Updating Strategies Cheat Sheet

LINEAR FIXED MODEL

$$y = X\beta + e$$

- If in the full rank model where $X^\top = \begin{bmatrix} X_1^\top & x_n \end{bmatrix}$ and $x_n^\top$ is the n-th row of X, then the n-th residual is zero as well as its variance.

LINEAR MIXED MODEL

$$y = X\beta + Zu + e$$

REFERENCES

[1] Richard J Beckman and H J Trussell. The Distribution of an Arbitrary Studentized Residual and the Effects of Updating in Multiple Regression. *Journal of the American Statistical Association*, 69(345):199–201, 1974.

[2] Ronald Christensen and Larry M Pearson. Case-Deletion Diagnostics for Mixed Models. *Technometrics*, 34(1):38–45, 1992.

[3] R Dennis Cook. Detection of Influential Observation in Linear Regression. *Technometrics*, 19(1):15–18, 1977.