1 Final Project

In your final project for this class, you need to propose a new statistic for evaluating players or teams. Your proposal needs to include an explanation of the statistic, a demonstration of the statistic, an evaluation of the statistic compared to existing statistics, and a presentation.

1.1 Explanation of statistic

(20 pts) Your explanation needs to be provided in a written document, and include a description of why you think this is a good statistic and what are statistics it is most closely related to. You should include information on what need the statistic fulfills that is not covered by existing statistics. Your explanation should be 2-3 pages.

1.2 Demonstration

(40 pts) Your demonstration needs to be in the form of an application showing how the statistic works. You will need to have all of the necessary data in your application, and a visual presentation that is clear to the users. An example of a demonstration is a website where users can select players and see how the stat is calculated for those players. You might also do a mobile app. If you took 3308 or the mobile app class in ATLAS, this project will be a great application of the content covered in those classes. You can also produce a Jupyter notebook. I'll give up to 5pts extra credit for anyone who produces an application more advanced than a Jupyter notebook.

1.3 Evaluation of statistic

(20 pts) As part of your demonstration, you should include an evaluation of how your statistic compares to other statistics. This could be in the form of presenting other statistics along with your own. You may want to include a correlation score between your stat and other related stats.

1.4 Presentation

(20 pts) For the presentation, please produce a 5-7 minute video that describes your project. You could do a screencast showing how your application works. If you do a website, you should also include the web address.

1.5 Project logistics

1. All of your materials should be stored in a git repository, either Github or something else of your choosing. Your submission to Canvas will be the name of the repository where your project can be accessed. Your repository needs to have a Read Me file that contains your explanation of your statistic (this is the 2-3 pages), as well as a list of all of the repository contents. Your video should also be in your repository.

2. You can work in teams of one or two students. Projects with two people should be larger than projects with one person.

3. You can use any data source you want. If you choose to use a new data source that we haven't discussed in class, I will give you extra points for bravery.

4. There will be three checkpoints for this project and you need to submit something for each checkpoint to get full credit for the project. The checkpoints are:

   - (10 pts of final grade) Explanation of you idea - Due Monday, April 15 by 3pm. This is a one-page description of what you plan to do, including a rough idea of your statistic, what data you plan to use, and how you'll present the statistic. I'll read these quickly, I promise, and give you feedback. You should also include whether you are working alone or as a pair.
   - (80 pts of final grade) Code and data - Due Friday, April 26 by 3pm. By this data, you should have an almost complete code base and data set. You will need to submit a web link that I can access to check your progress.
   - (10 pts of final grade) Final product - Due Wednesday, May 1 by 3pm. This is the final writeup, working code, data, and video for your project. This is the last day of class. If anyone wants to present their work to the class, I will give you up to 5pts of extra credit.