

Information about the dashboard

<https://www.uv.es/vivigui/AppEuroACB.html/>

App updated to March the 23th 2020

This web application represents the statistics of all players and teams for every season from the Spanish first division league (ACB), Euroleague and Eurocup (in any round). The app is available in Spanish and English.

The available seasons are:

- **ACB:** from 1985-1986 to day 23 season 2019-2020.
- **Euroleague:** from 2000-2001 to day 28 season 2019-2020.
- **Eurocup:** from 2002-2003 to day 6 of Top 16 season 2019-2020.

Data were obtained from www.acb.com, www.euroleague.net and www.eurocupbasketball.com.

Meaning of the statistics abbreviations										
Statistic	GP	GS	MP	PTS	PTSrv	FG	FGA	FGPerc	TwoP	TwoPA
Description	Games played (only available for players)	Games started (only available for players)	Minutes played (only available for players)	Points	Points received (only available for teams)	Field goals made	Field goals attempted	Field goals percentage	2-point field goals made	2-point field goals attempted
Statistic	TwoPPerc	ThreeP	ThreePA	ThreePPerc	FT	FTA	FTPerc	TRB	DRB	ORB
Description	2-point percentage	3-point field goals made	3-point field goals attempted	3-point percentage	Free throws made	Free throws attempted	Free throws percentage	Total rebounds (DRB+ORB)	Defensive rebounds	Offensive rebounds
Statistic	AST	STL	TOV	Counterratt	BLKfv	BLKag	Dunks	PF	Pfrv	PlusMinus
Description	Assists	Steals	Turnovers	Counterattacks	Blocks in favor	Blocks against	Dunks	Fouls committed	Fouls received	Plus/minus
Statistic	PIR	GameSc	PIE	EFGPerc	ThreeRate	Frate	STL_TOV	AST_TOV	PPS	OE
Description	Performance index rating	Game score	Player impact estimate	Effective field goals percentage	Number of threes attempted per field goal attempted	Number of free throws attempted per field goal attempted	Number of steals per turnover	Number of assists per turnover	Points per shot	Offensive efficiency

PIR, **GameSc**, **EFGPerc** and **OE** are defined as follows:

- **PIR** = $(PTS + TRB + AST + STL + BLKfv + Pfrv) - ((FGA - FG) + (FTA - FT) + BLKag + TOV + PF)$
- **GameSc** = $PTS + 0.4 * FG - 0.7 * FGA - 0.4 * (FTA - FT) + 0.7 * ORB + 0.3 * DRB + STL + 0.7 * AST + 0.7 * BLKfv - 0.4 * PF - TOV$
- **EFGPerc** = $(FG + 0.5 * ThreeP) / FGA$
- **OE** = $(FG + AST) / (FGA - ORB + AST + TOV)$

The **'Guard'** position refers to both small guards and point guards. **'Forward'** refers to both small forwards and power forwards. Finally, **'Center'** refers to centers.

For all tabs, a progress bar and a spinner appear while the plots are being represented. In general, all computations take a few seconds.

First tab: 2D plot

When the application is loaded, the centers of the ACB league, 2018-2019 season, are represented as an illustration, with their minutes played and points scored. The user can represent any other pair of variables for all players or teams in the league or, in the case of players, by filtering by the players' position. The stats can be total or averaged.

Every time the user changes between competitions, the season goes automatically to the last one where there are data for the selected competition. In the same way, the round goes to 'Regular Season'.

The plot shows the values of the players or teams and the chosen statistics. It must be updated by pressing the button called *Go!* every time that a different input is chosen. By hovering over the points, the information associated is displayed. A collapsed box contains the meaning of all the statistics.

Second tab: Table

The table shows the list of players represented in the 2D plot, ranked in decreasing order by the x-axis variable. For the players, the table has a column called 'Player_info' with the link to the official website where the player's information is described. The table is recalculated automatically from the plot results.

Third tab: Player percentiles plot

The plot in this tab is a representation of the percentiles of all statistics for each player. The figure shows four cells for each statistic. The first box contains the percentiles between 0 and 24. The second, between 25 and 49. The third, between 50 and 74 and the fourth, between 75 and 100.

Pairs of players can be compared. By default the plots are represented for the two players whose last names are the first two in alphabetical order. As a general case, if a player has a percentile of x in free throws percentage, this means that $x\%$ of league players has a less percentage than him, while there is a $(100-x)\%$ who has a bigger percentage.

This type of visualization allows the user to analyze each player in a very simple way, since one can obtain a general idea of the game aspects where the player excels.

In the menu with the players' names, the user can choose any of them and by pressing the button called *Go!* the percentile plot is obtained. The statistics are available either accumulated or averaged. They can be filtered by their type, namely offensive, defensive, miscellaneous, advanced or all together.

Fourth tab: Player monthly statistics plot

This plot shows the player's statistics for every month he has played. Thus, the user can check the player's evolution along the season. The user can choose multiple players, months and statistics at the same time and get the plot with *Go!*. The statistics are available either accumulated or averaged.

Fifth tab: Player yearly statistics plot

In addition to the previous tab, this plot shows the player's average statistics for every season he has played. Thus, the user can check the player's evolution along the years. The user can choose multiple players and statistics at the same time and get the plot with *Go!*. By hovering over each point, the player's information is displayed.

Sixth tab: Team heatmap

The plot of this tab is a heatmap with the statistics of the players of each team. Teams are also listed alphabetically in the dropdown menu. The statistics are available either accumulated or averaged. In addition, the plot can be ordered by any of its variables in a decreasing way. The plot is obtained by pressing the button *Go!*. By hovering over each cell, the players' information is displayed.

The statistics can be filtered by their type, namely offensive, defensive, miscellaneous, advanced or all together. When they are all represented, the offensive statistics are grouped in red, the defensive in green, the rest in purple and the advanced in pink. The bigger the value in the corresponding statistic, the more intense the color.

Seventh tab: Team shooting plot

This plot represents the shots attempted and scored by every team's player, together with the scoring percentage. In the slider control, the user can choose to display free throws (option 1), two points (option 2) or three points (option 3). The players are sorted by percentage. The statistics are available either accumulated or averaged. The plot is generated with the button *Go!*.

Eighth tab: Team four factors plot

This tab shows the team's offense and defense four factors. The four factors are Effective Field Goal Percentage (EFG%), Turnover Percentage (TOV%), Offensive Rebound Percentage (ORB%) and Free Throws Rate (FTRate).

As a summary, EFG% is a measure of shooting efficiency; TOV% is the percentage of possessions where the team missed the ball; ORB% measures how many rebounds were offensive from the total of available rebounds; Finally, FTRate is a measure of both how often a team gets to the line and how often they make them.

Multiple teams can be selected at the same time. The plot is generated with the button *Go!*.

Ninth tab: Cross table league results

This tab displays a cross table with the league results for regular season games. Cells in green correspond to local wins (1) and cells in red correspond to visitor wins (2). By hovering over each cell, the user gets the game details. The plot is automatically updated every time the user changes between leagues, seasons or rounds.

Tenth tab: Nationalities tab

A world map is represented in this tab. The countries from where there are players in the competition selected are in green color. By hovering over each country, the user gets the exact number of players. The map is automatically updated every time the user changes between leagues, seasons or rounds.

For all tabs:

Please send your comments, suggestions, typos or any other feedback to guillermovinue@gmail.com

This web application has been created using R, <https://www.r-project.org/>.