Peer Review 2

Reviewer: Yanxin Li
Reviewing: Morgan T.Kelley
Topic: Bayesian inference in Gaussian models and Bayesian GLMs

In this review I will provide my overall impressions of comments on both your written report and the code you provided on your GitHub.

1. Comments on written report (section2_ans.pdf and section3_ans)

In each part, you included the questions and then provided the answers. This is readable and complete for a beginner who would like to learn Bayesian inference in Gaussian models and Bayesian GLMs from your GitHub. Also, your solutions are well-organized and very neat. It might be better to highlights the solutions using different font color for those who refer to your solutions as a hint. The following will be mainly on your solutions.

1.1 Topic "Bayesian inference in Gaussian models"

When you derive the conditional densities, sometimes you did not write the normalizing constant, in which case, rather than using "=", $\propto$ is the proper. For exercise 2.4, I would suggest proving why marginal posterior of μ is also a centered, scaled t-distribution. The parameters you solved for s is not correct. There are several typos in your formulas of the solutions, like the subscript of sum in exercise 2.8. From exercise 2.12 to exercise 2.15, your solutions are quite clear. The plots and tables are interpretable and self-explained.

1.2 Topic "Bayesian Generalized Linear Models"

The mathematical proofs and deviations are concise and complete. I am still working on the implementation part to get better reasonable results. It might be better to table the mean calculated by the Stan besides plotting them. However, it is certainly a good way to visualize the values.

2. Comments on code

Overall, your MATLAB code looks clean and organized. The spacing is done well so that it is easy to read. You include some comments so that a reader can get through your code more efficiently. I like the cleanness in how you define your functions. Since I used R code, I did not run your code one by one. By reading through your solutions, I think there is no obvious errors.

3. Conclusion

I hope this review has been helpful. As for solutions and implementation, basically, they look perfect.