ISZ_22 review (Artur Mzyk and Gustaw Cyburt)

1. Problem formulation [5/5 pts]:

- is the problem clearly stated [1/1 pt]

  There has been mentioned what is going to be predicted.

- what is the point of creating model, are potential use cases defined [1/1 pt]

  It may be applied to, for example, Celka boat.

- where do data comes from, what does it contain [1/1 pt]

  Both source and description have been provided.

- DAG has been drawn [1/1 pt]

  Yes.

- confoundings (pipe, fork, collider) were described [1/1 pt]

  There has been described one confounding. The graph has been provided as well.

2. Data preprocessing [2/2 pts]:

- is preprocessing step clearly described [1/1 pt]

  Yes. The code has provided as well.

- reasoning and types of actions taken on the dataset have been described [1 pt]

  Definitely.

3. Model [4/4 pts]

- are two different models specified [1/1 pt]

  Yes. There is a difference in parameters and computation approach, not in data variables.

- are difference between two models explained [1/1 pt]

Yes. The differences are as described above.

- is the difference in the models justified (e.g. does adding aditional parameter makes sense?) [1/1 pt]

  Yes. Numerical stability and computability.

- are models sufficiently described (what are formulas, what are parameters, what data are required) [1/1 pt]

  The formulas has been provided and described thoroughly.

4. Priors [3.5/4 pts]

- Is it explained why particular priors for parameters were selected [1/1 pt]

  Based on professor's paper.

- Have prior predictive checks been done for parameters (are parameters simulated from priors make sense) [1/1 pt]

  Yes. There has been provided a justification.

- Have prior predictive checks been done for measurements (are measurements simulated from priors make sense) [0.5/1 pt]

  If definitely does not fits the data perfectly because of the high variance, but the shape is promising.

- How prior parameters were selected [1/1 pt]

  Based on professor's paper.

5. Posterior analysis (model 1) [4/4 pts]

- were there any issues with the sampling? if there were what kind of ideas for mitigation were used [1/1 pt]

  No problems.

- are the samples from posterior predictive distribution analyzed [1/1 pt]

  More than required.

- are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) [1/1 pt]

Yes. Posterior predictive samples are consistent with the data, unlike prior predictive samples.

- have parameter marginal distributions been analyzed (histograms of individual parameters plus summaries, are they diffuse or concentrated, what can we say about values) [1/1 pt]

  Thoroughly.

6. Posterior analysis (model 2) [4/4 pts]

- were there any issues with the sampling? if there were what kind of ideas for mitigation were used [1/1 pt]

  No problems.

- are the samples from posterior predictive distribution analyzed [1/1 pt]

  More than required.

- are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) [1/1 pt]

  Yes. Posterior predictive samples are consistent with the data, unlike prior predictive samples.

- have parameter marginal distributions been analyzed (histograms of individual parameters plus summaries, are they diffuse or concentrated, what can we say about values) [1/1 pt]

  Thoroughly.

7. Model comparison [3/4 pts]

- Have models been compared using information criteria [1/1 pt]

  Yes.

- Have result for WAIC been discussed (is there a clear winner, or is there an overlap, were there any warnings) [0.5/1 pt]

  Yes. Comment has been provided. There is a mistake – lower rank number means better model.

- Have result for PSIS-LOO been discussed (is there a clear winner, or is there an overlap, were there any warnings) [0.5/1 pt]
- Yes. Comment has been provided. There is a mistake – lower rank number means better model.
- Whas the model comparison discussed? Do authors agree with information criteria? Why in your opinion one model better than another [1/1 pt]
- Yes. Justification has been provided.

Total:

25.5 / 27 = 94.4%