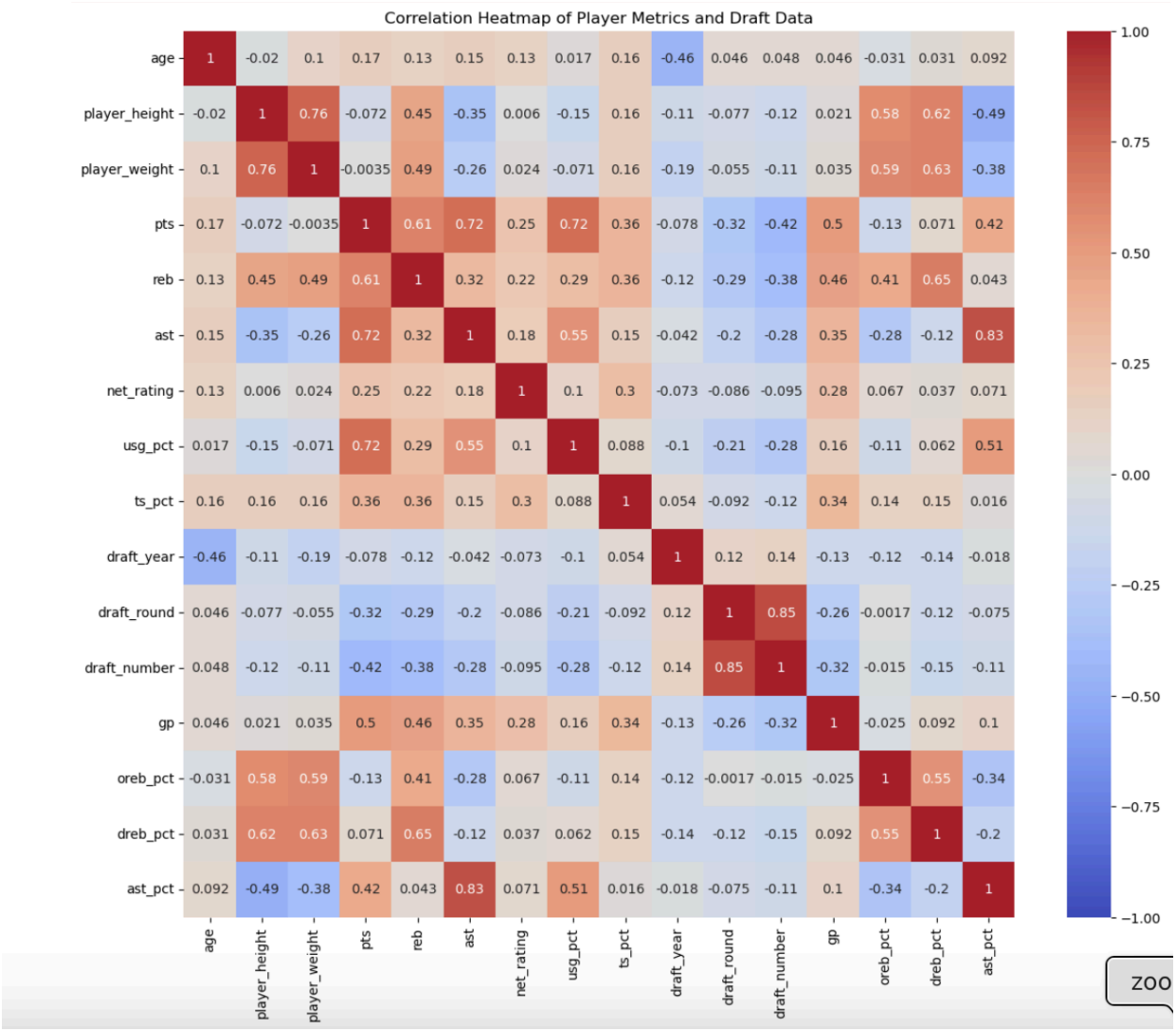
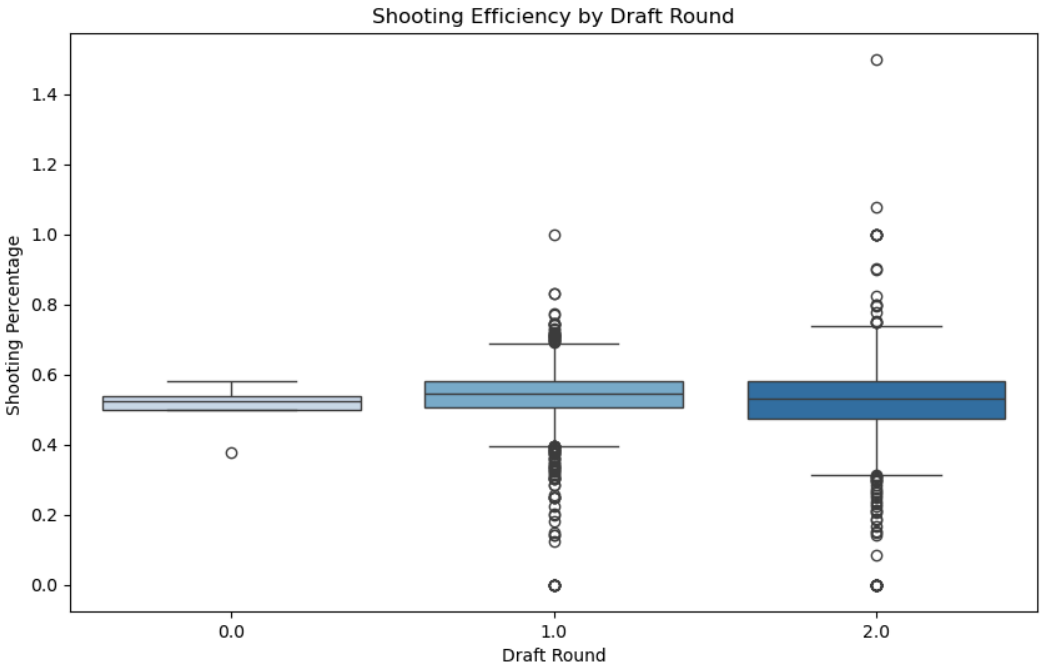
