

Sports Data Analysis

Week 4



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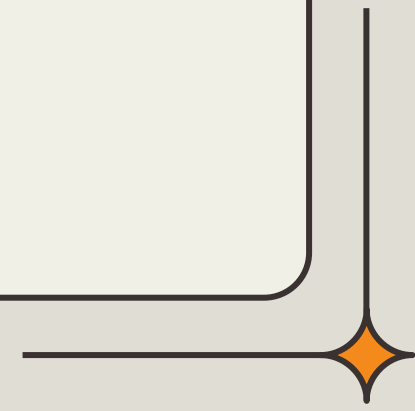
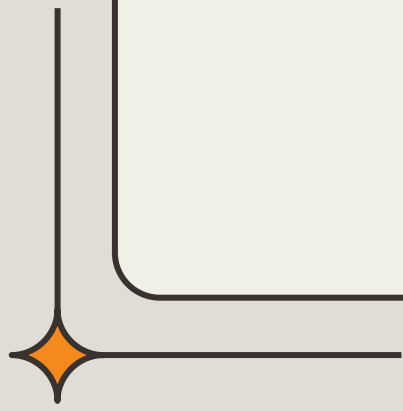
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Data Viz



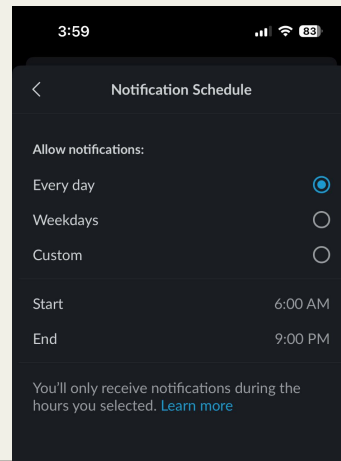
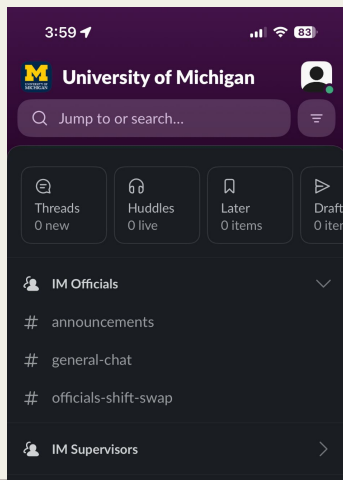
Icebreaker

Who is your guilty pleasure artist?



Slack

Make sure your notifications aren't silenced! Go to your profile, then "notifications" and "notification schedule" and at least allow notifications on Sunday mornings





Data Visualization

Visualizations are a large part of data analysis:

- Look at the distribution of columns
 - Visualize trends
 - Make comparisons
- 
- 

Types of Viz

Bar Chart

Used to visualize and compare **counts** or **categories**

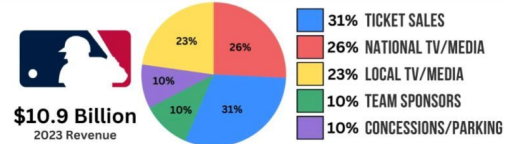
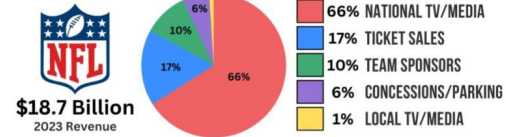
25 Most Valuable Sports Teams

American teams dominate, including 12 NFL, 5 MLB and 4 NBA. Only 4 European football teams are in the group.



