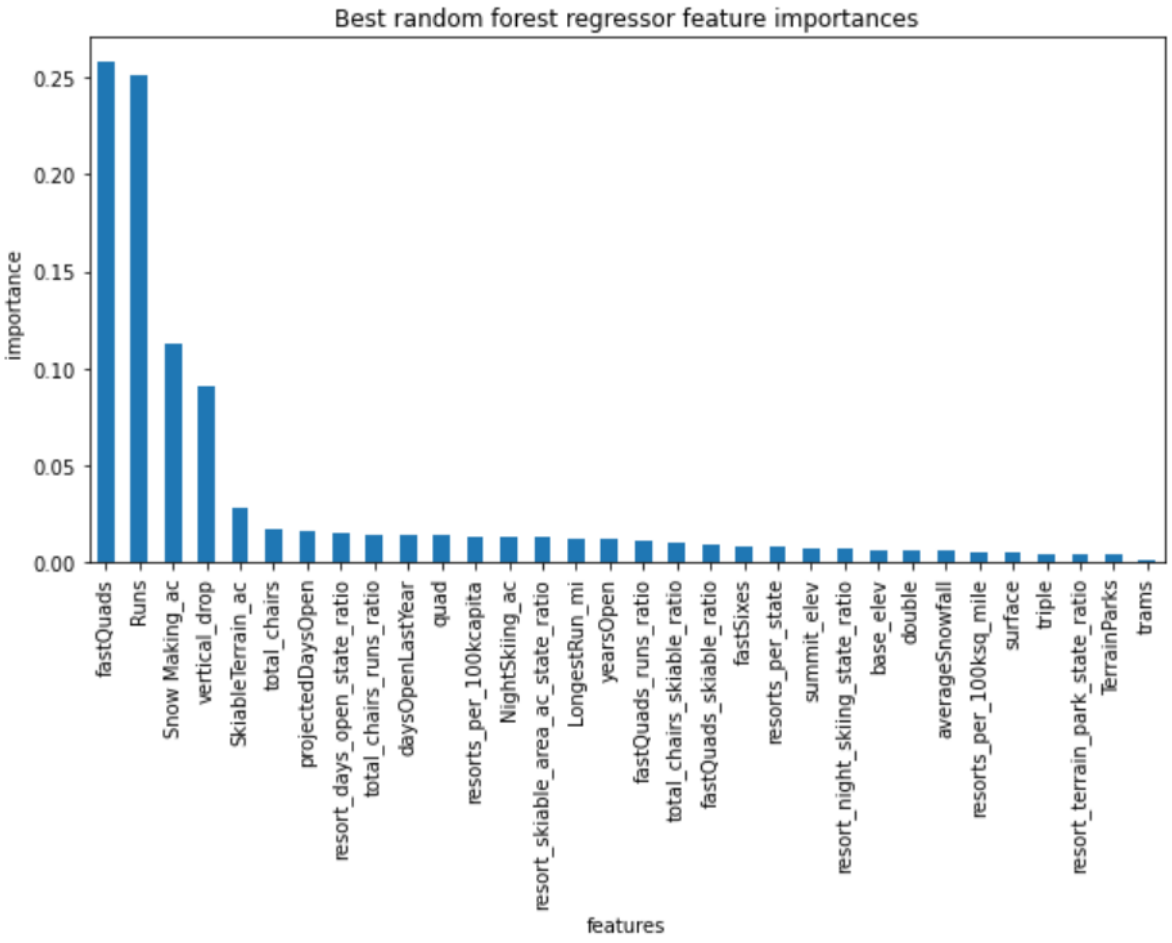
Big Mountain Resort Final Report and Recommendations

Big Mountain seeks to establish whether they can charge a higher ticket price and to make a data-informed decision. Data about ski resorts in the United States informs the analysis and offers comparison - how do features of ski resorts influence choices about ticket price? All data across states and regions ended up being relevant and in similar markets, even after confirming if any were dissimilar as far as statewide population and acreage data.

