PSYC 7720 Lab

Lab 13 Activity

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Directions:

A. Download the **Pixel** dataset from the *nlme* package in R. Call ?Pixel at the R console to obtain more information about this dataset. You will be fitting various random effects structures with the *lmerTest* package in R, which is a direct wrapper of the *lme4* package we have been using up until this point. The outcome variable will be *pixel* for each model, and the observational unit will be *dog*. Call ranef() on the model for each question. Do your best to handle convergence warnings if you receive them.
B. Answer the following questions and save the code you used in an R script.
C. You have until the end of lab to complete.

Questions:

1. In exactly two function calls, make all the column names of **Pixel** lowercase, and rename the dataset **dat**. For review, specify a repeated measurements two-way ANOVA with *side* and *day* as the repeated measurements "factors" (keep *day* as numeric for convergence purposes).
2. Specify additive fixed effects of *day* and *side*. Specify a random slope for *day* and a random intercept for *dog*. Make sure *day* is numeric.
3. Fit the same model from 2, but do not estimate the correlation between the random slope and random intercept.
4. Fit the same model from 2, but remove the random intercept entirely.
5. Which out of the models from questions 2 through 4 is most conservative and why?
6. Redo the procedures from questions 2 through 5, but specify random slopes for *day* **AND** *side*.