

In this project, I will investigate the relationship between players' swing and the resulting batted ball parameters, such as exit velocity and launch angle, in the game of baseball. This study falls under the field of data analysis and computational physics. I have always been interested in understanding the game of baseball with mathematical reasonings and developing ways to improve player's performance. Subsequently, this study is crucial since understanding the association between player's swing and the resulting batted ball parameters will enable players to find their optimal swing and increase their batting performance. In doing so, I will use the data from Statcast, a tool used in Major League Baseball primarily for tracking the baseball. More recently, it has also been used to track the player's bat path during the swing. A very useful question to ask is the relationship between the bat path and the resulting distribution of exit velocity and launch angle. To perform my study, I will use the software package R to analyze and develop graphs that establishes connections between meaningful factors to understand the data. In terms of the outcome, I would expect some form of a model that relates the player's swing to the batted ball parameters. Finally, I will document my progress frequently in R notebook to reflect my work and write an article at the end to present my findings.