Using a dataset on Ski Resort facilities across the United States, we have designed a model that accurately predicted what a typical Ski pass ticket price would be. Using our model, we find that Big Mountain could significantly increase their bottom line by implementing more in the areas of adding more vertical drop, some runs, and chairs.

Figures 1, 2, 3, 4, 5, and 6 all represent resort facilities typically positively correlated with increased ticket price and in which Big Mountain Resort is a high performer.

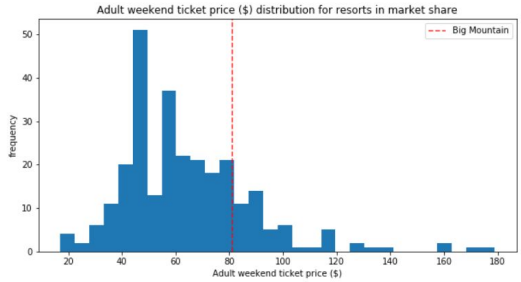

Figure 1. Adult weekend ticket price nationally

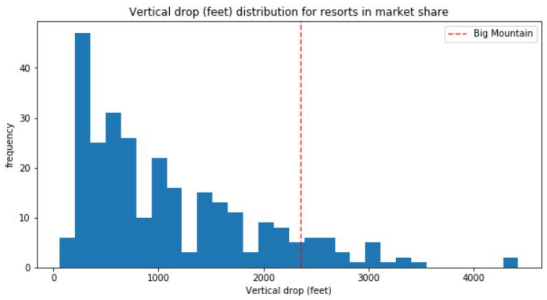

Figure 2. Vertical drop

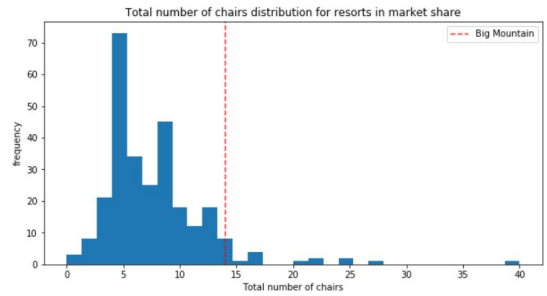

Figure 3. Total number of chairs

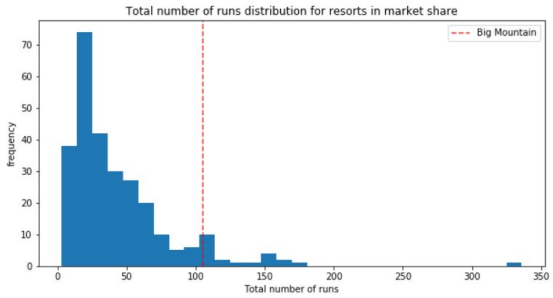

Figure 4. Total number of runs

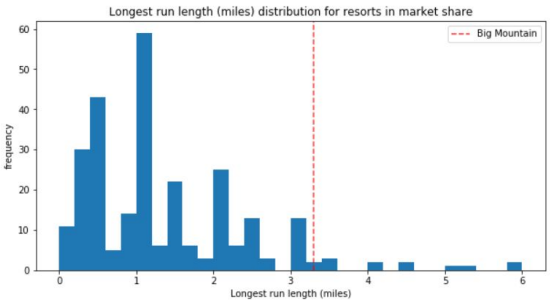

FIgure 5. Longest run length

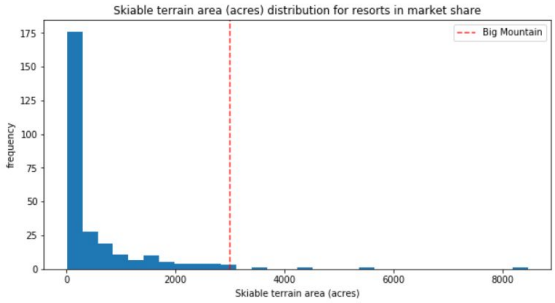

Figure 6. Skiable terrain area

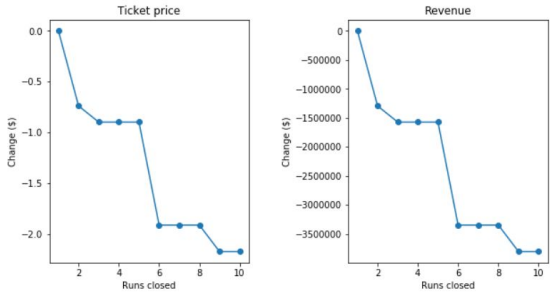

Figure 7. Runs closed vs Ticket price and Runs closed vs Revenue.

As shown in Figure 7., decreasing the Big Mountain Resort's number of runs can result in a susceptibility to decreasing ticket price and revenue. It should be noted this can occur in stages such that a decrease to three (3) runs has the effect of decreasing to five (5) runs.

```
#Code task 4#
#Call `predict_increase` with a list of the features 'Runs', 'vertical_drop', and 'total_chairs'
#and associated deltas of 1, 150, and 1
ticket2_increase = predict_increase(['Runs', 'vertical_drop', 'total_chairs'], [1, 150, 1])
revenue2_increase = 5 * expected_visitors * ticket2_increase
```

```
print(f'This scenario increases support for ticket price by ${ticket2_increase:.2f}')
print(f'Over the season, this could be expected to amount to ${revenue2_increase:.0f}')
```

```
This scenario increases support for ticket price by $1.10
Over the season, this could be expected to amount to $1927536
```

Figure 8.

Our model, as code demonstrated in Figure 8., shows an increase of one (1) run, 150 ft in vertical drop, and one (1) chair, can increase support for a ticket price increase of $1.10. Because we assume each visitor purchases 5 tickets and given 350,000 visitors per season, we expected about 1.9 million in additional income from this ticket price increase.