Pie Chart

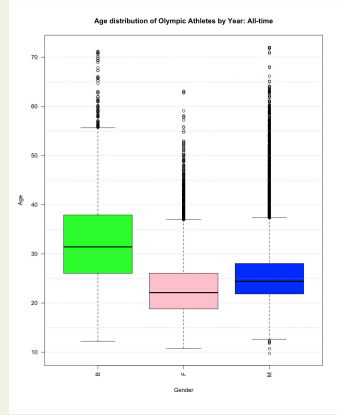
Compares **proportions** of a whole



Types of Viz

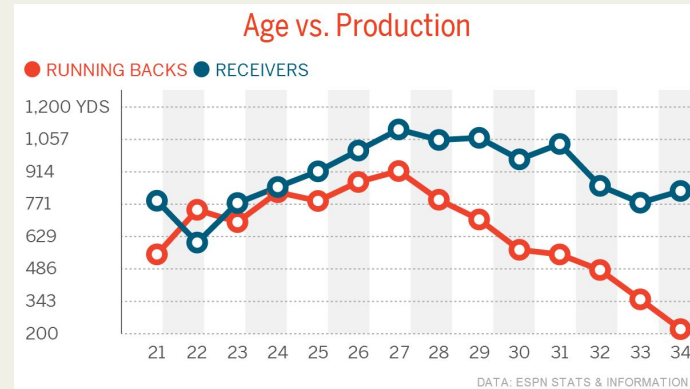
Box Plot

Visualizes the **distribution** of a column



Line Chart

Visualizes **trends over time** or relative to another variable

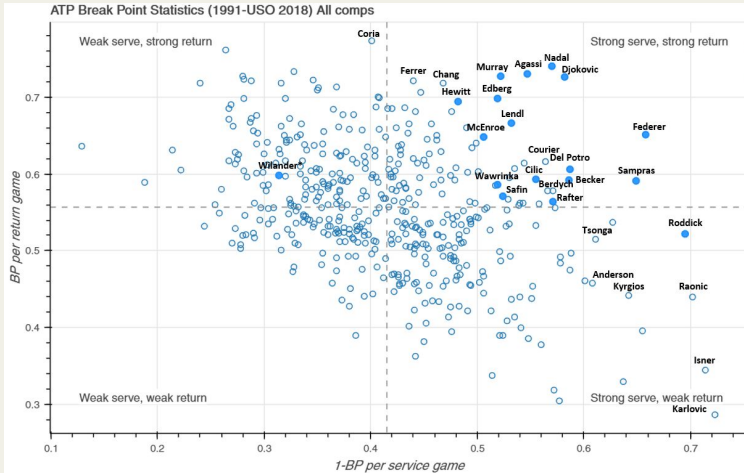




Scatter Plots


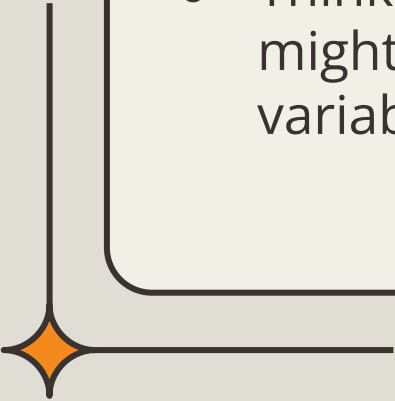
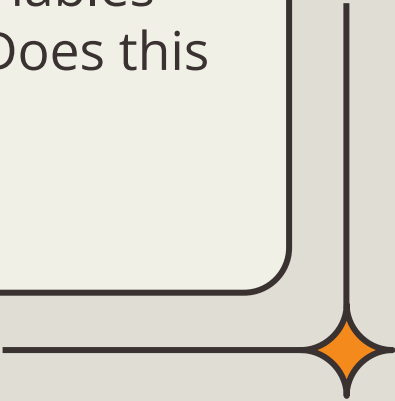
Used to visualize **relationships** between variables (**correlations**) and identify trends, outliers, patterns, etc

- Extremely useful for **model creation** (see what variables correlate to the response)





Visualization Best Practices

- Add clear and understandable **labels** (x, y, title)
 - Use **color/markings** or a **legend** for additional clarity
 - Add a quick **analysis** with the graph so people know what to look for or why they should care
 - Think about: what do you want to model? What variables might relate? What is the distribution of this stat? Does this variable change over time?
- 
- 
- 

Feedback Form



Link: <https://forms.gle/KCo3y5CZMnY4MWaV6>

Questions?



