

Applied Machine Learning and Predictive Modelling 1 - Notes

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Week 01: Linear Models

Regression

$$y = \beta_0 + \beta_1 \cdot x_1 + \epsilon$$

β_0 and β_1 are the regression parameters:

- β_0 is also the intercept
- β_1 is the slope

Coefficients

The coefficients are estimated from data. Estimated regression coefficients are denoted with a hat (e.g. $\hat{\beta}_1$). Fitted values (i.e. what the model predicts) are denoted with a hat as well (i.e. \hat{y}). Residuals are the difference between observed and predicted values.

$$\text{res} = y - \hat{y}$$