Analysis of Baseball Pitch Motion

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Abstract

In the day and age of metric-focused data in baseball, new scenarios and gameplans are strategized using raw, hard data. Using pitching and batting data from a given season, one can scientifically show a players weakness that can be either exploited, or reinforced depending on the side of the plate you stand on. The goal of the simulation is to simulate an at-bat at the major league level for two of the most potent members of a lineup, the closer and the clean up man. Depending on the role that you wish to play when reviewing this data you can end up coaching a player to improve upon their weaknesses or, as a pitching coach, use those weaknesses against the dangerous batter. The simulation can be run in all sorts of conditions to simulate different ballparks and different combinations of batter or pitcher, bringing an invaluable tool to the ever-evolving climate of baseball.

Contributions

Idea/Outline: Chris

Data Gathering: Chris/Andrew

Code Implementation/Modification: Chris/Andrew

Solving for Initial Conditions and Min/Maxing: Andrew

Poster/Class Presentation: Chris