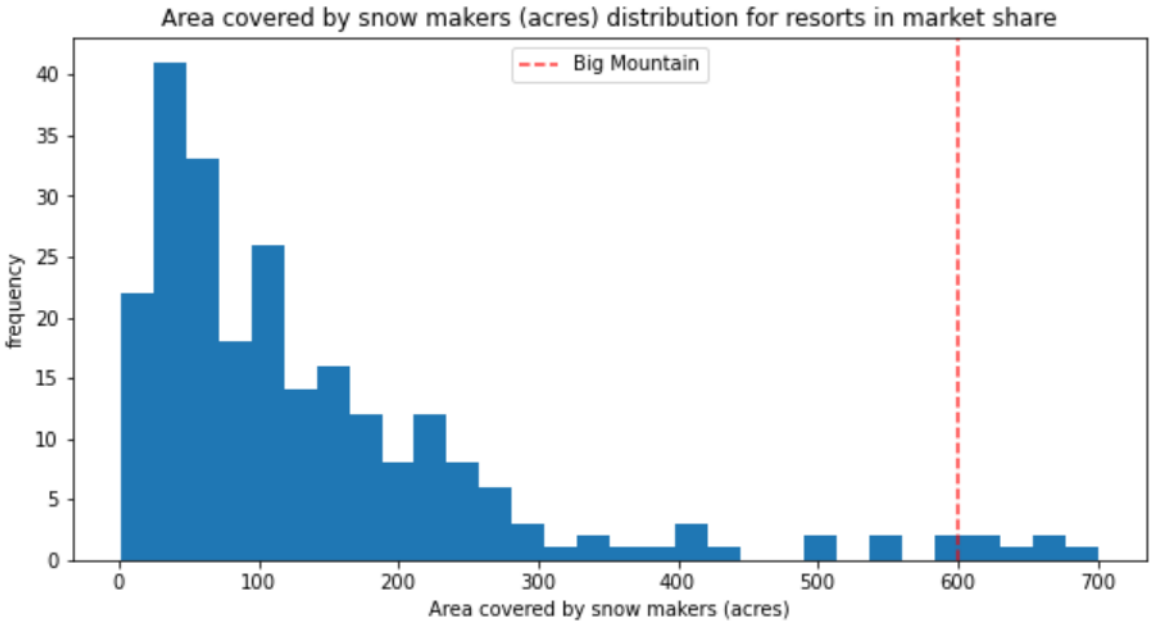
Big Mountain Resort can raise their prices. Currently the resort charges $81, but even without deep comparative analysis of other resorts, the modeled price is $95.87. Even with the expected mean absolute error of $10.39, there is room for a price increase. And in comparison to other resorts, Big Mountain tends to be underpriced.

The most important features associated with ticket price are: amount of fast-quads, runs, snow-making, and vertical drop (see “Best random forest regressor feature importances” below).

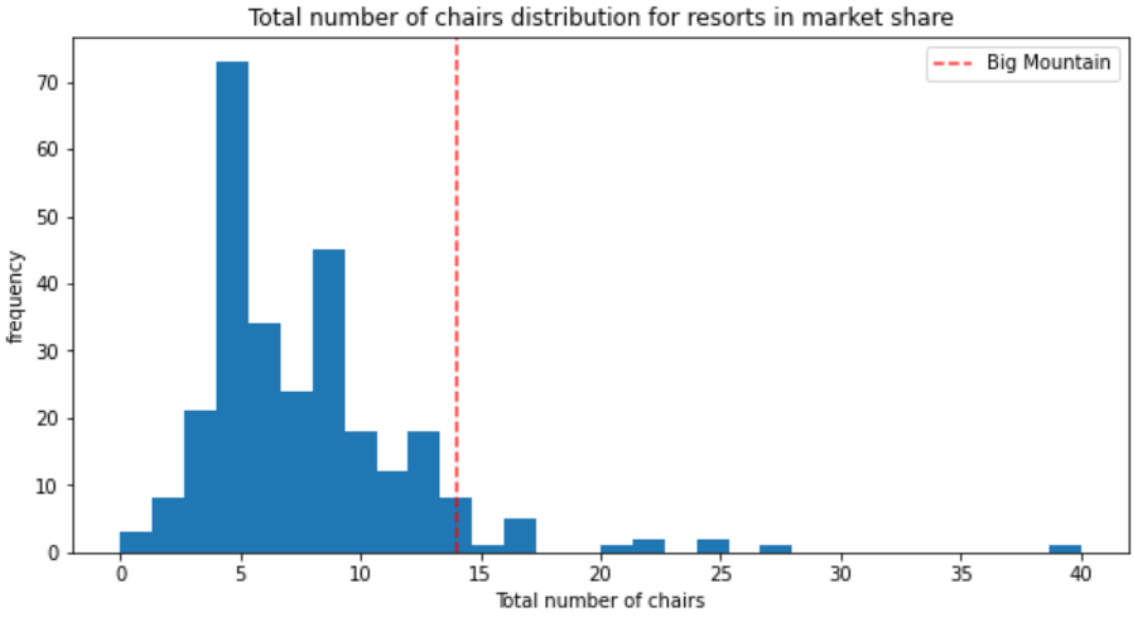


The most efficient and most applicable model ended up being a random forest regression informed by a first-pass linear regression. Histograms of the random forest regression as follows

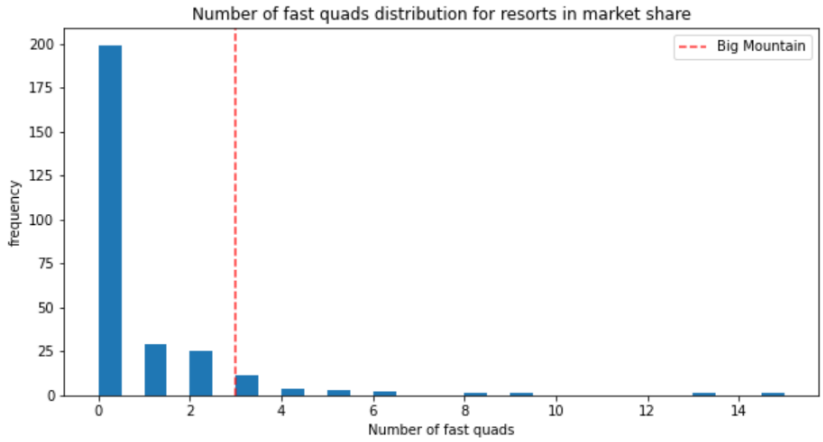
show that Big Mountain has many more high quality and desirable features in comparison to other resorts: large snow-making area, fast quads, high total number of chairs, number of runs. It also has one of the longest runs.