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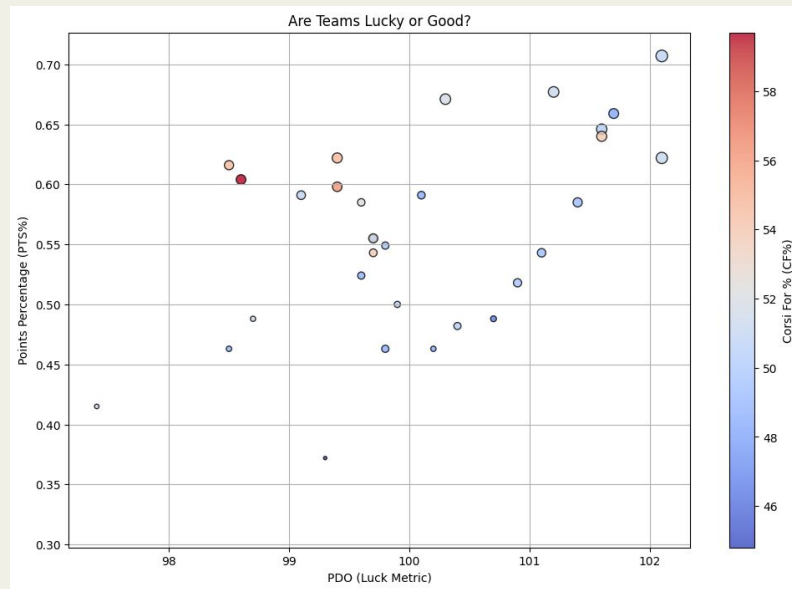
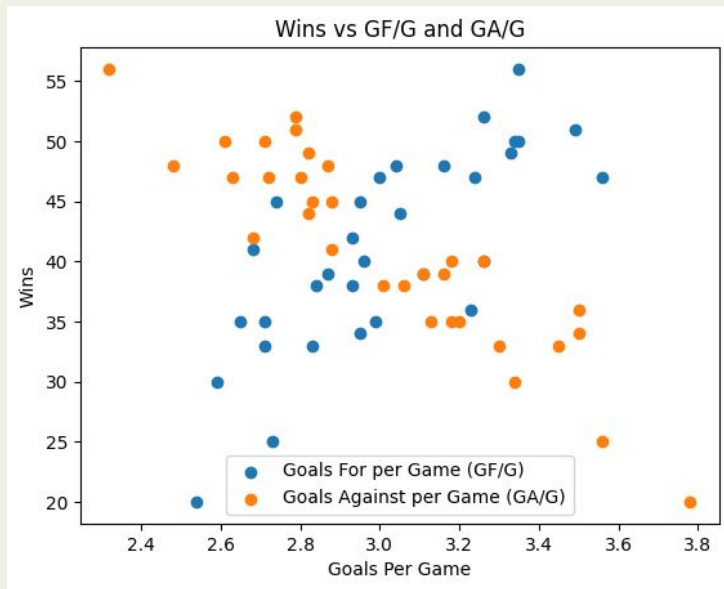




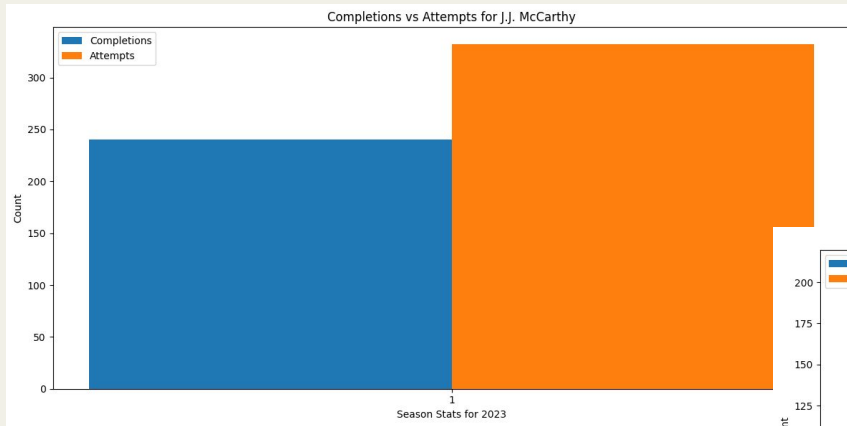
Starter Code

<https://github.com/MichiganDataScienceTeam/F25-SportsDataAnalysis/blob/main/Starter%20Code/visualization.ipynb>

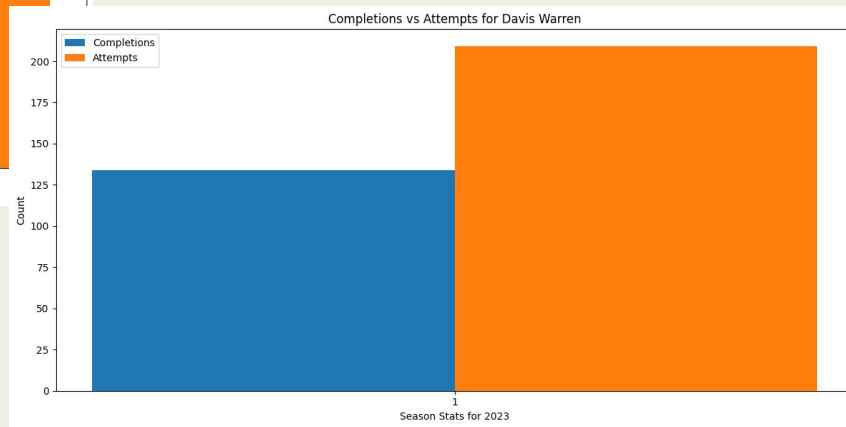
NHL Game Predictor Visualizations



Michigan Football 23/24 Analysis (QB)



Look at y-axis values



College Basketball Prediction

