

# INTRO TO SPORTS ANALYTICS

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# MY FAVORITE SPORT...



- Basketball has been a cornerstone of my life both as a player and as a fan.
- The fast-paced nature, teamwork, and strategic plays make it thrilling to watch and play.
- My favorite team, the Dallas Mavericks, demonstrates discipline and excellence in the sport.





# DALLAS MAVERICKS



## ABOUT THE TEAM

- The Dallas Mavericks, established in 1980, are known for their strategic approach and strong team culture.
- In 2011, they won their first NBA Championship, led by Dirk Nowitzki and backed by strong analytics-driven decisions.

## KEY PLAYERS

- Dirk Nowitzki: A legend known for his loyalty and one-legged fadeaway.
- Luka Dončić: The rising star, known for his versatility and high basketball IQ.
- Jason Kidd: A Hall of Fame player turned coach who brings a strategic mindset to the team.

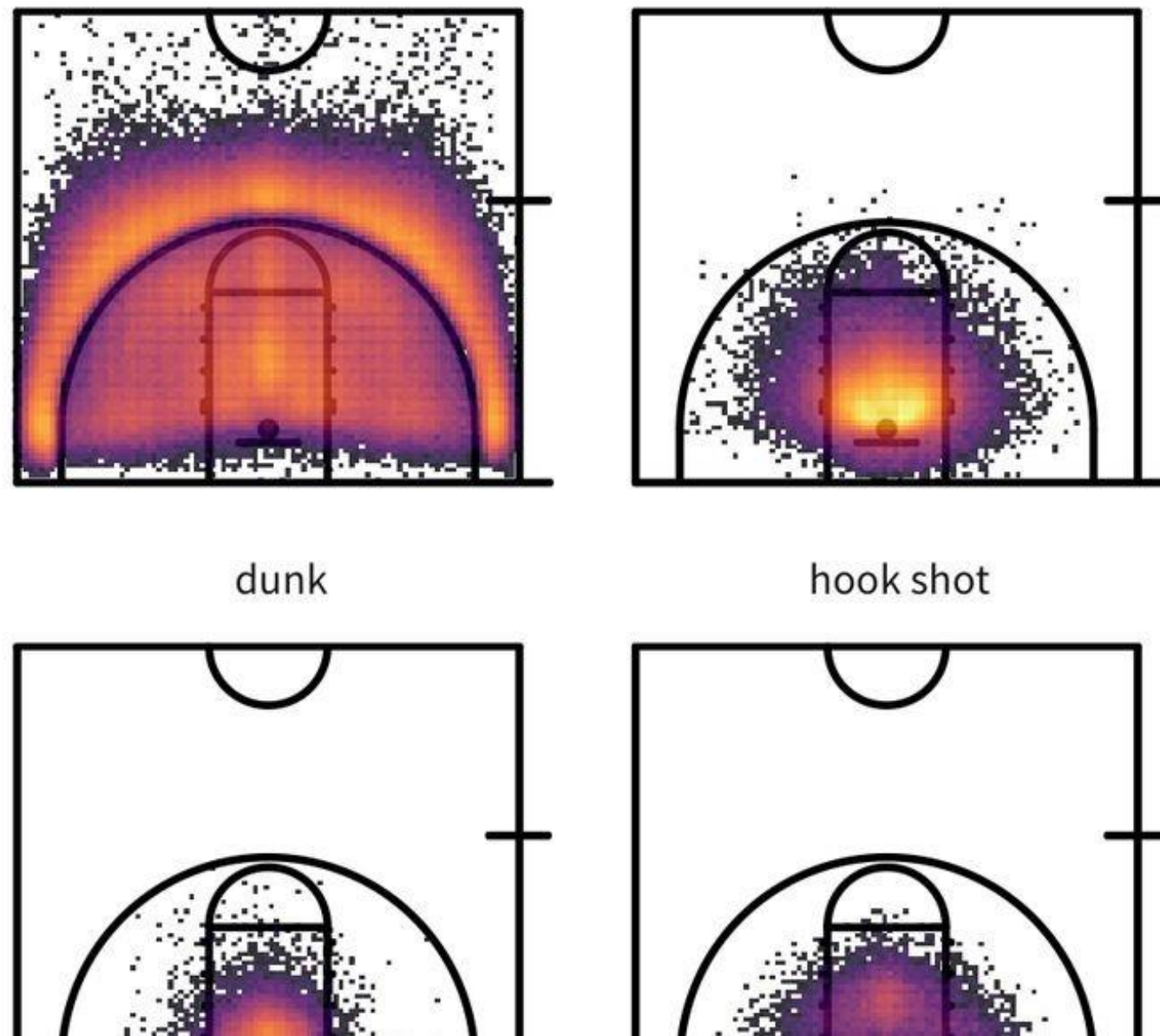
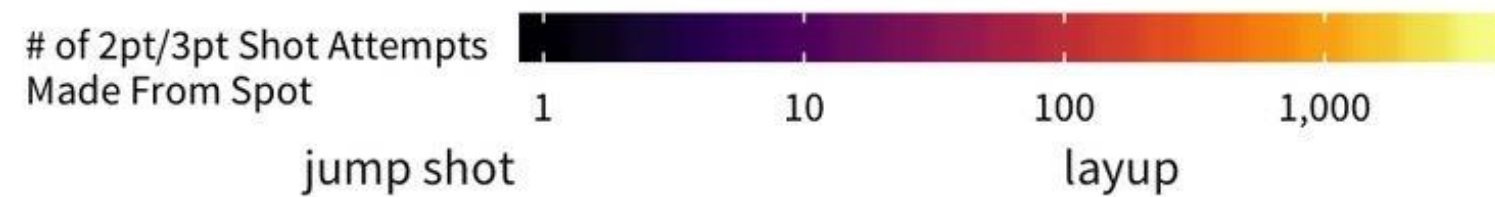
## ANALYTICAL PIONEERS

