



Data Science Project No. 5

Topic of project: Heart rate-based customer behavior prediction

Problem statement: Stationary retail stores have for years been driven by digitalization and try to adapt the advantages of e-commerce. Furthermore, the massive integration of mobile devices (e.g. smart watches measuring heart rate) enables retailers to offer in or around the store-specific services and contribute to their overall shopping experience. Innovative digital systems can help organizations to increase sales on the one hand, and to enhance shopping experience on the other hand.

Your task: Develop a service that predicts customer behavior (e.g. shopping duration, shopping amount) with the help of static (e.g. age, gender, external data) and dynamic parameters (heart rate related data).

Final grades will be based on your video-presentation, how good the implementation is, complexity of the models used, hold on the programming language, final visualization of the results, the quality of your report and of the description of the code.

Dataset:

https://www.dropbox.com/s/m78vc95qfzxur9p/Dataset_heart%20rate_retail%20stores.csv?dl=0

Organization of Data Science Project

General Information:

- Kick-off: week 22
- Submission deadline: **17.07.2020, 5 p.m.**

Submission:

- Video presentation of data-analytical service (5-7 min.)
- Code repository (zip)
 - Preferred: Python
- Report (3 pages)
 - Description of the problem statement, your data base and your individual approach to the problem statement.
 - Please use the *Template for Data Science Projects*.
- Description of code
 - Description of the data organization (like cleaning and preparation of the data).
 - Description of architecture of the data.
 - Please include this point as the Appendix in the *Template for Data Science Projects*, to have **both the report and the description of the code** in **one final document**.

Additional Information:

Every week until Friday at 10.00 a.m. you have the opportunity to address questions about the project to Elena Banowitz (elena.banowitz@uni-saarland.de).

- Questions are usually dealt with the following week.
- We ask you not to write several mails within one week, but to collect them and send a bundled mail with all relevant questions.

Please note that we attach **particular attention to the self-contained and independent quality** of your work.

- Keep your **questions to a minimum**: Please first discuss your question in detail within your group. In most cases a solution can be found through careful discussion. Only if you have not found a solution, you can contact us until Friday.
- Please present us only your **self-created** results. No solutions already available on the internet can be used. We will take special attention that no solutions already published in the internet will appear in your work. Adopting public solutions will have a negative impact on the grading.

Note: If a project fails, the participants cannot pass the course as a whole.

Contact person: Elena Banowitz (elena.banowitz@uni-saarland.de)