CSSS 510: Lab 3

Logistic Regression in R

2017-10-13

# 0. Agenda

1. Deriving a likelihood function for the logistic regression model
2. Fitting a logit model using and
3. Simulating predicted values and confidence intervals
4. Simulating first differences
5. Model Fitting
   * Likelihood ratio test
   * Akaike Information Criterion
   * Bayesian Information Criterion
   * Average vs Predicted Plots
   * ROC plots
   * Residual vs Leverage Plots

# 1. Deriving a likelihood function for the logistic regression model

Recall from lecture the logit model:

Recall also that the Bernoulli has the following pdf:

And the likelihood function can be derived from the joint probability: