INF511: Modern Regression I

Lecture Materials - Ordinary Least Squares - Part II

Simple linear regression, cont...

Previously, we used OLS to quantify the regression coefficients, $\hat{B}$, which are our estimates of the true coefficients (i.e., intercept and slope), B. Using an estimation method like OLS means that our coefficients are estimated with *uncertainty*.

How do we quantify uncertainty in $\hat{B}$?

Remember:

We will use the **Multivariate Gaussian linear transformation rule**:

Then ...

Estimating residual error, σ^2, as $\hat{\sigma}^2$

Before we can continue the calculation of uncertainty in $\widehat{B}$, we need an estimate of the residual error (i.e., the variance in the residuals).