- Owner Mark Cuban invested heavily in sports analytics, making the Mavericks one of the first teams to fully embrace data science.



## Heat Map of 1,067,144 Basketball Shots from NCAA Games

Starting with the 2013-14 season. Via Sportradar data in BigQuery



# DATA ANALYTICS IN BASKETBALL

## PLAYER PERFORMANCE

- Tracking shooting accurately by location.
- Monitoring player fatigue to adjust minutes played.
- Ex: Kyrie Irving efficiency stats helps the Mavericks optimize his game usage.

## FAN ENGAGEMENT

- Personalizing fan experiences through data-driven promotions.
- Creating interactive visualizations of game stats.

## TEAM STRATEGIES

- Optimizing lineups based on opponent weaknesses.
- Analyzing defensive matchups to minimize scoring threats.
- Ex: The Mavericks used analytics to adjust their defensive rotations during the 2011 NBA Finals to limit LeBron James.

## INJURY PREVENTION

- Using wearable technology to monitor player movements and identify potential injury risks.

# FASCINATING AREAS OF SPORTS DATA



## PLAYER PERFORMANCE

- Statistics like PER (Player Efficiency Rating), shooting accuracy, and clutch stats.
- Ex: Luka Dončić triple-double stats shows his ability to impact the game in multiple ways.

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## TEAM STRATEGIES

- Using advanced analytics to predict which lineups perform best under specific conditions.
- Ex: The Mavericks analytics team found that a small-ball lineup works best in high-tempo games.

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## INJURY ANALYTICS

- Tools to track player health, predict recovery times, and prevent overuse injuries.
- Ex: Monitoring Dereck Lively II workload post ankle injury to avoid re-injury.

# SKILLS I WANT TO DEVELOP

## STATISTICAL ANALYSIS

- Learn to interpret player stats and team stats to draw meaningful conclusions.

## DATA VISUALIZATION

- Create charts and dashboards to present data more clearly.

## PREDICTIVE MODELING

- Develop models to show player performance, game outcomes, and injury risks.



# THE POWER OF SPORTS ANALYTICS

## SUMMARY

- Sports is not just a game, it's a complex system where analytics can create an amazing competitive edge.

## WHY THIS MATTERS

- As someone passionate about sports, I want to explore how analytics can help me understand and enjoy the game even more.
- Learning these skills could open up career opportunities in sports analytics or beyond.

## CALL TO ACTION

- We should use data analytics to elevate sports and ourselves to the next level.



**THANK YOU FOR  
YOUR TIME!**

