STAT3015/STAT4030/STAT7030 Generalised Linear Models

Marking Sheet for Assignment 2 for 2017

Question 1   **Marks**

(a)   Four residual plots with interpretation (**0.5** mark each)   **(2)** ___

(b)   Discussion of the given Analysis of Deviance table (**0.5** mark)
        Correctly identifying the alternative estimate of dispersion (**0.5** mark)
        Goodness-of-fit hypothesis test with conclusion (**1** mark)   **(2)** ___

(c)   Producing the suitably corrected Analysis of Deviance table (**0.5** mark)
        Discussion of scaled drop-in-deviance tests (**1** mark)
        Discussion of possible refinements (**0.5** mark)   **(2)** ___

(d)   Refine the model as suggested in the previous part (**0.5** marks)
        Presenting the fitted variance weights and discussion (**1** mark)
        Discussion of why additional weights are not necessary (**0.5** marks)   **(2)** ___

(e)   Producing at least three residual plots with discussion (**3** marks)
        Analysis of Deviance table with discussion (**1** mark)
        Summary output with discussion (**1** mark)   **(5)** ___

(f)   Discussion about the safest situations to go swimming and the water quality (**0.5** marks)
        Producing the required predictions with confidence and prediction intervals (**1.5** marks) **(2)** ___

                                                                 Q1 total (out of 15) ___

Question 2   **Marks**

(a)   Correct identification of Baron von Drachstedt & discussion (**1** mark)   **(1)** ___

(b)   Good choice of an appropriate Analysis of Deviance table (**0.5** mark)
        Correct interpretation of significant terms in the model (**1** mark)
        Discussion of other Kaggle variables, particularly Cabin and Fare (**0.5** mark)   **(2)** ___

(c)   Summary table for a model that includes SibSp or a derived variable (**1** mark)
        But which doesn't include non-significant terms or remove the Age main effect (**1** mark)
        Discussion of why the model was chosen and interpretation of variables (**1** mark)
        A set of residual plots with criticism/ discussion and identification of points (**1** mark)
        A binned residual plot and discussion of model fit, either here or in part (d) (**1** mark) **(5)** ___

(d)   Interpretation and discussion of the drop-in-deviance tests (**1** mark)
        Explanation of why the goodness of fit should not be used (**1** mark)   **(2)** ___

(e)   Explanation of how to interpret the fitted values (**1** mark)
        Presentation of the required accuracy calculations (**1** mark)   **(2)** ___

(f)   Presentation of the required accuracy calculations (**1** mark)
        Discussion of the comparison (**1** mark)
        Discussion of suitably of a predictive model in this instance (**1** mark)   **(3)** ___

                                                                 Q2 total (out of 15) ___

Student ID (1) _____   **Total marks (out of 30)** ___

Student ID (2) _____ **(if the assignment was done in a group of two)**

Student ID (3) _____ **(if the assignment was done in a group of three)**

Model solutions are available on Wattle, which you should compare with your solutions. Also have a good look at the R command file for this assignment which includes extensive comments. Please see Yang Yang or Ian if you have questions about the assignment or the solutions. Please approach Yang Yang in the first instance with any query re your marks (as he did the marking).

Please note that if you do wish to appeal your mark; you will need to send Ian an e-mail detailing the problem and also provide him with your marked assignment and the copy (electronic or paper) that you were supposed to keep when you submitted the assignment.

If you do request a re-mark, your entire assignment will be re-marked by Ian (not just the part you are querying) and your final mark for this assignment may go either up or down as a result of this re-mark.