

# Evaluating Statistical Models for Predicting Next-Season Wins Above Replacement

Group 3

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```
library(knitr)
library(ggplot2)
```

#Introduction

## Background and Motivation

Wins Above Placement (WAR) is one of the most widely used metrics in modern baseball analytics. It estimates the total number of wins a player contributes to their team compared to a player who could be readily called up from the minor league, or signed for a low cost. Since WAR combines many aspects of performance: hitting, defense, positional value, and baserunning, it is viewed as a comprehensive measure of a player's overall value.

##Purpose

##Data Cleaning

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##Methods

##OLS

The Ordinary Least Squares ...explain the method...

Our OLS model outputs an  $R^2$  value of 0.8219. Meaning that it explains about 82% of the variation in WAR using batting statistics.

It also outputted a Residual Standard Error of 0.73, confirming the model's predictions are consistently within about 0.7-0.8 WAR of the true value

##LASSO

Least Absolute Shrinkage and Selection Operator... explain

Our LASSO model performs both regulariztion and feature selction of the data #BOOSTING

##GRAPHS

##OLS Scatterplot

##LASSO Scatterplot

##BOOSTING Scatterplot

##Comparison BAR graphs

##CONCLUSION