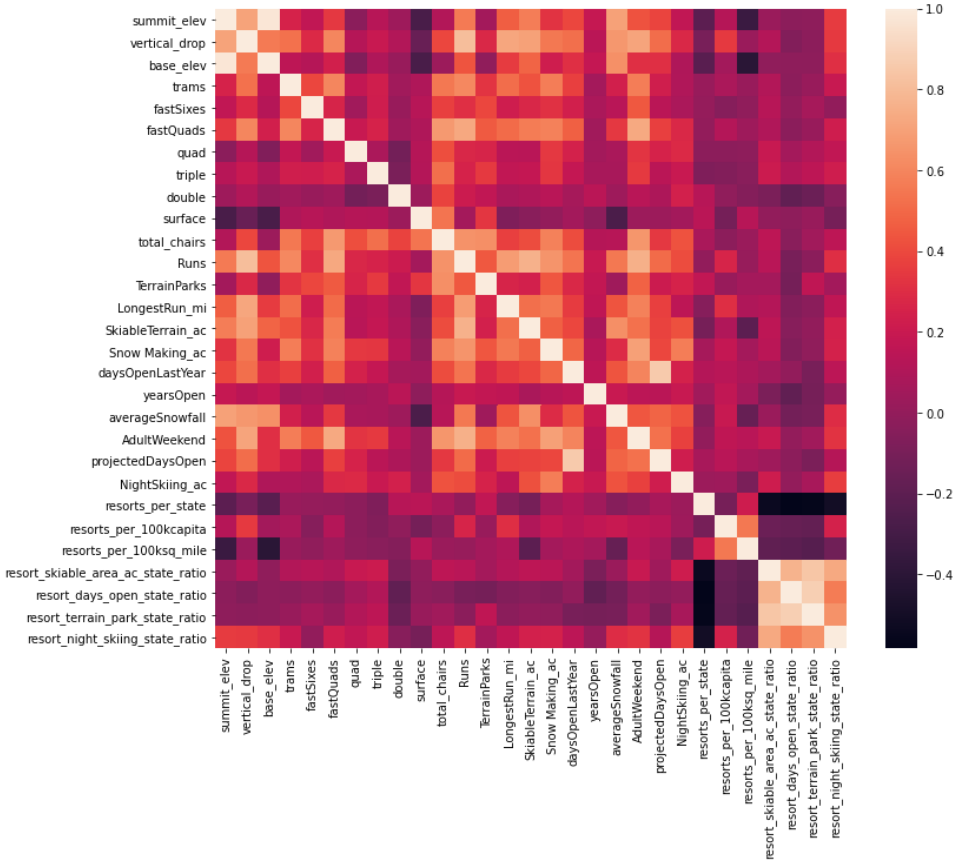
Big Mountain Resort offers spectacular views of Glacier National park and Flathead National forest, with access to 105 trails. Every year about 350,000 people visit Big Mountain to ski or snowboard. Big Mountain offers 11 lifts, 2 T-bars, and 1 magic carpet. The new chair lift, to help increase distribution of visitors, increases the resort's operating costs by $1,540,000 per season. Currently big Mountain resort charges $81 per ticket and the following findings will examine if the resort can increase their ticket price based on the features available and by how much. The findings in this report is to help executives make a decision regarding increasing the revenue for the resort.
The distribution of resorts by region and state didn't have any significant relation with the ticket price, therefore the geographic location of the resorts wasn't taken into consideration with this pricing model and the pricing model treats all states equally.

By looking at the correlation heatmap below, the following can be observed:

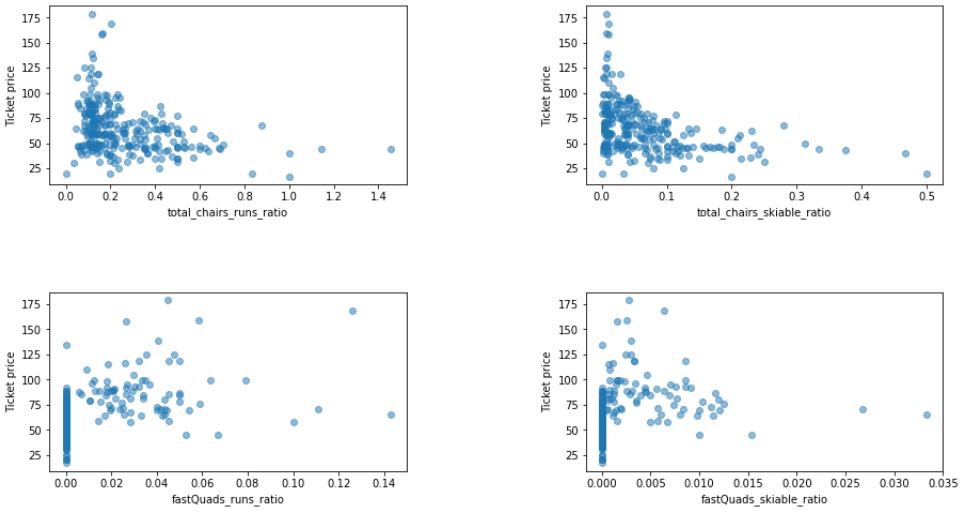
- **Resorts_per_100kcapita, resort_skiable_area_ac_state_ratio, resorts_per_100ksq_mile** and **resort_terrain_park_state_ratio** are negatively correlated with the **AdultWeekend -** meaning the Adult weekend ticket price is not affected by the ratio of number of resorts to the population, the ticket price is not correlated to the resort skiable area or the number of resorts in a region.



