

# StatSoRaven

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## Overview and Motivation

This project is about creating a visualization for stats about the Baltimore Ravens as a team and their individual players. The main motivating reason for choosing this is simply because it is our favorite NFL team. In the world of sports, it is common to discuss stats amongst other fans. We want to create a fun project that we would be interested in that can display a visualization of these stats to help these kinds of discussions.

## Related Work

There are a handful of things that we are using for inspiration. The main thing we were inspired by was one of the homework assignments where we had to four different charts: bar, line, scatter plot, area chart. We thought that implementing the line charts would be a good way to visually represent the progress overtime between the Ravens and their opponents.

## Questions

Data visualization is already a part of sports today. Whether it's during the game, during talk shows, etc., different visualizations are created to help present information to fans depending on what the topic is. For our project, the main questions we want to answer are:

- How do the Ravens stats compare to their other years/seasons?
- How do individual players' stats compare to themselves?
- Are players/the team improving/digressing throughout time?
- What areas are the strengths and weaknesses?

The benefits of answering these questions are that the players themselves, since we can have this project go public, can view in a visual way what areas of improvement they need to work on for them. It is also beneficial from a pleasure standpoint. Sports at the end of the day are a form of entertainment. Hence, why professional sports here in the U.S generate a lot of revenue from broadcasting games nationally, selling merchandise, etc. Providing a visualization project like this is entertaining for fans of the team, and for other fans in general who like keeping up with these types of stats. An example of how it could be useful is through the use of Fantasy Football. Fans around the world compete in a statistical game of players' stats. This tool/project could be used to help aid in how they choose their players for their team.

## Data

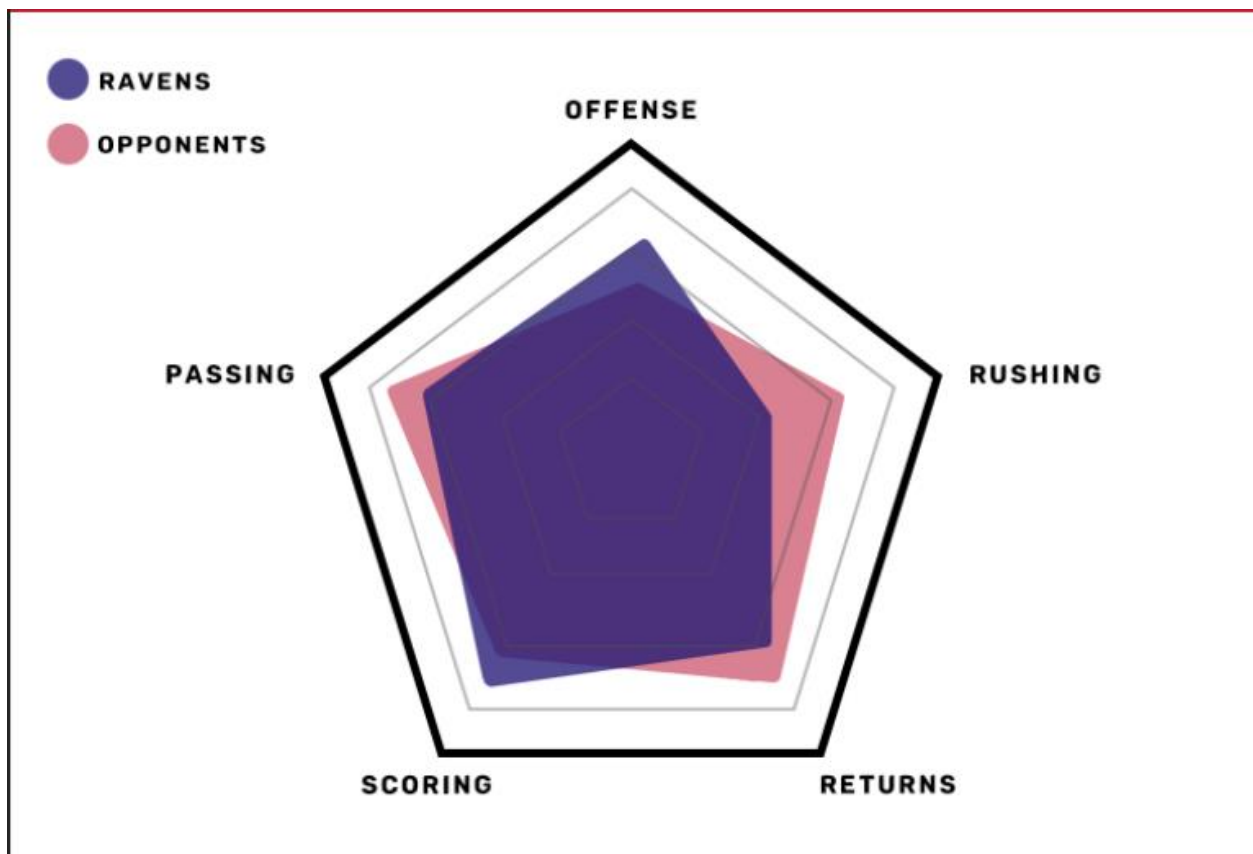
The main source that we are using as of right now is ESPN. The reason we originally chose them is because they had open-sourced APIs. However, the way that we are grabbing data is not through one. There was too much data that we were given while trying to connect to it, and we didn't feel that it was necessary to sort through that data and grab the specific info that we wanted. Instead, we are web scraping the data using the HTML Agility Pack in for VS Code. That way, we can easily grab the data that we are targeting specifically.

## Exploratory Data Analysis

The NFL has a ton of visualizations that exist already for different stats all over the league. We looked at some through the official NFL website, ESPN, Bleacher Report, and the broadcasting channels that host NFL games weekly like CBS, Fox, and NBC. The ones that stood out to us were the line charts. That ended up being the first chart that we instantiated to represent the team stats for the past seasons. We found that a line chart is a good representation to show how something changes over time. We also noticed that it might be a good idea to add an option to toggle it to an area chart, to represent the areas that are good or bad depending on the context of the graph.

## Design Evolution

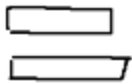
One of the first visualizations that we considered for the project was to use a radar chart to represent the different areas that the Ravens used versus the opponents.



We found that with the stats that are provided on the ESPN site, it would not fit this type of mold well. Instead, we drew rough sketches of an idea of how we could implement a line chart.



- TS -



- PS -



This is the first concept art that we drew up of what we wanted our page to look like. We figured that a line chart would fit the type of data that was available to us. The reason for that is because the data we have are stats for the whole season. Since we are given previous seasons, we wanted to compare previous years and see where the Ravens have improved or declined over time. A line chart would be the best fit to represent that visually.

Implementation

Evaluation