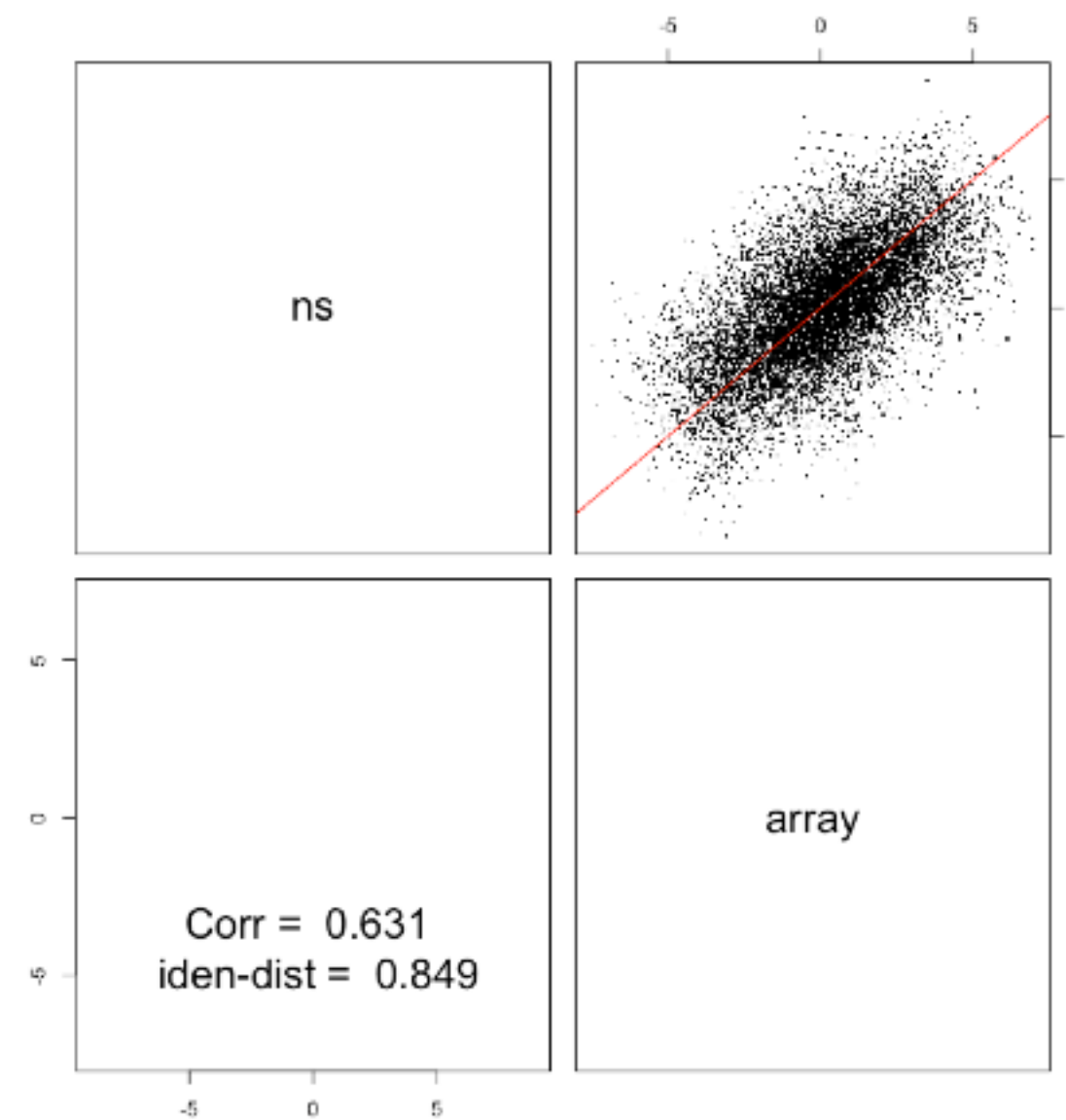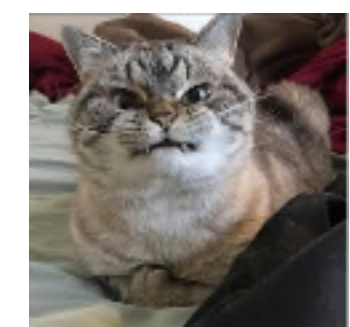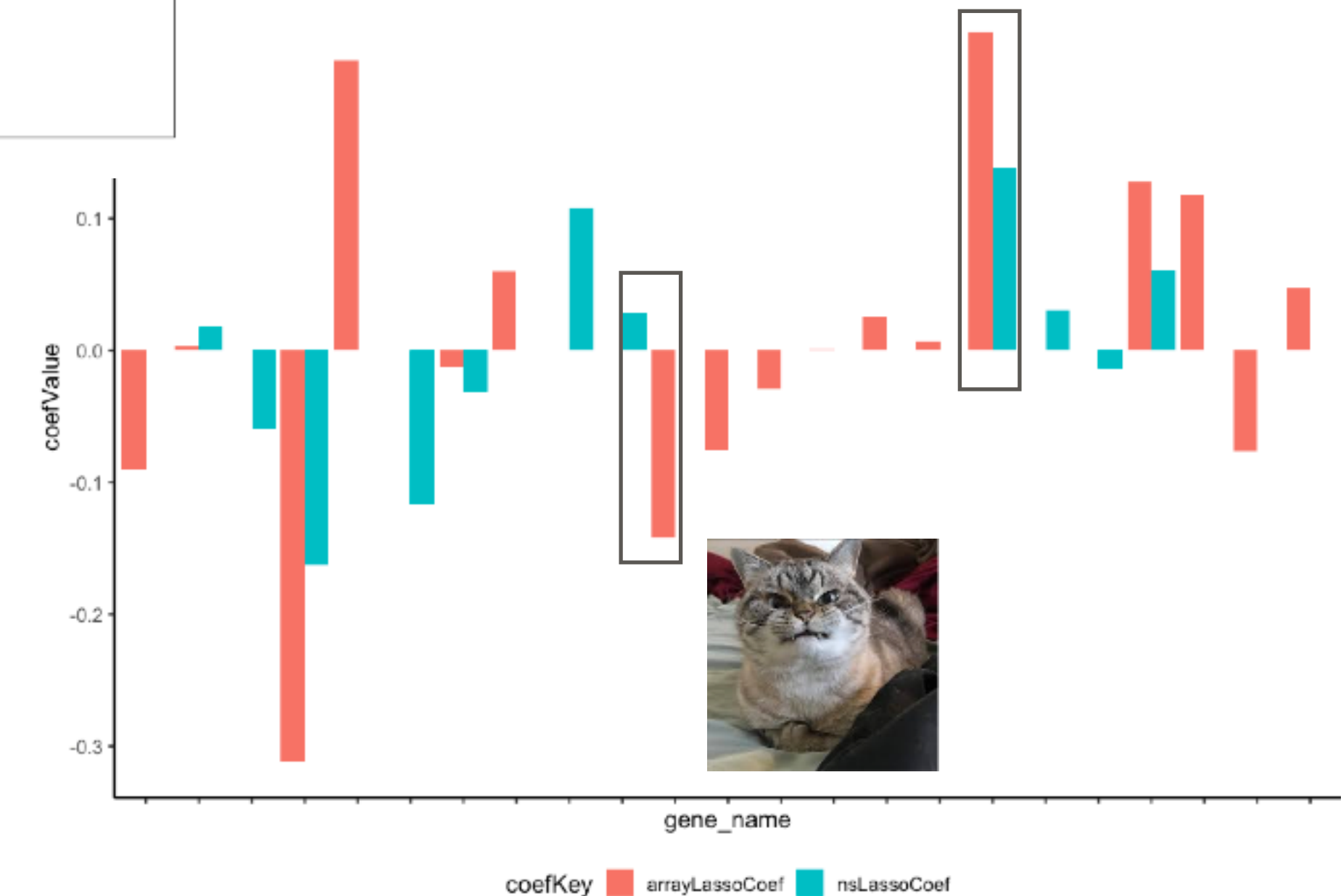# CPOP framework: weighted variable selection

