Assignment

Bayesiansk statistik
MS2506

Bruna G. Palm

Department of Mathematics and Natural Sciences

Blekinge Institute of Technology, Sweden

1 Introduction

For this assignment, you are to work in groups of two (2) students or alone. The objective of this assignment is performing an analysis according to the Bayesian workflow studied along the course. The result from this assignment should be a **short** written report (PDF format) that you submit via the course page on Canvas before the deadline (which also is stated on Canvas). You must motivate your steps aiming at validating your conclusions. Additionally, try to write short and to the point.

1.1 Grades

This assignment is graded with the following grades: `G/Ux/U`.

1.2 Allowed programming language, packages, and tools

Use the language you feel more comfortable with!

1.3 The data set

In this assignment, you are free to select a dataset of your choice, enabling you to define the focus and objectives of your analysis. Suggestions for open datasets are available on: https://vincentarelbundock.github.io/Rdatasets/datasets.html

2 The Assignment

Your task is to apply Bayesian analysis to a dataset of your choice. This should follow the Bayesian data analysis workflow we covered in the course.

- **Data Selection**: Choose a dataset and define the analysis problem.

- **Analysis Steps**:

  - Describe the data and the analysis problem.
  - Choose and describe the modeling approach (e.g., non-hierarchical or hierarchical model).
  - Justify your prior choice.
  - Make conclusion about the parameters of interest.
  - Discuss results, problems encountered, and possible improvements.

3 Upon submission of your report

Before you upload your report make sure:

1. That you have included your **names** and **email addresses** in the report.

2. The report follows a logical and a well-structured **format** with written explanations.

3. That you have carefully checked the report for **spelling and grammatical errors**.

4. That your report is written in **English**.

Failure to comply with any of the aspects above could result in a failing grade, and that you have to revise the report and submit it again on a later deadline.

Good luck!