

CDBC Final Project

October 19 2020

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The Layup

The NBA and WNBA have led the sports world in many ways this year - from announcing a shutdown of their season due to Covid to delivering a fully virtual live draft (WNBA) to standing up for racial justice, the NBA/WNBA have been first to put dynamic strategies in place when they were needed most.

Even after a successful bubble (/wubble) season and post-season for both leagues, the global pandemic continues to threaten what next season will look like.

This site aims to visualize elements of both leagues, it's teams, and it's players, as well use machine learning and data analysis to demonstrate the impact Covid (and fan-free arenas) is having on player performance, officiating, and other key areas of the game and the business of basketball.

Get in the Game

Select a player's name in the box below to see an overview of that player

Select

Suggest we focus on the Top 50 here so we aren't creating 600 player pages...

...or if time doesn't permit, maybe we just use this to link out to the player profiles on the NBA/WNBA sites



COVID Impact Report:
NBA



COVID Impact Report:
WNBA



Top 50 Player Analysis:
NBA



Top 50 Player Analysis:
WNBA

Website, data analysis, machine learning model, and visualizations created for a final project for the Data Science Bootcamp at Columbia University in New York by the following team members:



Tyler Speck



Sarah Grant



Matt Debnar



Dhara Bhansali



Amanda Luha



Caiti Donovan

Data Sources:

SportRadar API

Basketball-Reference.com

Notes/Considerations:

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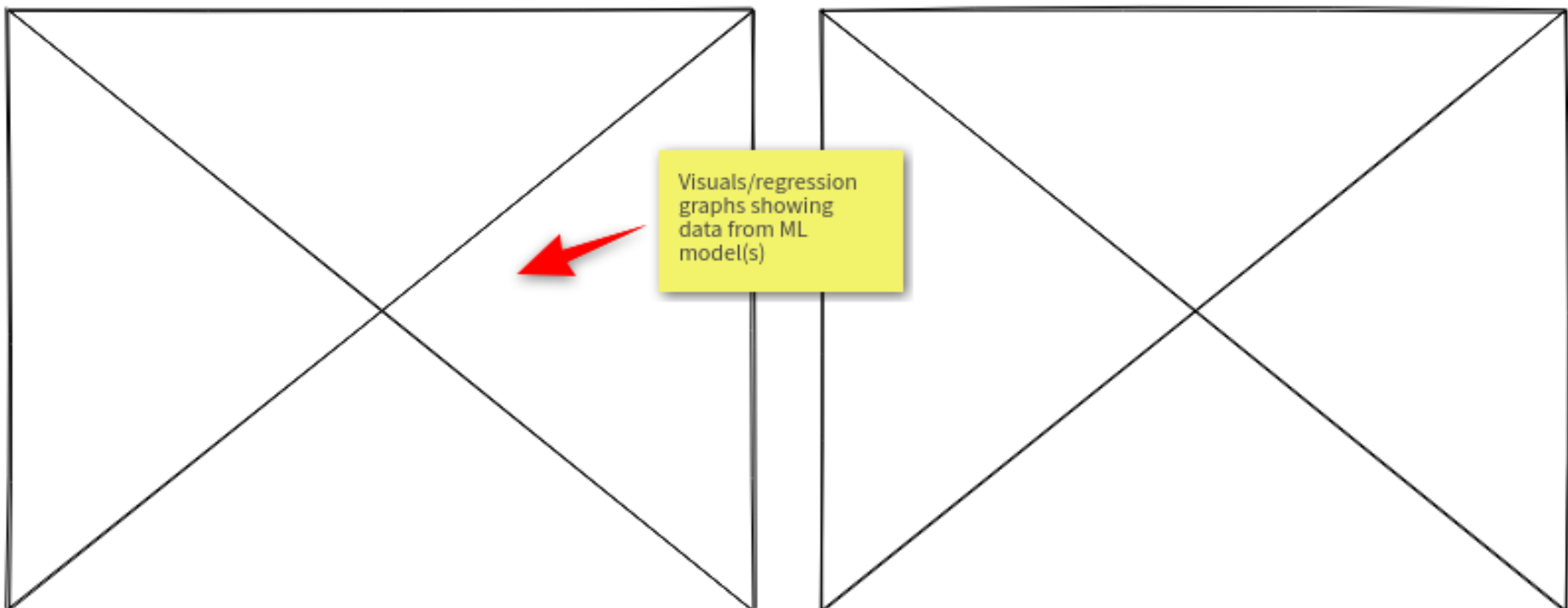


COVID Analysis: NBA

We wanted to use a machine learning to assess the impact of fan presence on player performance [and officiating] and then predict what impact might be possible if fan-free games must again be a reality for the 2020/21 season.