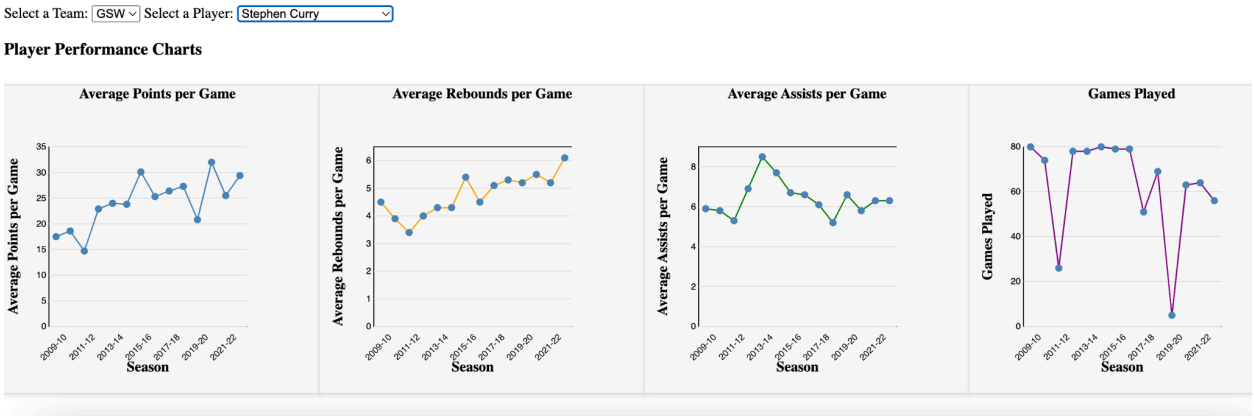
Project Link: https://crchu.github.io/DS4200-G6/



