MATH11188 Statistical Research Skills

Assignment 1: Report on a Scientific Paper

Deadline: Friday 9th February 12.00 (midday).

Submission of assessments is via Learn

We will consider the research publication:

Sloughter, J. M., Gneiting, T., & Raftery, A. E. (2010), Probabilistic Wind Speed Forecasting Using Ensembles and Bayesian Model Averaging. *Journal of the American Statistical Association*, 105(489), 25-35.

The pdf of the paper is available in Learn in the folder "Assignment 1". The marking rubric for the assessment is also available in Learn in the folder: "Assignment 1" with associated marking categories: Writing = 60%; Structure = 20%; Creativity = 20%).

Task

Write a 2 page report (minimum font size of 10) of the above research article. The report must offer a clear summary of the key ideas, concepts, and methods in the paper. In writing your report you may wish to consider for example:

- What are the key concepts, ideas, and methods from the article? You need to do this *in your own words*; however, *do* follow the same notation from the paper for any mathematical expressions you may use.

- What alternative approaches are there to that described?

- What are the strengths and limitations of the proposed methods?

- Can you think of any other novel applications and/or extensions to this research?

- How does the proposed approach perform on any (simple) examples or compare to other techniques?

It is recommended (but not compulsory) that you typeset your report in LaTeX. There is an (optional) LaTeX template in Learn in the folder "Assignment 1" if you wish to use it.

Note that you can assume that the target reader for the scientific report will be a peer, and so have reasonably advanced statistical and mathematical knowledge but may not be familiar with the specific statistical models and/or applications.

You may include figures, tables, and images; these will be counted in the 2-page limit.

For the references in your report, you may either wish to use a shorthand for referencing the papers in the text e.g. "Sloughter et al. (2010, J. Am. Stat. Assoc.)", or use an extra page for the references (this will not be counted in the 2-page limit - but only the references!).