ \vdots & \ddots & \vdots \\ X_{n1} & \dots & X_{nk} \end{pmatrix} \begin{pmatrix} \beta_1 \\ \vdots \\ \beta_k \end{pmatrix} + \epsilon$$

error term

$\epsilon \sim N(0, \sigma^2)$

$\epsilon \sim N(0, 1)$

↑
reálné
číslo
variance

↑
vektor
(k-členný)
vektor

$$\|Y - \hat{Y}\| / \sigma^2 \sim \chi^2_{n-k}$$

↑
suma kvadrátů $N(0, 1)$

↓

$$\begin{pmatrix} y_1 \\ \vdots \\ y_n \end{pmatrix} = \begin{pmatrix} x_1 \\ \vdots \\ x_n \end{pmatrix} \begin{pmatrix} \beta_0 \\ \beta_1 \end{pmatrix}$$

$$y = Xb$$

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