Agenda

Results of Basketball Scoring Calculations From Steph Curry's 2022-2023 Season

Dataset: https://www.kaggle.com/datasets/dhavalrupapara/nba-2023-player-shot-dataset

- Overall Shooting Statistics
- Probabilities
- Conditional Probabilities - Future
- Conditional Probabilities - Retrospective

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Steph's Overall Shooting Statistics (2022-2023 Season)

Overall probability of a make: 0.4902

Overall probability of a miss: 0.5098

Overall proportion of 3 pointers: 0.5481

Overall proportion of 2 pointers: 0.4519

Probabilities

Given the Results on the Previous Slide:

- Probability of Steph making 3 of the next 4 shots: 0.2402

- Probability that 4 of the next 5 shots taken by Steph are 3 pointers: 0.2039

The Probability Calculation Results Above Assume:

- Each shot is independent

- Each shot represents one of only two types:

  - make or miss

  - 2-pointer or 3-pointer

- The probability of each of the 2 outcomes is the same for each shot

Conditional Probabilities - Future

If the next shot Steph shoots is a three-pointer...

- Probability of making a three-pointer: 0.4186

- Probability of a three-pointer being taken while the team had the lead: 0.4936

If the next shot Steph shoots is a two-pointer...

- Probability of making a two-pointer: 0.5772

- Probability of a two-pointer being taken while the team had the lead: 0.5154

Conditional Probabilities - Retrospective

If Steph just made a shot...

- Conditional probability of a made shot being a three-pointer: 0.4680

- Conditional probability of a made shot being a two-pointer: 0.5320