The purpose of this experiment is to compare a purely statistical approach to the current methodology used to select All Stars, which consists of voting from fans, media, players, and coaches. This study takes the statistics from the 2021-2022 NBA Season and uses them to predict the All Stars for the 2022-2023 season. All players who play more then a certain amount of minutes per game were selected as observations that fit the criteria mean, with their stats being compared to one another to determine the difference between All stars and non All stars. A linear discriminant analysis (LDA) was used to classify whether a player was an All star or not, based on 10 selected predictor variables. An LDA was used to help reduce the dimensionality of the data while preserving the information used to distinguish between classes, leading to a more accurate and efficient model for the study. Of the 27 players selected for the 2023 All Star game, the model predicted that 18 players would be selected, while the other 9 would not. The model also predicted 5 players that were not originally nominated to be All Stars would be considered using the model.