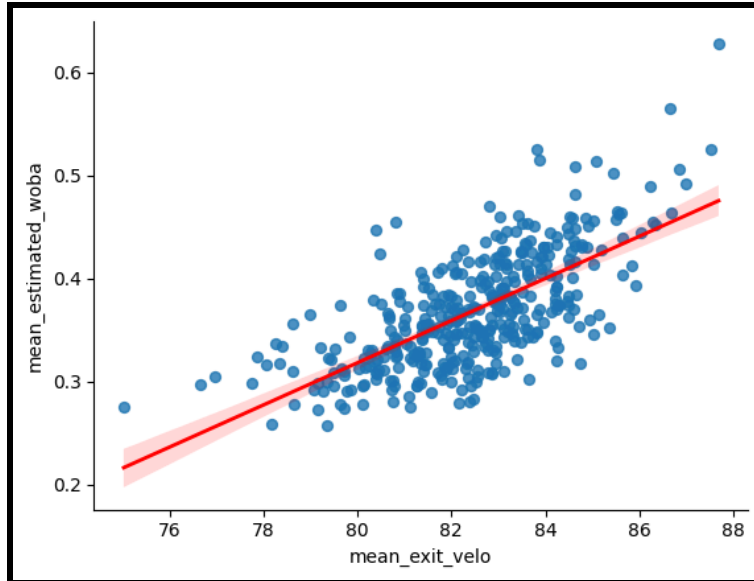


Finding the Stud

We are part of Team MLB and our mission has been to consult and recommend an up and coming young hitter through the MLB, who could be marketed and sold as the greatest upcoming baseball star. The purpose of this work is to reveal the talent, find the players who are characterized by high performance indicators, and develop the marketing plan for the MLB that will focus on showcasing these players. The data we incorporated for this project is batter performance data by Statcast which we obtained from the 2024 MLB season. This data contains information such as pitch type, release speed, batting details, launch speed, exit velocity, and estimated wOBA. More so, as our analysis was focused on determining a young under-hyped player, after a close look at the data, we now believe that Kerry Carpenter of the Detroit Tigers is the right candidate for aggressive marketing.

We began by doing data cleaning and data preprocessing on the collected dataset. Different treatments of missing data included row deletion, which left out rows where estimated wOBA, and launch speed, were missing. This maintained our dataset quality as high therefore giving accurate analysis. Some data transformations were conducted at this stage to compute further measures of statistics like the average estimated wOBA per batter and the statistics by the type of pitches, swing speed, and launch angle. We also had an EDA where we had to give more importance to core metrics such as exit velocity, launch angle and swing speed since these metrics are considered to have the most impact on a batter's performance. In the EDA analysis we noted that batters with high exit velocities deliver more force on the ball from which generates more power and home runs. Further, batters who hit the ball with higher launch angle averages along with the best swing speeds saw greater volumetric wOBA or a better measure of worth at the plate.

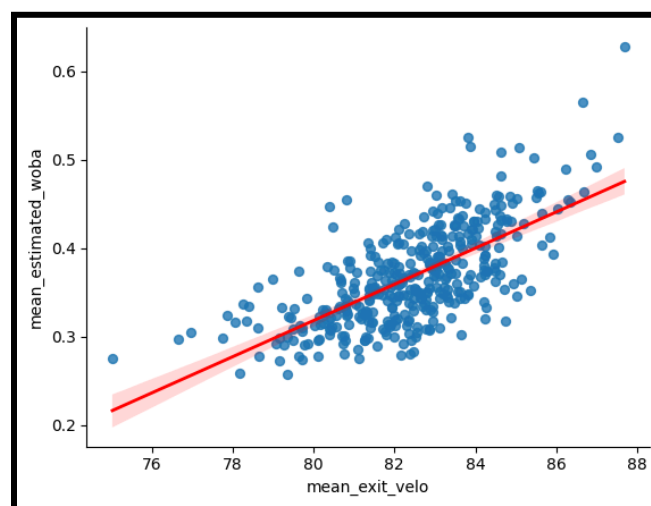


As we sifted through the data, we noticed a common pattern: Although many of the totals were led by already established superstars such as Aaron Judge or Juan Soto, there were a number of little known players with similar or better totals. Kerry Carpenter is one of those overlooked players. Carpenter plays for the Detroit Tigers and he has scored good performance statistics which could be of help to the team. Carpenter has great raw numbers but his statistics have not gotten the same level of hype as some other players in baseball, meaning the MLB can promote him more.

