

Logistic regression assumptions and diagnostics

Multicollinearity

Class activity

https://sta712-f22.github.io/class_activities/ca_lecture_8.html

- + Simulate correlated data
- + Assess the impact on estimated coefficients

The impact of multicollinearity

Variance inflation factors

Addressing model issues

How should we handle each of the following issues in a fitted model?

- + Violations of the shape assumption
- + An influential point with high Cook's distance
- + High multicollinearity in the explanatory variables

Discuss with your neighbor for 3--5 minutes, then we will discuss as a group.

Asymptotic distribution of the MLE

Multicollinearity can cause problems in the variance of the estimated coefficients $\hat{\beta}$. But what is $Var(\hat{\beta})$?