**Basic Info:**

Group Members: Rebecca Wood, Joe DeRose, Liam Kelly

<https://github.com/liamjkelly/CS-3891-Final-Project>

How NFL Draft Position Relates to NFL Success

<https://www.kaggle.com/ronaldjgrafjr/nfl-draft-outcomes>

**Background and Motivation:**

We chose to look into the relationship between NFL Draft Position and NFL Success because it is not always clearly communicated in sports. Each of us being a fan of an NFL team (with limited success on Joe and Rebecca’s side), we want to see what number picks might help our teams the most. We are also interested in looking at the distribution of different positions throughout different rounds of the NFL Draft. It is always thought that quarterbacks are most frequently selected in the first round, but this may simply be a common misconception. Additionally, we want to see if players like Tom Brady, who was a 6th round pick, are as anomalous as they appear to be.

**Objectives:**

We hope to visualize the relationship between NFL Draft position and success in the NFL via different channels like player position, college division, and NFL team. We will practice how to analyze by looking at certain attributes of the data to see what the root correlation is. It is possible that we will see if players in certain positions are able to improve more from a lower draft pick into an NFL leader, or if certain college divisions are more compatible with different NFL teams.

We also want to see if certain draft years produced better NFL players than other drafts. We hope to learn if we can project how likely it is for a player to be successful based on where they are drafted.

**Data:**

We found our main dataset on kaggle: <https://www.kaggle.com/ronaldjgrafjr/nfl-draft-outcomes>. It might be the case that we will want to look into additional data from other datasets that we can tie into our analysis. Luckily, bounties of NFL data is around.

**Data Processing:**

We intend to have the majority of our data cleaned by the first update so that we are able to show a visualization. The dataset is very well organized already, so we plan on taking advantage of its current state as much as possible. There are many unused features in the dataset that we will filter out. The key attributes to keep will be PlayerID, DraftPick, DraftYear, Position (filtered into six simple groups), CarAv (career value), First4AV (first four years of playing value), and an array of career statistics varying based on position. This array will be used in statistics sidebar when clicking on a data point. Although this feature is optional, the data will still be filtered this way in case this feature makes it into production.

After reading the data into JavaScript, we plan on using d3.nest() to nest the data by year. Although this will not be used to create multiple scatter plots, it will make aggregating CarAV and First4AV by year and querying our dataset by year easier when brushing and making bar graphs (if implemented). We also plan on removing years from the dataset based on the raw number of points. If our visualization is processing too much information dynamically, rendering could become an issue and thus slowing down our interactions.

**Must-Have Features:**

* The ability to filter CarAv by position
* The ability to show position by color
* The ability to change the graphing statistic between CarAV (career playing) and First4AV (first 4 years playing)
* The ability to brush a scale of years to filter which years out visualization focuses on
* The ability to hover over a point and view the player statistic

**Optional Features:**

* Box on the side that shows more detail than the box created when you hover over a point.
* Dynamically average the graphing statistic by round, position, or another attribute.

**Project Schedule:**

November 7 - 14:

Clean/preprocess data, set up the SVG and group elements, set up all boxes for the main visualization (including the main graph and the options table), potentially set up scales (main band scale), visualize some subset of the data. Joe will preprocess, Liam will set up SVG and group elements, Rebecca will set up scales.

November 14 - 21: (Prototype):

We want the buttons that allow switching by position and by statistic to be operational. Each team member will work on this part of the project.

November 21 - 28: (Update 2): Brushing/hovering over, work on the optional features (if time allows). One team member will tackle the brushing, another the hovering, and the third will tackle one of the optional features.

November 28 - December 5: (Presentation, Final Project Submission): Work on the optional features (if time allows), compile and rehearse the presentation. Each team member will work what we decide is most important.

**Visualization Design (Next 5 Pages):**