This paper has proposed three potential areas the MLB could tap into to find such a gem and market Kerry Carpenter. The first sector is hot prospects with premium skills, including outstanding barrel rates and outstanding wOBA but are not well-known yet. Such players, for instance, Carpenter, are usually underrated because of either focusing on the so called standard measures or focusing on already famous athletes such as Aaron Judge or Shohei Ohtani. Second, we seemed to discover that batters, whose swing speed falls at a top range when combined with the best launch angle, are likely to perform better. This swing mechanics and launch conditions relationship should be exploited in marketing communication strategies. The third opportunity we identified is to focus aspirations on such

batters who are successful against certain types of pitches. Through engaging most valuable players in pitches of their specialties, the MLB can develop more segmented advertisements that would capture the audience that has an interest with their favorite players, thus increasing the fan base.

Accordingly, we have five main recommendations to MLB; they all relate to the aggressive marketing of Kerry Carpenter. First and foremost, according to the level of fan adoration to the performance of MLB players, perhaps based on the similarity of Carpenter to other superior players, MLB needs to concentrate on those players with the underlying prospects though not familiar stars. Carpenter has done well on his exit velocity and launch angle, which improve performance and help the MLB to create new customers by pushing other people to look forward to Carpenter more. Second, we recommend that marketing players such as Carpenter should have strong swing speeds. Since Carpenter has good quality exit velocity, he proves to be a powerful hitter, the MLB needs to aim in media appeals to these strengths. Finally, we suggest that the MLB take advantage of high performers for individual matchups especially those who prosper against certain pitches. Another area of strength, though not from objective evidence, would be Carpenter's handling of breaking balls: he could easily be sold to fans as a hitter who shines under high pressure situations.



In support of these recommendations, the analysis of the data was categorized into several important steps. In the present study we power processed the dataset, which was obtained from Statcast, using Python programming language and the Pandas library. The key factors considered included the launch speed, exit velocity, swing speed, and launch angle. We aggregated the data by batter and summed the stats in order to find out which batters are good across all of these areas. We also estimated the average wOBA for each batter so we could give quantitative ranks of the players based on their performances. This allowed Kerry Carpenter to rank high in these metrics and put him in the top percentage of young hitting talents with regard to his normalized exit velocity and launch angle. In addition, our comparison with other Carpenter performances showed that Carpenter has better performance against the breaking pitches, which indicates that he can be positioned as a specialized hitter who can be marketed as a player who is very effective when used in certain conditions.

The data analysis was done on the Python programming language; for data manipulation and processing, Pandas was used. We applied functions such as “groupby”, “agg” and “rank” to organize the data for players and pitches, and to compute ranking depending on the performance indicators including and not limited to estimated wOBA, exit velocity, and swing speed. We used Statcast data for analysis, after data cleaning and filtering, we were left with variables crucial to help find the right players to market. With promoting players like Kerry Carpenter and other newcomers, MLB can set up new generations of players and the new unique interest for the game.

Thus, the MLB should heavily market someone like the young hitter, Kerry Carpenter of the Detroit Tigers. When targeting fine players such as Carpenter with unimpeachable stats, but little publicity, the direction of expansion and such games’ development lies in the future in the MLB. This will eventually assist in expanding the supporters database that is very important in coming up with new stories that will be of importance to the supporters old and new. The MLB has gone looking for the next big star, and the numbers show that Kerry Carpenter has the potential to be just that, if the marketing campaign for him is executed properly, Carpenter could be the next big thing in baseball.