To train a [regression model], we analyzed the NBA seasons from 2015/16 through 2018/19 to evaluate player performance [and officiating] in front of fans at home versus fans at away games, and then looked at performance [and officiating] at the beginning of the 2019/20 season (with fans) versus games played in the bubble in Florida (no fans).

The below output shows [the predicted impact of fan-free play on performance [and officiating] should the pandemic continue to be a threat to fans for the 2020/21 season.]



Visuals/regression graphs showing data from ML model(s)

Use our interactive dashboard to explore more impacts of COVID on the NBA

Explore More Now

Links out to Tableau Public dashboard

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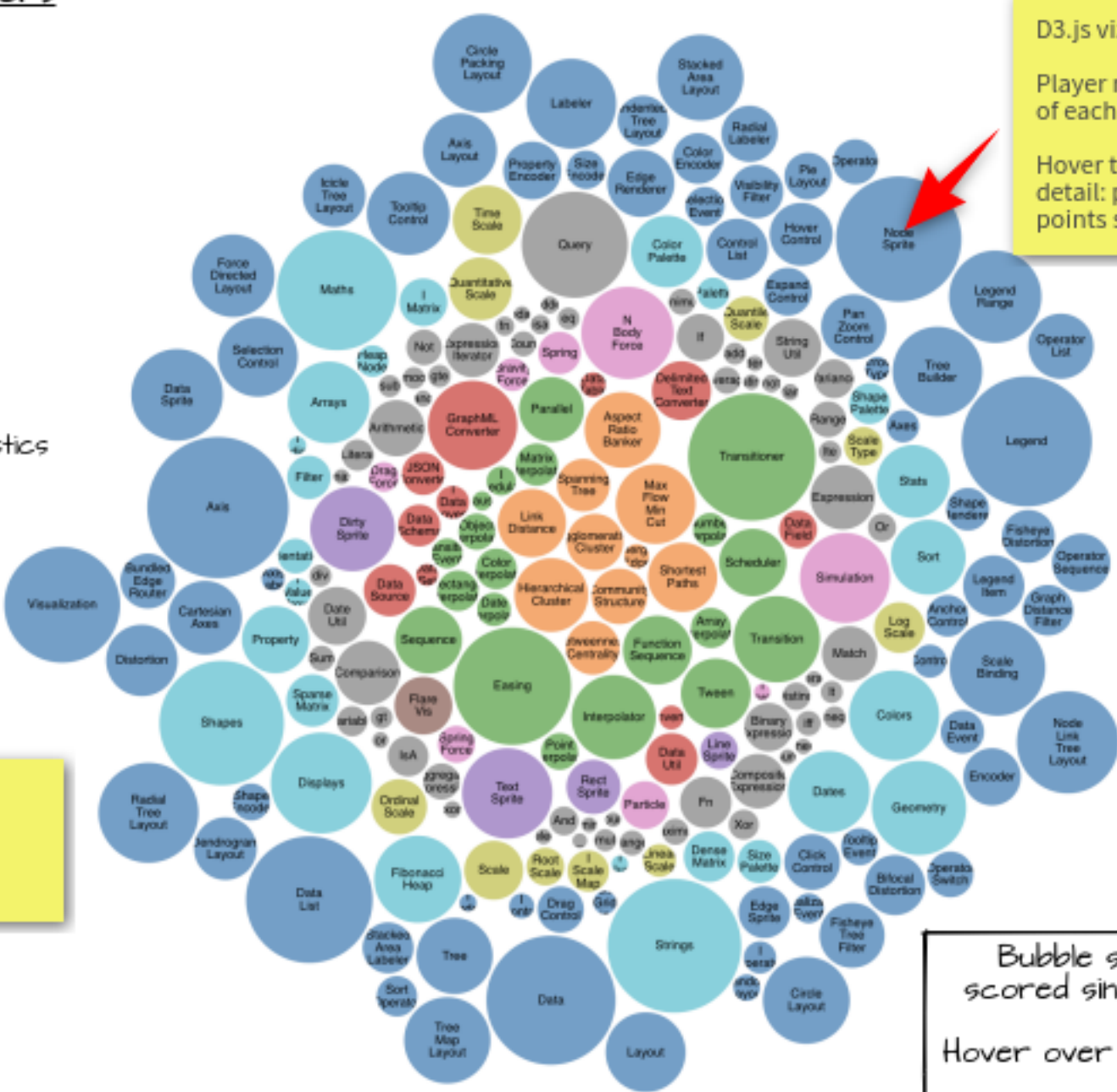


