Poster Formulas

Multiple regression

$$\mathbf{Y} = \mathbf{X}\beta + \varepsilon$$

Ordinany least squares

$$\hat{\beta}_{OLS} = \arg\min_{\beta} \left\{ \|\mathbf{Y} - \mathbf{X}\beta\|_2^2 \right\}$$

Ridge

$$\hat{\beta}_{Ridge} = \arg\min_{\beta} \left\{ \|\mathbf{Y} - \mathbf{X}\beta\|_2^2 + \lambda\|\beta\|_2^2 \right\}$$

KPR model

$$\mathbf{Y} = \mathbf{Z}\beta + \mathbf{E}\eta + \varepsilon$$

KPR fit

$$\hat{\beta}, \hat{\eta} = \arg\min_{\beta,\eta} \left\{ \|\mathbf{Y} - \mathbf{Z}\beta - \mathbf{E}\eta\|_H^2 + \lambda\|\beta\|_{Q^{-1}}^2 \right\}$$