

# SDA 2024

## Assessment criteria for the final project

### Code and statistical tools (total 50%)

#### Code quality (15%)

- The code is python script (not a Notebook)
- The code runs without errors
- The code produces all the results (figures and calculations) that are presented in the report
- The code is written efficiently. In particular, functions are used for common tasks (e.g., a max likelihood calculation)

#### Documentation and Readability (10%)

- Results of intermediate steps are clearly presented (e.g., comments like: “#here we make figure 2 of the report” are useful)
- The important functions have docstrings.
- Variable and function names are understandable, following a logical scheme.

#### Statistical tools (25%)

- The correct statistical tools are used to obtain the intermediate and final results.
- Confidence intervals of the parameters are calculated.
- Quality of the analysis of the the additional objective.

### Report (total 50%)

#### Introduction and background (10%)

- The subject is introduced; the broader context is explained (*why* should the reader be interested to read the rest of this paper?)
- The introduction should lead up to the research question that you try to answer with your analysis (such that you can refer back to this question in the discussion section)
- At least three literature references should be included in the introduction.

#### Report structure and format (5%)

- The report should have at least these sections: Abstract, Introduction, Analysis, Discussion, References. The Analysis and Discussion section may have subsections.
- LaTeX is used.
- PDF format for figures is used (no PNG)

- Between 1500 and 3500 words with 2 to 4 figures. The word count should be given at the end of the text.

### **Presentation of the results (10%)**

- A short motivation for the selected statistical tools is given
- The analysis section clearly explains the steps to the final result. The goal is to allow reproducibility of your results by explaining the steps that you have taken
- The confidence level and confidence interval of the parameters is presented
- Writing style, spelling & grammar. ChatGPT or other LLMs are allowed to help with this.
- Decent figures: proper axis labeling, legends if needed, and captions.

### **Discussion of the results (25%)**

- An *interpretation* of the results is presented. What do we learn from this measurement?
- Make sure you discuss what your result means in the context of the introduction.
- At least two assumptions used in our analysis are explained. The limitations or implications of these assumptions are discussed. Hint: the Notebook of the assignment contains the words “assume” in a few places.
- Potential improvements for future work are mentioned and explained *how* these will improve the result.
- If you fail to reach the final objective, you will have to refocus the discussion section. But you can still get full points for this part! Now can discuss in more detail the intermediate results that you obtained. And you should now explain the steps that should be taken to reach the final objective.

### **Bonus points (10%)**

If you get a full score on the above rubrics, your grade is a 10.

A max of 10% bonus points are possible for reports that have:

- Original ideas or new insights.
- High-quality figures.
- Extra effort on latex formatting (e.g., journal style file).