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Sabermetrics

Final Project Part 1

Situational Pitching Behavior

The statistic I will be creating for this project will be called Situational Pitching Behavior (SPB). SBP will be a dynamic statistic that will look at a pitcher’s history in specified situations and tell the user how that pitcher is likely to behave in those specific situations. SBP will serve as a metric for teams to proactively evaluate how a pitcher is likely to behave in certain situations or make educated predictions in real time as to how a pitcher will pitch in the given situation of a game.

The primary goal of this statistic will be to have users be able to enter a specific pitcher and a specific situation and be given a description of some kind that details how that pitcher will behave in the situation specified. Those details will contain what types of pitches they are likely to throw and also metrics of how that pitcher usually performs in the specified situations (ex: if a pitcher throws a lot of strikes in a high-pressure situation that will be displayed by the application).

In order to create this application, I will be using Statcast pitching data from the 2018 season. I will filter through the data to match the predictions generated with the specified situation and will generate existing statistics from those situations such as ERA and average pitch location to provide the user with a deep understanding of how that pitcher typically performs in a given situation.

Initially, I plan to present these findings through a Jupyter notebook using a few pitchers and situations as examples of how the statistic works. Because this is more than just a simple numerical statistical if I have time I will create an application where a user can enter any pitchers name and any situation and have results generated dynamically. This application may be through a command line interface or a GUI if I have time to implement one. I will be making a video where I explain all of the attributes that go into calculating the SBP response and will also have it all detailed in the Jupyter notebook.

I will be working alone on this project.