Final Project

Options:

1) Find your own dataset and analyze the data using generalized regression methods.
    a. Analysis must include: a description of the data, relevant inferential questions to be answered, and a description of the models and the methods used to answer the inferential questions.
    b. You must perform model checking via residual analysis and provide other relevant justifications for the models used.
    c. Summarizing your analysis through Tables and graphs is also very important.
    d. Present your analysis in two ways.
        i. Provide a 10-minute presentation of your analysis in class.
        ii. Use guidelines outlined in the file report.pdf and write a report of your analysis (not more than 5 pages). In separate files you should also send data and codes.

2) Pick an advanced topic related to generalized regression methods and write a research project report on it.
    a. The report should include a description and an illustration (with real or simulated data) of the method. You should also provide mathematical details, if any.
    b. In separate files you should send data and codes.
    c. Provide a 10 minute presentation of your work.

Examples:

- Bayesian methods for GLM
- Hierarchical GLM
- GLM for longitudinal studies
- Cross validation for GLMs
- Big data GLM
- Applications of zero inflated models (e.g., zero inflated Poisson regressions).
- Applications of Bradley-Terry model
- Regressions with Conway-Maxwell-Poisson distributions
- Applications of ordinal regressions
- Conditional likelihood and regressions in case-control studies
- Applications of log-linear models
- Applications of logistic regressions in retrospective studies.
- Mixed effect models
- Leave one out method
- Bias corrections in GLM