Coefficient Interpretation

Wednesday 22 May 2024 4:03 AM

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

or

$$\log\left[\frac{P}{1-P}\right] = \beta x$$

Probability odds log-odds

$$P \propto \frac{P}{1-P} \propto \log\left[\frac{P}{1-P}\right]$$

0-1 0-∞ -∞ - ∞

coefficients = log-odds-ratio i.e. $\log\left[\frac{P/1-P}{P/1-P}\right]$ ← 1 unit change

odds-ratio = $e^{\text{coefficient}}$

% change in odds = $\left(e^{\text{coefficient}} - 1\right) \times 100$

↳ caused 1 unit increase of a variable keeping other variables constant

one hot encoding

(k-1) columns use the dropped column as reference

→ Scaled data gives better coefficient interpretation