

Quiz 4

Hand in your ipython notebook here:

<https://classroom.github.com/a/HgVNd2A6>

1. Use the Kirby 21 data. For the 21 subjects, use both the left and right telencephalon to predict CSF volume (using the level 1, type 1 volumes). Interpret the coefficients. (Do not do any data splitting on this example).
2. Load the admissions data <https://stats.idre.ucla.edu/stat/data/binary.csv>
 - a. Create a logistic regression model to predict graduate school admission using gpa, gre score and undergraduate department prestige (rank). Hold out 25% of the data (randomly selected) for testing and 75% for training.
 - b. Interpret your logistic regression coefficients.
 - c. Predict the probability of admission for your testing data. Create a series of probability thresholds from 0 to 1. For each threshold, threshold your predicted probabilities and compare the sensitivity, specificity and accuracy of your predictions. Create a plot of each, plotting
 - i. Threshold (x) by sensitivity (y)
 - ii. Threshold (x) by specificity (y)
 - iii. Threshold (x) by accuracy (y)
3. For your project, load in your data and start doing some basic exploratory data analysis in the form of plots and summaries.