

MBA5011 Multivariate Analysis: Model-Based Statistics

Assignment 6

The data contained in `data(salamanders)` (in `rethinking` package) are counts of salamanders (*Plethodon elongates*) from 47 different 49-m² plots in northern California. The column `SALAMAN` is the count in each plot, and the columns `PCTCOVER` and `FORESTAGE` are percent of ground cover and age of trees in the plot, respectively. You will model `SALAMAN` as Poisson variable.

Question 1 (50%) Model the relationship between density and percent cover, using a log-link (same as the example in the textbook and lecture). Use weakly informative priors of your choosing. What does your model say? How will you evaluate this model?

Question 2 (50%) Can you improve the model by using other predictors, `FORESTAGE`? Try any models you think useful. Can you explain why the `FORESTAGE` helps or does not help with prediction?