

SLAMDUNK ANALYTICS

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Founders



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Issues With Data Visualization in Sport Analytics

- ❑ Data Quality: Ensuring accuracy and integrity of data to make **accurate visualizations** and predictions.
- ❑ Data Selection: Choosing **relevant data for storytelling** the growth and trends that matter.
- ❑ Data Representation: Effective visual representation of data to contextualize numbers and **find trends**.
- ❑ Data Interpretation: Meaningful analysis and **explanation from key statistics**.
- ❑ Data Engagement: Engaging a **non-technical audience** with compelling stories.
- ❑ Data Access: Empowering a non-technical audience to use more data-driven insights.



Focus on NBA Statistics

- ❑ Player Efficiency: **PER**, **TS%**, **eFG%** assess scoring **efficiency**, including the value of 3-pointers and free throws.
- ❑ Contribution Metrics: **BPM**, **WS (with DWS & OWS)** evaluate overall and **offensive/defensive contributions** to team success.
- ❑ Usage and Efficiency: **USG%** shows player involvement; **ORtg & DRtg** quantify **scoring** and defending efficiency per 100 possessions.
- ❑ Team Dynamics: **PACE** measures game tempo; **OFF EFF & DEF EFF** track scoring effectiveness and defensive prowess.



Manual Analysis Challenge

- ❑ Data Volume: Vast metrics require significant time for analysis, increasing error risk.
- ❑ Complex Metrics Interplay: Understanding the nuanced effects of stats interactions demands sophisticated analysis tools.
- ❑ Performance Variability: Fluctuations due to injuries, roster changes, and game contexts complicate trends.
- ❑ Subjective Interpretation: Selecting relevant metrics depends on team strategy and player roles, making standardization difficult.



How can AI be used?

- ❑ Clean Data for Player Stats: Improve **data accuracy and reliability** by focusing on necessary data points.
- ❑ Focus on Key Basketball Statistics: Identify critical **performance indicators**.
- ❑ Web Scrape for Player Styles/Performance: Gather **comprehensive player insights** from various sources.
- ❑ Create Tailored Scouting Reports: Leverage AI for **personalized analysis**.
- ❑ Consolidate Years of Data: Uncover insights from **annual performance shifts**.



What is Slamdunk Analytics doing?

Spider Graphs:

- ❑ Utilizes Kaggle's dataset with key stats (**DWS, OWS, DPBM, OPBM**).
- ❑ Generates interactive **Plotly spider charts** for data visualization.
- ❑ Plots capture **multi-dimensional player data** in a single, intuitive visualization

Tailored Scouting Reports:

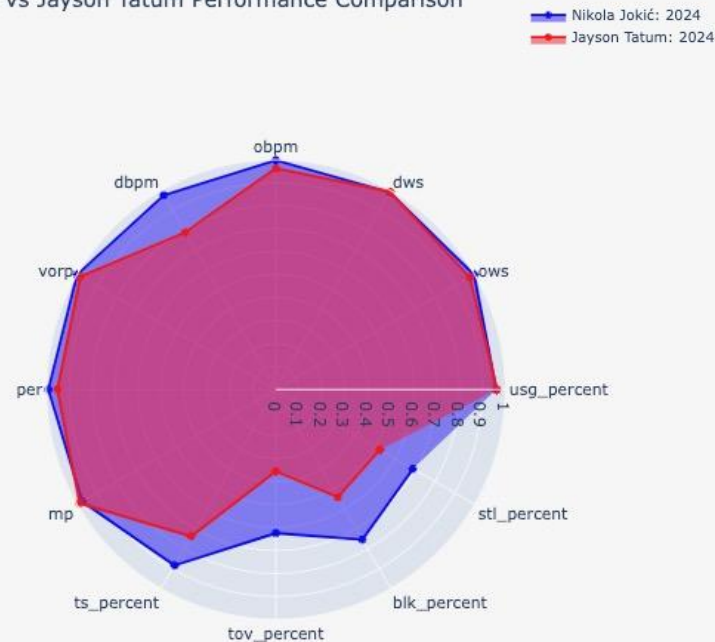
- ❑ Employs Nomic's **GPTForAll and RAG chain** with data from 30 ESPN articles.
- ❑ Creates customized **AI-driven scouting reports** with detailed player analysis.



Example Spider Chart

Provide a player Nikola Jokić
Provide another player Jayson Tatum
Provide a year or a range of years 2024

Nikola Jokić vs Jayson Tatum Performance Comparison





Example Tailored Scouting Report

Title: Scouting Report: OKC Thunder vs. Boston Celtics (Week 7)

Date: October 31, 2023

Category: NBA Articles

Author: Slam Dunk Analytics

Introduction:

The Boston Celtics are preparing to face the Oklahoma City Thunder in their seventh week of the NBA season. After a strong start to the campaign, the Celtics look to continue their winning streak against the Thunder. In this scouting report, we'll outline how the Celtics can leverage their strengths while exploiting the Thunder's weaknesses to secure a victory.

OKC Thunder Strengths:

- ❑ Ball Movement and Shooting: The Thunder rank 3rd in the league for assists per game (27.4) and are an accurate shooting team, with players like Lu Dort and Shai Gilgeous-Alexander making a significant impact from mid-range and beyond the arc.
- ❑ Interior Defense: OKC is ranked 5th in the league for blocks per game (6.1). Al Horford and Derrick Favors are crucial for stopping opposing teams' inside scoring threats.
- ❑ Second Chance Points: The Thunder rank 4th in offensive rebounds per game (13.9) and 7th in second-chance points per game (12.8). They make the most of their opportunities on the offensive glass.

Boston Celtics Strengths:

- ❑ Defensive Versatility: The Celtics rank 4th in defensive rating (105.3) and have a versatile roster, with players like Marcus Smart, Al Horford, and Jayson Tatum able to guard multiple positions.
- ❑ Offensive Efficiency: Boston ranks 6th in points per possession (1.127) and has a balanced scoring attack, making it difficult for opponents to focus on stopping any one player.
- ❑ Depth: The Celtics have solid depth throughout the roster, with role players like Grant Williams, Payton Pritchard, and Daniel Theis contributing consistently off the bench.

Matchup Analysis:

- ❑ Ball Movement vs. Interior Defense: The Thunder excel in ball movement and shooting, while the Celtics rely on their interior defense to contain opponents. Both teams will test each other's strengths, as Boston looks to limit OKC's open looks and the Thunder try to get the ball moving and create advantages in the paint.
- ❑ Offensive Rebounds vs. Depth: The Thunder are a strong rebounding team, but the Celtics have solid depth throughout their roster, which can help them secure loose balls and prevent second-chance opportunities for OKC. Boston needs to outrebound the Thunder and limit their offensive rebounds to control the flow of the game.
- ❑ Versatility vs. Ball Movement: The Celtics' versatile roster will be put to the test against the Thunder's ball movement and shooting. Coach Green must find a way to limit the Thunder's open looks while also ensuring that his players are in position to capitalize on OKC's turnovers or defensive lapses.

Conclusion:

By focusing on their strengths while exploiting the Thunder's weaknesses, the Boston Celtics can secure a victory against the Oklahoma City Thunder. The key matchups include interior defense vs. ball movement and shooting, depth vs. offensive rebounds, and versatility vs. ball movement. If the Celtics manage to contain OKC's shooting threats while securing loose balls and capitalizing on turnovers, they will come out on top in this game.

Thank You!

Any Questions?

