GLAMM Summer 2020

Week 1: Linear Models (LMs), Regression, ANOVA

Meeting Outline

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| **Topic** | **Presenter** |
| Linear Regression Models   * What is a linear model? * Data types/questions * Outputs, terms * Simple vs multivariate * Assumptions (& diagnostics) * Examples? | Raine |
| ANOVA   * What is it? * Data types, examples * Outputs, terms * One-way vs two/multi-way * Assumptions * [ANCOVA?] | Ruby |
| Other things   * Sum of Squares? (ANOVA) * Model diagnostics * Standardization, interpretability of estimates (Schielzeth paper) | Devin |
| Rmd File   * Loading data, packages * Building an LM * Assumptions * ANOVA * Other stuff | Devin |

Papers, chapters, other helpful sources:

* Zuur et al. (see ch 2.2) <https://link.springer.com/book/10.1007/978-0-387-87458-6>
* Edwards lecture 1 <https://drive.google.com/file/d/0B5QCuGKrabF5ZTBFcVFTbmRRUkk/view>
* <http://www.sthda.com/english/articles/39-regression-model-diagnostics/161-linear-regression-assumptions-and-diagnostics-in-r-essentials/>
* Schielzeth 2010 (Regression interpretability - standardizing & centering) <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/j.2041-210X.2010.00012.x>
* CV standardization and centering <https://stats.stackexchange.com/questions/156791/standardized-vs-centered-variables#:~:text=Standardized%20variables%20are%20obtained%20by,deviation%20of%20that%20same%20variable.&text=Centered%20independent%20variables%20are%20obtained,the%20mean%20of%20the%20variable.>
* ANOCVA <https://www.datanovia.com/en/lessons/ancova-in-r/>