

HW7

Vicki Hertzberg

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Recall the NHANES dataset that we used in Lesson 10.

1. In the dataset there is a discrete variable called SleepTrouble indicating whether each participant has trouble sleeping or not. You are going to build a set of classifiers for this dependent variable. You may use any (set of) independent variable(s) you like except for the variable called SleepHrsNight.

For each of the model types (null model, logistic regression, decision tree, random forest, k-nearest neighbor) do the following:

- 1A. Build the classifier.
 - 1B. Report its effectiveness on the NHANES dataset.
 - 1C. Make an appropriate visualization of this model.
 - 1D. Interpret the results. What have you learned about people's sleeping habits?
2. Repeat problem 1 except now you are to use the quantitative variable called SleepHrsNight. The model types are as follows: null model, multiple regression, regression tree, random forest.