Formulas

- **Linear Regression**

$$SSE = \sum (y_a - y_p)^2$$

$$MSE = \frac{\Sigma (y_a - y_p)^2}{N}$$

$$MAE = \frac{\sum |y_a - y_p|}{N}$$

$$RMSE = \sqrt{\frac{\sum (y_a - y_p)^2}{N}}$$

- **Gradient Descent**

$$M\text{-}Gradient = \frac{-2}{N} \cdot x \sum (y_a - y_p)$$

$$C\text{- }Gradient = \frac{-2}{N} \cdot \sum (y_a - y_p)$$

$$VIF = {}^{1}/_{1-R^2}$$

$$R^2 = 1 - \frac{SSE}{SST}$$

- **Logistic Regression**

$$Sigmoid = \frac{1}{1+e^{-y}}$$

$$LogLoss = \frac{-\Sigma}{N} [y_a \log_p + (1 - y_a) \cdot \log(1 - p)]$$