

## Master BeNeFri in Computer Science

Course: Statistical Learning Methods with R  
Spring 2022

### Exercise #7: Logistic Regression with R

1. Consider the `Cars` dataset (filename: `Cars.txt`).
  - a) Build three different (generalized) linear regression models to predict `mpg` (at least one of them must be a multiple regression model).
  - b) Perform 10-fold cross validation to estimate the test error of the models you built in a).
  - c) Compare the schemes in a) performing a t-test.

Download from folder Exercise#8 on ILIAS website the `Cancer` dataset (filename: `Cancer.txt`) and read the description provided in `Cancer.pdf`.

2. Apply the logistic regression to predict the category `diagnosis` and interpret the most important values of the model that you obtained with R. Can you estimate the error rate of your model?