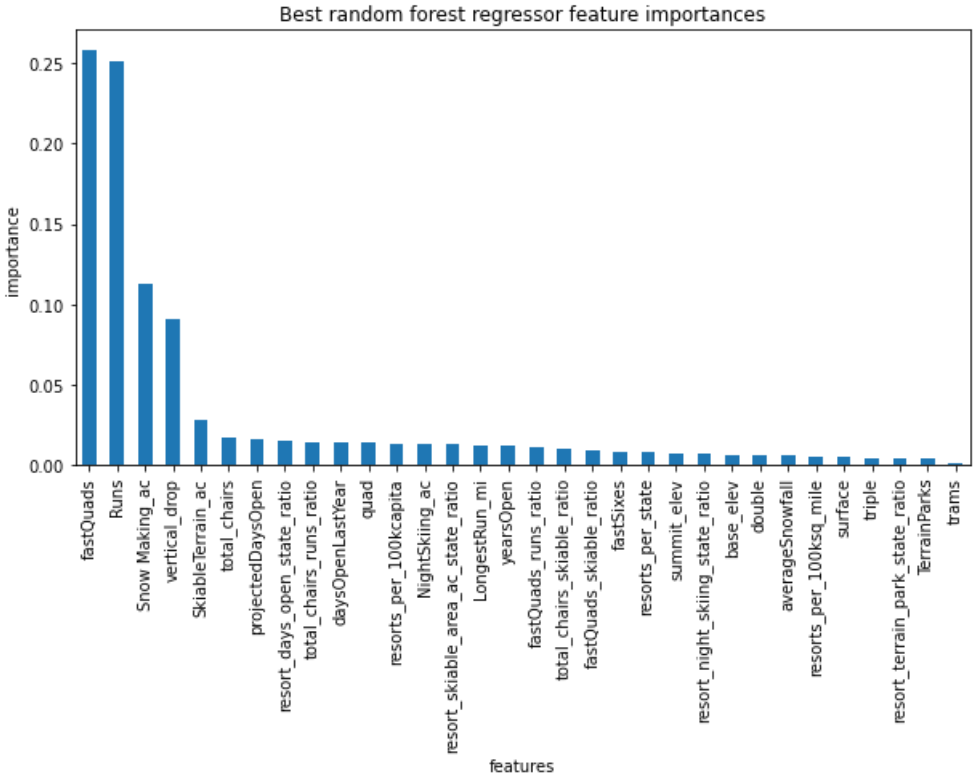
- **AdultWeekend** ticket price is positively correlated to **fastQuads**, **Runs** and **Snow Making_ac**
- **Resort_night_skiing_state_ratio** is the most feature that is correlated with ticket price.

The following scatterplots against ticket price support the correlations to ticket price that were observed from the heatmap provided. As the total number of chairs increase, relative to the number

of runs, ticket prices significantly drop. We can also observe that having no fast quads may limit the ticket price.



The top four features are: fastQuads, Runs, Snow Making_ac and vertical_drop.



Based on the modelling the suggested ticket price is $95.87. There is room to increase the price even with the $10.39 error. Big Mountain's facilities are very highly rated when compared with all resorts across the United States:

- The resort is doing well for vertical drop, only a few resorts have a greater vertical drop.

- The resort has one of highest snow making area, among the highest number of total chairs.
- Most resorts don’t have fast quads, Big Mountain has 3.
- The resort has a high number of runs (a little over 100 while many resorts have less than 50).
- Big Mountain has one of the longest runs.
- Almost all resorts don’t have trams including Big Mountain.
- Lastly, Big Mountain is one of the few resits with the largest amount of skiable terrain.

The scenario of adding 1 run, increasing the vertical drop by 150 feet and installing an additional chair lift allows for increasing the ticket price by $1.99. This will increase revenue by $3,474,638