



Counting to 57

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The Streak

-  July 17, 1941 - Joe DiMaggio went 0-3 at the plate with a walk
 - First time in 57 games Joltin' Joe failed to get a hit, setting the hitting streak record (56 games) which still stands
-  2001 - MLB started a fantasy game called Beat the Streak
 - Prize: \$5.6 million
 - Current record: 51 days

Understanding the Streak



Goal:

- Use statistical modeling to beat the streak



Method:

- Combined data from weather reports and Statcast
 - Statcast provides non-traditional baseball statistics
 - e.g. launch angle
- Derived numerous additional data points
 - e.g. hits given up per batter faced
- Created 38 separate predictive models

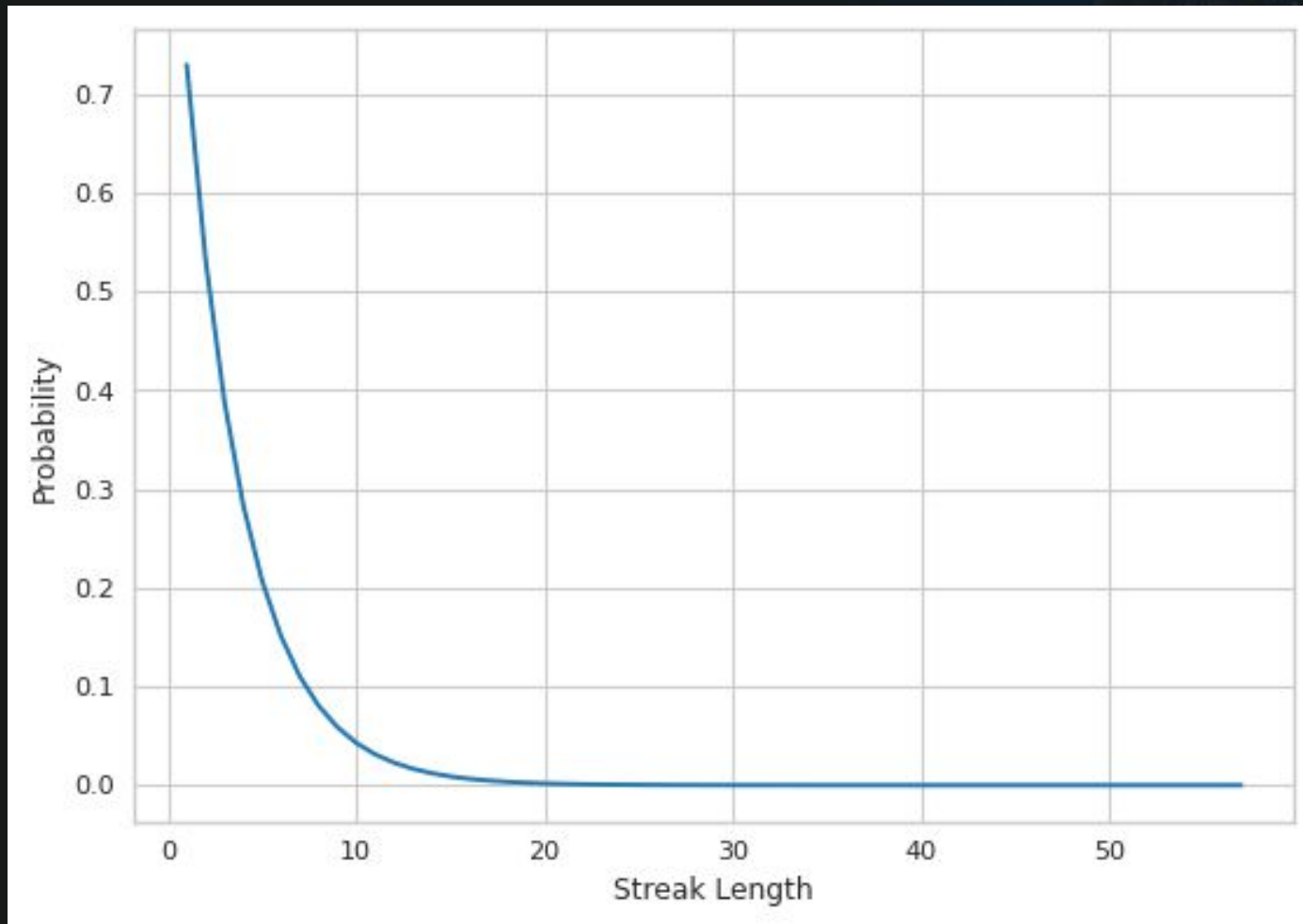
Modeling the Streak

- 🏈 Simple model prioritizing plate appearances per game had a roughly 62% success rate
 - Held a streak of eight consecutive days
- 🏈 Best advanced model had a roughly 73% success rate
 - Held an thirteen day hitstreak

Beating the Streak

- 🏈 Best model gives a roughly 1.21% chance to get to 57 days
- 🏈 Three 57-day periods between Opening Day and Closing Day
 - Increases odds to about 3.63% chance over a full season

Streak Odds by Day





...one day



With more time and resources there's endless work that could be done to reduce the role luck plays

- The data used only scratches the surface of batter/pitcher matchups
- Pitch types as well as speed and movement could be incorporated
- Extending Statcast collection through 2015
- Collect
- Factor in bullpens
- Incorporate the ability to pick 2 players on a given day, possibly through thresholding
- Excluding pitchers altogether (without losing 2-way players)

An aerial, high-angle photograph of a large baseball stadium during a game. The stadium is packed with fans, mostly wearing blue. The green field and red dirt base paths are visible, with a few players on the field. The pitcher's mound and home plate are clearly marked.

Sources

statsapi.mlb.com

Visual Crossing

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Thank you for your time!