Exercise 8 - Replicability

In a crowdsourcing data analysis experiment, twenty-nine teams involving 61 analysts used the same data set to address the same research question: **Are soccer referees more likely to give red cards to dark-skin-toned players than to light-skin-toned players**? Analytic approaches varied widely across the teams. Some teams found a statistically significant positive effect, while others did not observe a significant relationship. Overall, the 29 different analyses used 21 unique combinations of covariates. These findings suggest that significant variation in the results of analyses of complex data may be difficult to avoid, even by experts with honest intentions.

In this exercise, we will simulate this experiment. You will be divided into groups and each group will implement its own strategy to answer the **question**: are soccer referees more likely to give red cards to dark-skin-toned players than to light-skin-toned players? In your analyses, you need to report the p-value of your findings. Each group will be provided with the **dataset** used in the experiment and a **description** of the available covariates. Then each group will create its own strategy, deciding on what covariates and models to use in order to answer the question.

Exercise steps:

1 - Clean the dataset and do any required preprocessing.
2 - Choose relevant covariates to be included in your model.
3 - Choose an appropriate model to answer the question.
4 - Perform the analysis and report the findings.

Exercise data:

https://github.com/tocunha/reflectionsdatascience/blob/master/exercise8-31-03-2020/dataset.zip

Deliverables:

With the same groups assigned for the exam, each group will create a jupyter notebook with its analysis. Use markdown on the jupyter notebook to detail the strategy used and to communicate the findings. Submit the notebook by 11/04/2020 to get informal feedback which might be useful later for the last part of the exam.

Where to submit it: https://learnit.itu.dk/mod/assign/view.php?id=117641