**Capstone Project Ideas – What contributes to winning in baseball?**

Sports analytics is a common and well-known application of data science. The prevalence of data analysis and statistics in baseball stands out. Game data and play-by-play data for nearly every game played in the MLB’s history is available online on websites such as Retrosheet.org.

The following lists several potential questions that can be explored in the capstone project:

1. Does batting order really matter? Managers often place their best hitters in the 3-5 spots, with the worst hitters in the 8th position in the lineup. However, the order players come up to bat is not the same for every inning; only the 1st inning is guaranteed to have batters come up in the original 1-9 order. Do innings where the listed leadoff hitter actually leads off contribute to more runs and a better chance at winning?
2. Bullpen usage – playing matchups: modern baseball features the hyper-specialization of relief pitchers. Often, they will only face 1-2 batters before being replaced instead of completing an inning. Does playing matchups or having pitchers pitch less than an inning when they are not struggling improve the chance to win?
3. Day games – baseball is usually played at night except on Sundays. On some weekdays, there are day games to allow for travel. Does this extra rest from having more time for travel actually help teams? There is the opportunity cost of lower attendance for weekday day games to consider.