# Big Mountain Ski Resort

Ticket Pricing Model

# Problem Identification

- Offer pricing and future facility investment recommendations
- Develop a pricing model tailored to the ski resort market segment
  - Create a predictive model for ticket prices
    - Factors like the number of facilities or properties at resorts
- Deliver insights into visitor preferences for resort facilities
  - Identify the facilities that visitors are willing to pay for

# Key Findings and Recommendation

1. **Closure of runs**
   - Closure one run did not make difference while closure of two and three runs reduced the price and revenue
   - Closure of three, four, and five runs have the same price and revenue effect
   - Closure of six or more runs decrease the price and revenue for each run closed
2. **Addition of a run, Increase vertical drop by 150ft, and addition of a chair lift**
   - Supports ticket price increase of $1.99 and additional revenue of $3,474,638
3. **Addition of a run, Increase vertical drop by 150ft, addition of a chair lift, and addition of two acres of snow making**
   - Supports ticket price increase of $1.99 and additional revenue of $3,474,638
4. **Increase the longest run by 0.2 miles and additional snow making of 4 acres**
   - Results in no change in ticket price

# Recommendation

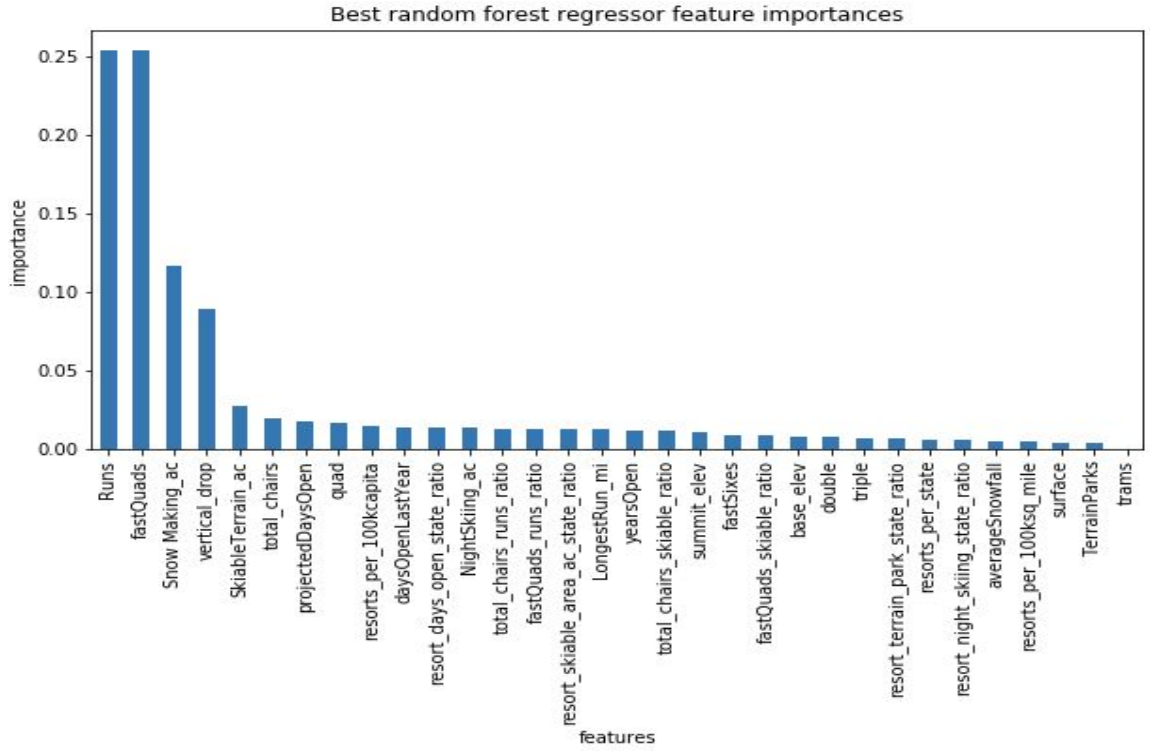
## Addition of a run, Increase vertical drop by 150ft, and addition of a chair lift

- Supports ticket price increase of $1.99 and additional revenue of $3,474,638

# Modeling Comparison

Linear Regression Model vs. Random Forest Regression Model

| | |
|---|---|
| vertical_drop | 10.767857 |
| Snow Making_ac | 6.290074 |
| total_chairs | 5.794156 |
| fastQuads | 5.745626 |
| Runs | 5.370555 |
| LongestRun_mi | 0.181814 |
| trams | -4.142024 |
| SkiableTerrain_ac | -5.249780 |



