**Project Title:**

Using Statcast Data to Study the Baseball-Bat Collision

**Project Abstract:** In the area below provide a one paragraph summary of your project. The summary must include: the area of specialty, your interest in the subject matter, why the project or study is important, the materials and methods you will use, the outcome you expect, and the method you will use to document your progress.

In this project, I will investigate the relationship between player’s swing and the resulting ball trajectory 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 trajectory of the ball 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 in Major League Baseball developed to analyze player movements and track collections of numerical data in the game of baseball. In addition, I will implement the data from MLB that tracks the bat during player’s swing. To perform my study, I will use 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 or an equation that relates player’s swing and the resulting ball trajectory. 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.