

Prediction in the linear model

stats545.3 545.3 Hypothesis tests in the linear model, model building
and predictions

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Prediction and prediction uncertainty

A new observation: x_h

The prediction: $\hat{y}_h = E[\hat{y}_h] = x_h \hat{\beta}$

The variance: $\sigma^2 x_h' (X'X)^{-1} x_h$

Prediction uncertainty: $V[y_h - \hat{y}_h]$

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