The correlation heatmap employs color-coded rectangles to illustrate the relationships among various player and draft-related metrics. Both the X-axis and Y-axis represent attributes such as age, height, weight, points, rebounds, assists, and more, creating a symmetric matrix of correlations. The color gradient, ranging from -1 (strong negative correlation) to 1 (strong positive correlation), visually encodes the strength and direction of these relationships. Darker reds signify stronger positive correlations, while darker blues indicate stronger negative ones. This version of the heatmap emphasizes how height and weight are strongly correlated with rebounding, while draft-related metrics like draft round and draft number exhibit negative correlations with age, indicating a preference for younger players in earlier rounds. The precise correlation values displayed within each cell provide clear, actionable insights into these complex relationships.

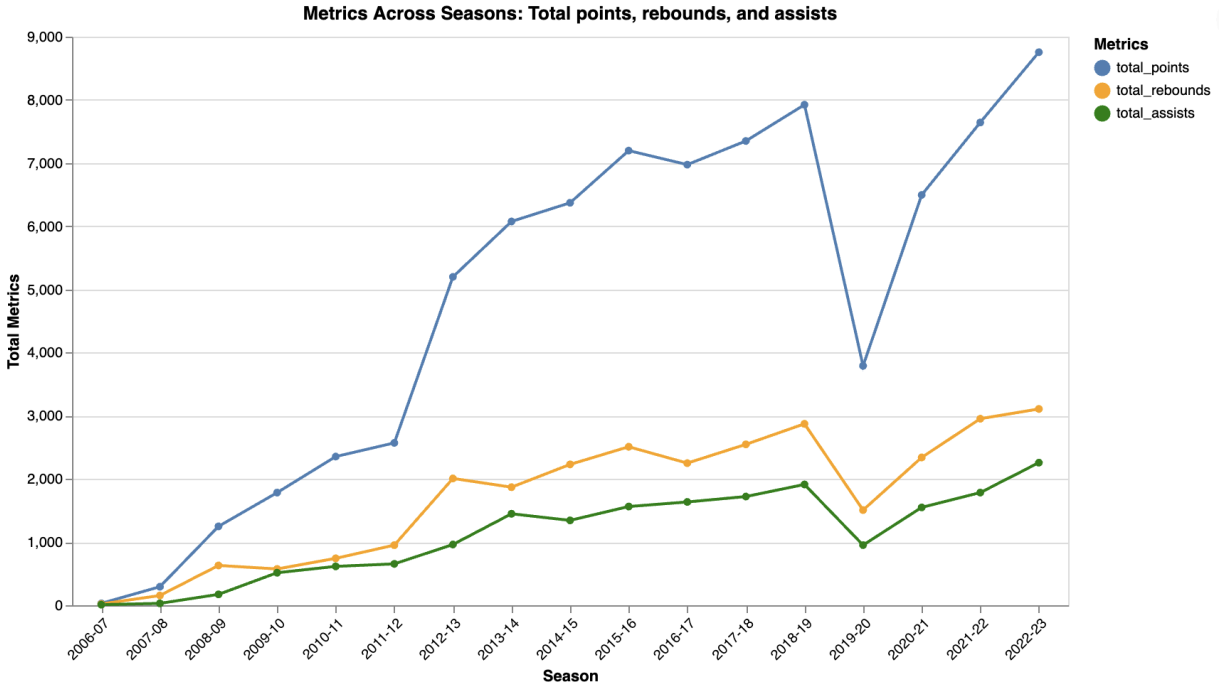


The shooting efficiency visualization uses box-and-whisker plots to compare the distribution of true shooting percentages (TS%) across different draft rounds. The X-axis represents draft rounds, including undrafted players, while the Y-axis encodes shooting percentages. Each box plot summarizes the data for a specific draft round, showing key statistics such as the median, interquartile range, and outliers. The arrangement of the boxes along the vertical axis highlights differences in shooting efficiency, with the first round showing consistent performance and narrower variation. In contrast, the second round displays greater variability and outliers, suggesting potential undervaluation during the draft. Undrafted players exhibit moderate and consistent efficiency, reflecting their ability to contribute despite not being selected. The visualization effectively captures how early-round players demonstrate reliable performance, while later rounds show increased variability and unique high-performing cases.