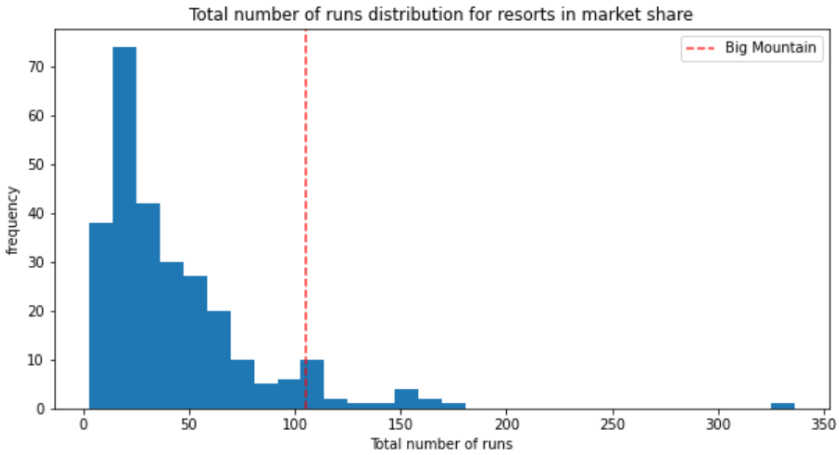
Big Mountain is very high up the league table of snow making area.



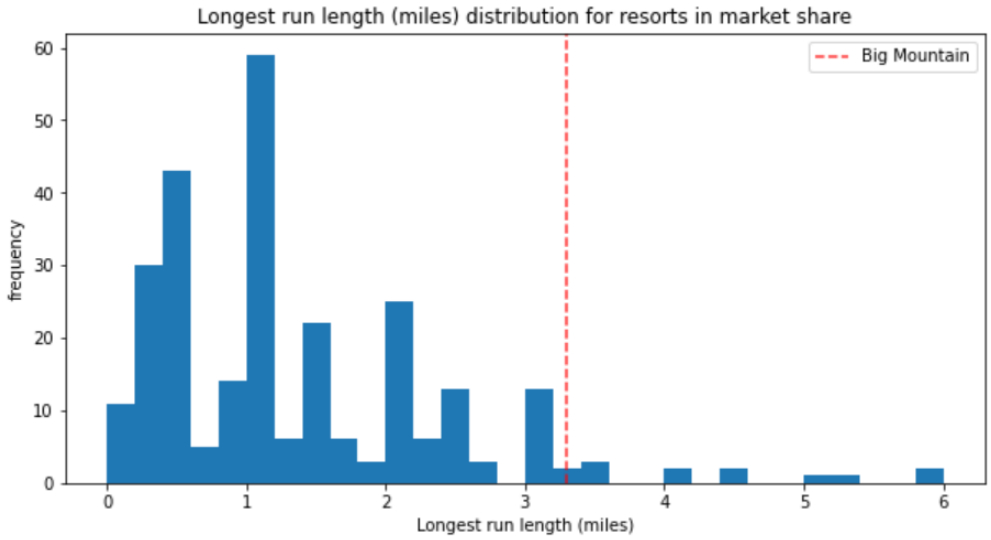
Big Mountain has amongst the highest number of total chairs, resorts with more appear to be outliers.



Most resorts have no fast quads. Big Mountain has 3, which puts it high up that league table. There are some values much higher, but they are rare.



Big Mountain compares well for the number of runs. There are some resorts with more, but not many.



Big Mountain has one of the longest runs. Although it is just over half the length of the longest, the longer ones are rare.

Big Mountain suggests a number of scenarios to raise prices without losing customers. Of the suggestions, *the model and data analysis shows that they can add a run, increase the vertical drop by 150 feet, and install an additional chair lift.* This scenario increases support for ticket price by $1.99 to a total of $82.99 per ticket, and over the season this could be expected to amount to $3,474,638 dollars.

Further work can be done on this question. We are looking at data from Big Mountain's competitors but if we assume they are good at pricing their value, we still lack data about their operating costs. That is a big question. As the last steps also proved, the data are also missing information about competitor visitor numbers. It also looks like Big Mountain could add a run and increase the vertical drop and add another chair list, which means new construction - how much would that cost? It would also be helpful to have some historical and contextual information - where did the current ticket price come from, and how was it established?