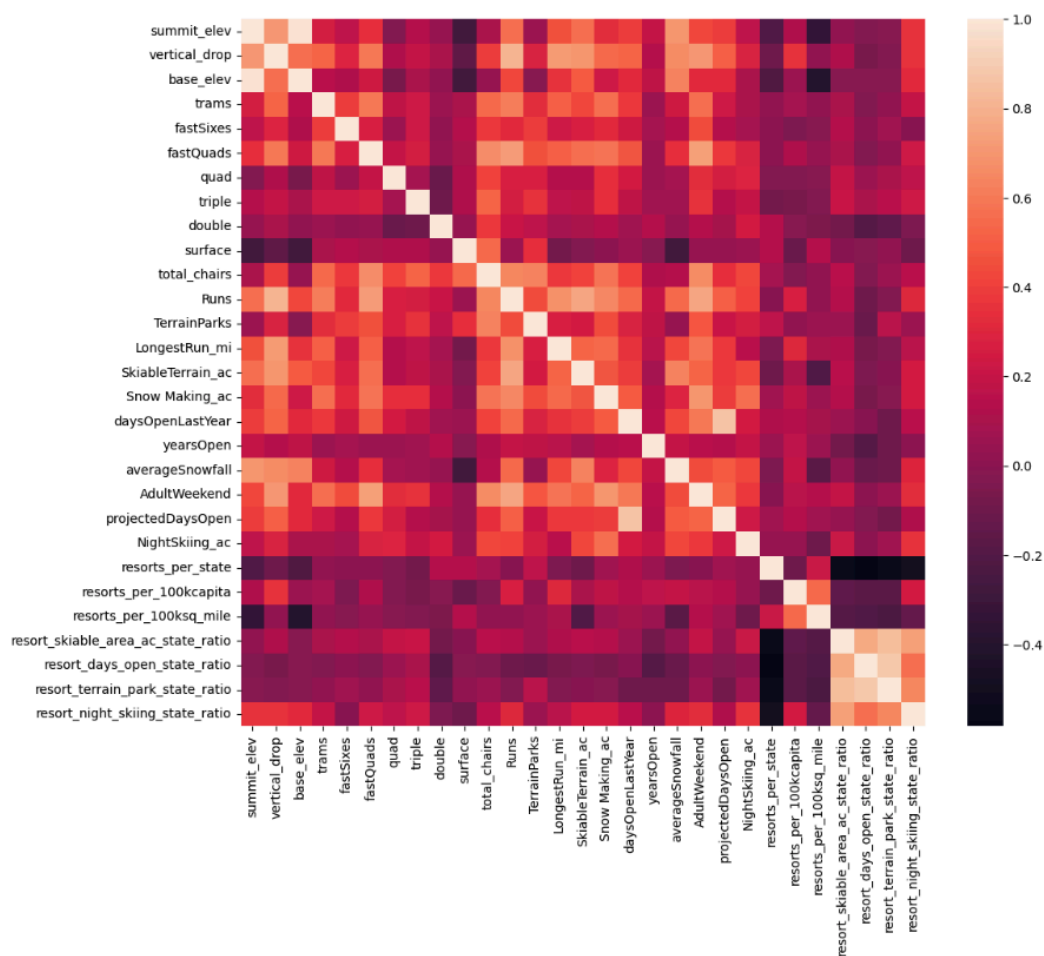


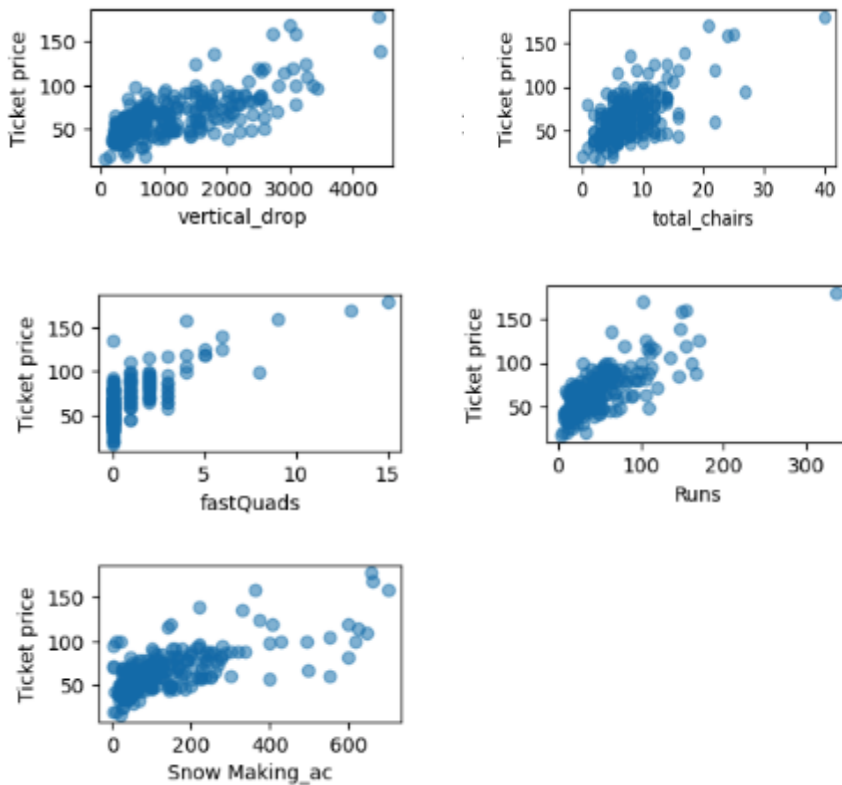
Big Mountain Resort (BMR) hosts about 350,000 skiers and riders of all levels and abilities annually. BMR has based their price solely on the market average. However, this approach limits investment strategy. BMR wants guidance on how to select a better value for their ticket price. We wished to explore what opportunities exist for Big Mountain Resort to increase their annual revenue for the upcoming ski season.

Data was collected, organized, and cleaned in order to make sure it was well-defined. Adult Weekend Ticket Prices was the feature homed in on in order to create our pricing model.

Exploratory analysis of the cleaned data revealed a correlation between Adult Weekend Ticketing Price and FastQuads, Vertical Drop, Runs, Total Chairs, Snowmaking_ac, and Resort_night_skiing_ratio, respectively. One can see this in the heatmap below.



The following scatterplots confirm the results of the heatmap!



Thus, we used these features to design and train a random forest regressor model. From this model, one sees that the modelled price is \$95.87 while actual price is \$81.00. This means that Big Mountain Resort has been undercharging!

The next question should be is the modelled price high enough? Utilizing our model, we can see that adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift gives Big Mountain Resort the ability to raise its prices an additional \$1.99, and thus increase revenue by \$3.5M. This would offset the additional annual operating costs of \$1.5M and bring gross revenue to \$1.9M!

In conclusion, our model highly recommends raising ticket prices. However, in order to maximize profits, investing in runs, vertical drops and chair lifts should be considered.