Statistical Inference Presentation/Project - Semester 1, 2018

- **INSTRUCTIONS**:

  1. The project will consist of 15 minute presentation based on the scientific paper your group has decided to review. Please see the first lecture slides to see where you might find an appropriate paper. The paper must be approved by the lecturer (Dr. Anton Westveld).

  2. Work as a team of 3 - 5 students. A penalty will apply to having fewer than 3 members or more than 5 members, **unless pre-approved by the lecturer**. Please inform the lecturer of your team and a paper by the beginning of **Week 10**. As decisions are made, I will place on the Wattle site along with their paper choice.

  3. For the presentation you will make a set of slides. You may wish to use R markdown for the project, however it is not required.

  4. You will use the One Button Studio to record your presentation. `https://anulib.anu.edu.au/using-library/one-button-studio>`

  5. Every member of the group must speak during the presentation.

  6. The project due date is listed on the Wattle (Turnitin) site.

  7. Upload the presentation slides through Wattle using Turnitin. **Elect ONE project team member to upload the project through their Wattle account.**

  8. I will update you on how to send me the presentation video. I am getting clarification about Turnitin from CBE IT.

  9. Although verbal discussions with other teams and/or your tutor(s) and/or your lecturer are encouraged, the contents of your team's report must be produced by your team alone and must comply with **academic integrity policies** given at `http://www.anu.edu.au/students/program-administration/assessments-exams/academic-honesty-plagiarismandhttps://www.legislation.gov.au/Details/F2015L02025`.

  10. **Proper referencing, including websites, must be used.**

  11. **Have fun with the exploration!**

The presentation consists of two parts:

1. A discussion of the paper:

   - What is the scientific question?
   - How were the data collected? What is the structure of the data?
   - How does the statistical model work to combine an answer to the scientific question and the structure of the data?
   - What is the estimation procedure?
   - What type of computation is involved?
   - Was any type of model checking considered? (If not, then explaining [and perhaps doing] some model checking would be a good extension.)
   - What are the results of the study?
   - What are the limitations of the study?

2. Additionally you should conduct and and present the results of some type of "extension" based on the paper. The extension may be conducted in a number of ways, a few of which are:

   - Applying the method to the same data set as outlined in the scientific paper and coding the estimation procedure (if the author has not provided code [this is likely the most difficult to do]);
   - Applying the method to a different data set based on code that the author has made available;
   - Simplifying the problem and considering other estimation procedures and their consequences (while the "true" problem may consist of non-iid data, what can you do if the data were iid? [for example]);
   - Considering visualisations of the data and/or results from an analysis.