WNBA Top 50 Players Analysis

Top Point Scorers

2019/20 Team

- LA Sparks
- NY Liberty
- Seattle Storm
- Atlanta Dream
- Washington Mystics
- Chicago Sky



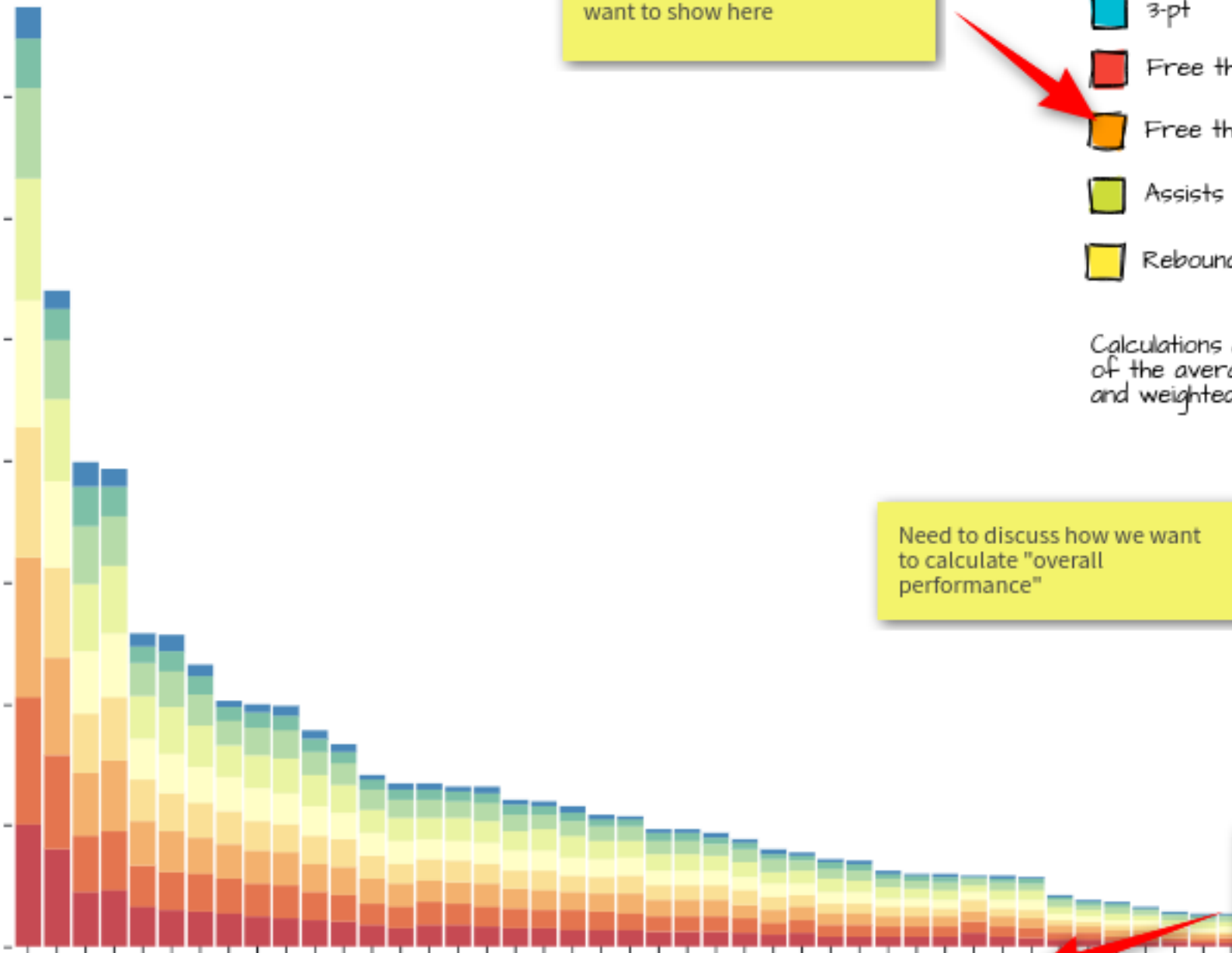
D3.js viz
Player names appear in center of each circle
Hover tooltip applied to show detail: player name, total points since 2015, current team

D3.js viz legend
Colors correlate to player's team for the 2019/20 season

Bubble size = Total points scored since 2015/16 season
Hover over a player's bubble to see detail

Overall Top Performers

2015-2020



Need to discuss what stats we want to show here

- 2-pt
- 3-pt
- Free throws
- Free throw %
- Assists
- Rebounds

Calculations are based on sum of the average for each season and weighted by minutes played

Need to discuss how we want to calculate "overall performance"

Names to be added along x axis
Hoover feature to see detail for each color/stat by player

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