Alternate Homework

Due in class by April 23.

Literature Review

You may choose an article from the primary literature that deals with a multivariate technique. The article can either be a science discipline paper analyzing data, or it can be a statistical methods paper. Your grade on the review article can be used to replace your lowest homework grade or can be submitted instead of one homework.

Your review paper should include an Introduction section that briefly describes and summarizes the research presented in the article.

For discipline papers, the next section should be the Review section that will describe your assessment as to how well the investigators implemented the multivariate technique. Did they perform adequate exploratory analysis? Does their Results section makes sense? Did they interpret the output from the technique in an interpretable manner in the context of the problem? Did they perform an adequate validation of the model? How well did the multivariate technique answer the question of interest to the researchers?

For statistical methods papers, your Review should explain to an educated audience of non-statisticians the method developed and how it can be applied to data and to what kind; and whether or not you feel the method will be useful for scientists.

Your review will be posted on the Supplementary Readings column on the course website, for the benefit of your classmates.

Recommended Readings: extra credit

You may send me pdf files of articles you feel might be of interest to class members that are examples of either the application of multivariate techniques in scientific research or methods papers published in statistical journals. I will post these to the Supplementary Readings column on the website. You may submit as many articles as you wish, but only 2 will earn you extra credit (5 pts each).

If you do a literature review, you may also submit the article as a recommended reading for extra credit.

If you'd like to do a literature review, you may use one of the articles posted in the Supplementary Readings column on the course website.