The visualization employs line charts with circles to represent player performance metrics such as points, rebounds, assists, and games played over different NBA seasons. Lines effectively display trends over time, highlighting increases, decreases, or stability in the metrics, while circles emphasize individual data points for clarity. The X-axis shows seasons to enable temporal analysis, and the Y-axis provides a quantitative scale for comparison. Different colors for each metric (e.g., blue for points, green for assists) ensure clear distinction and enhance visual appeal. Interaction through dropdown menus allows users to filter by team and player, dynamically updating the charts, while tooltips provide precise values for each data point when hovered over, adding depth without cluttering the visualization. Rotated X-axis labels with every other tick improves readability, especially for datasets with many seasons, and the interactivity makes the visualization customizable and user-friendly. This approach effectively combines readability, depth, and interactivity, offering a comprehensive and engaging way to explore NBA player performance trends across seasons.

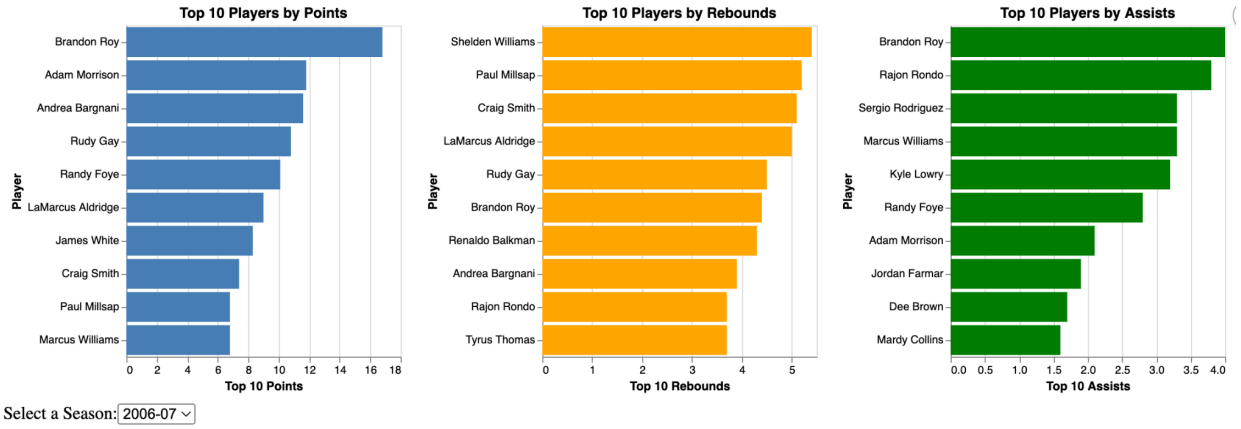
Metrics Across Seasons: Total points, rebounds, and assists



Select Team: GSW

This line chart visualizes the total points, rebounds, and assists for a selected NBA team across multiple seasons. Users can choose a team from the dropdown menu, and the chart dynamically updates to display performance trends. The chart uses lines as the primary mark, with distinct colors representing each metric: blue for points, orange for rebounds, and green for assists. The x-axis represents the seasons, showing time progression, while the y-axis encodes the total values for each metric. The height and slope of the lines communicate changes in performance over time, allowing users to identify trends such as improvement, consistency, or decline in a team's metrics. The color encoding ensures that points, rebounds, and assists are visually distinguishable, enabling effective comparison. This chart provides a clear and interactive way to explore historical performance and analyze a team's strengths and weaknesses across seasons.

Top 10 Players by Points, Assists, and Rebounds



Select a Season: 2006-07

This visualization shows three horizontal bar charts, each showing the top 10 NBA players by points, rebounds, and assists for a selected season. Users can interact with the dropdown menu to choose a specific season, and the charts dynamically update to reflect the corresponding data. The first chart on the left represents the top 10 players by points, using horizontal bars with player names on the y-axis and total points on the x-axis. The bars are uniformly blue to signify the points metric. The middle chart highlights the top 10 players by rebounds, with player names on the y-axis, total rebounds on the x-axis, and orange-colored bars to encode the rebounds metric. The third chart, on the right, displays the top 10 players by assists, with green-colored bars to represent the assists metric. Each chart uses position along the axes to encode the magnitude of performance, allowing easy comparison within and across metrics. This visualization provides a clear breakdown of individual player dominance in scoring, rebounding, and assisting for the selected season.