1. Perform a **weighted Lasso** by placing higher weights on features closer to the identity line

2. Perform a **Ridge regression** and only retain those features with coefficients similar to each other
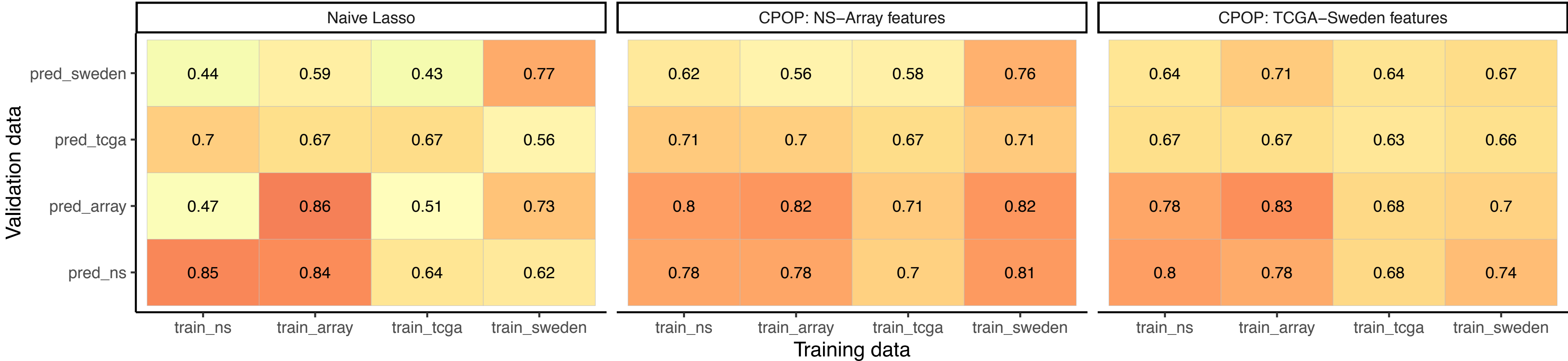
$$Z_1 \approx Z_2$$

$$\hat{\beta}_1 \approx \hat{\beta}_2$$

CPOP results

1. Predictive performance of CPOP matches that of re-substitution.

2. Smaller identity distance between predicted values

F1 classification statistic under various models

Identity distance between predicted values under various models