

Peer Review - Matteo Vestrucci

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1 R code

Your R code is very elegant. A few comments that might help you improve the clarity and aesthetics:

1. Use spaces around mathematical operators and the assignment operator (`<-`, `=`, `+`, `-`, `*`, `%*%`), etc.
2. Annotating your functions with a brief descriptor, and the input/output it takes/generates will make things easier for a reader who is not already familiar with what the functions should be, as I am.
3. Personal preference: I like to separate out variable assignments in functions from the math itself, for clarity and ease of reading. For example, see my annotated .R document.
4. I like to see spaces after commas. It's more digestible and clearly delineated.
5. I would recommend allowing yourself about 80 characters per line max. You tend to cut them off around 70, which is fine, but use the max space you can to keep things on a single line without going too far if you can.
6. Stay concise. Instead of `accuracy_obj_fun`, you could get away with `acc_obj`, for example. You'll be able to keep the initial function definition on a single line by shortening the longer variable names, if possible. On the one hand, it seems like a lot of unnecessary typing, and on the other, it's just not very pretty. We like pretty things. You can always use your annotations to define a variable if needed.

I included an edited R script for you to review. Mostly, I have added spaces where I think necessary, and shortened some variable names for brevity. Feel free to take or leave whatever you like from these edits.

2 Report and Derivations

2.1 LaTeX

Your LaTeX code is mostly excellent, although if you look at what you have currently written using `\begin{lstlisting}`, you'll notice that R's operators change to blue text. This isn't a problem really, but if you'd like to keep it all in black, you could use the `\begin{verbatim}` argument and then just copy and paste your code from R. This retains all the structure of your R code. Example using your code:

```
negloglikelihood <- function(m, y, X, beta){
  total <- 0
  N <- length(y)
  for (i in 1:N){
    total <- total + (m[i] - y[i]) * t(X[i,]) %*% beta + m[i] * \
    log(1 + exp(-t(X[i,]) %*% beta))
  }
  return (total)
}
```

Be sure to include `\end{verbatim}` after the block of code.