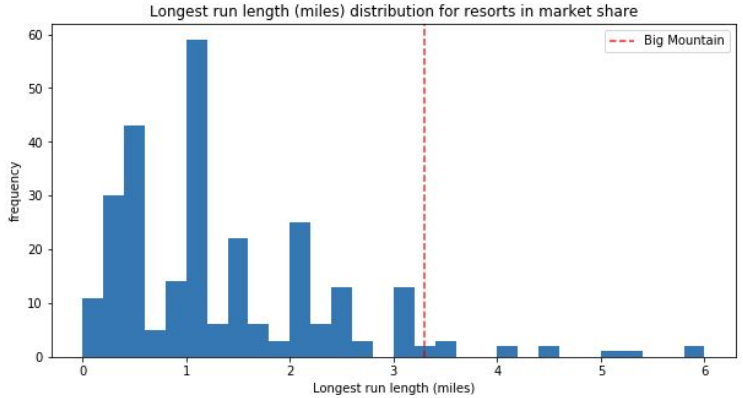

( MAE, std) 11.79, 1.62 vs. 9.54, 1.35

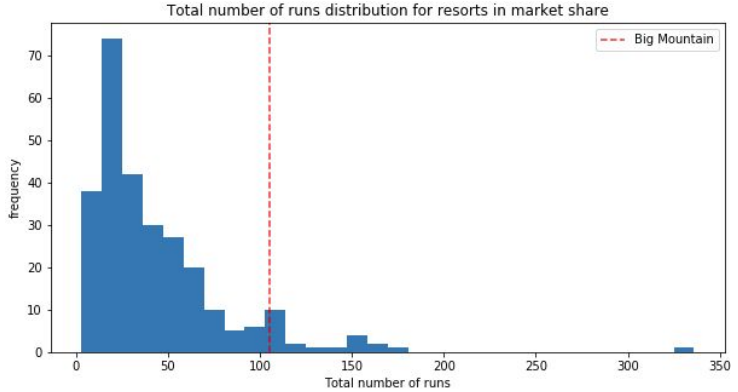
# No need for more training data

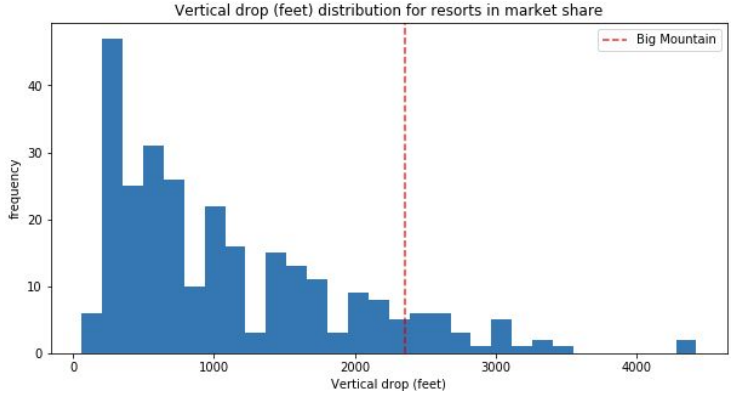
# Modeling Data

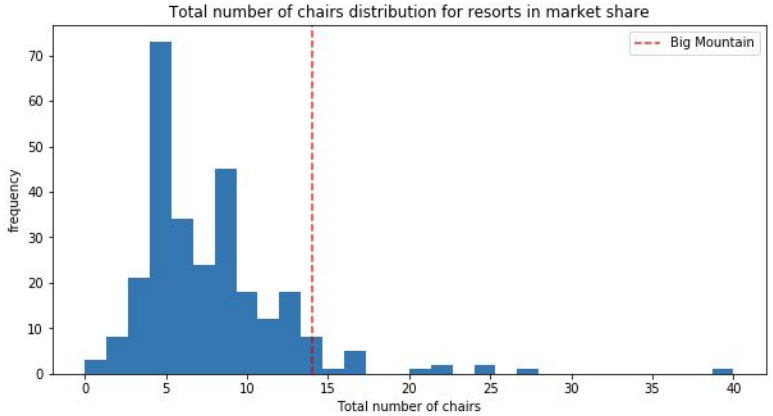
- Modelled price is $95.8 vs. actual price $81.00
  - MAE = $10.39 suggests there is room for an increase
- Pricing Assumptions
  - Other resorts set their prices according to the market
  - Big Mountain appears to be charging much less than prediction suggests
  - Is our model lacking some key data
    - Number of visitors
    - Number of tickets bought by each visitor
    - Operating Costs

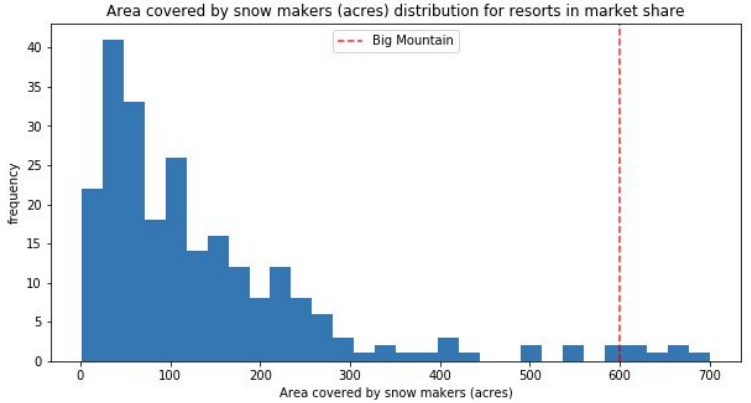
# Big Mountain resort vs others important features comparison

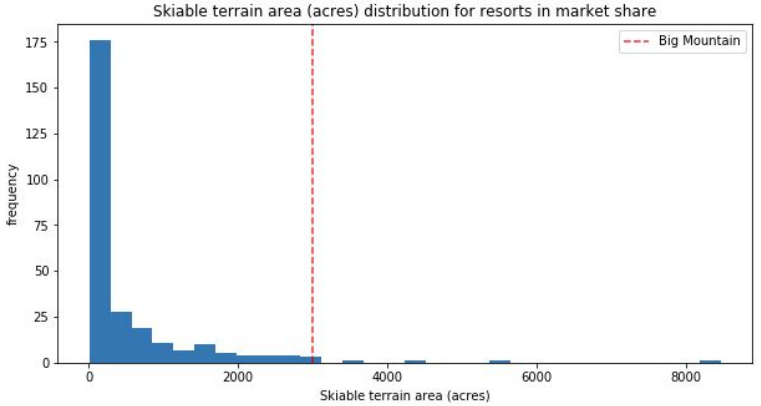


# Summary

- Big Mountain Currently ranks among the top resorts in all the important features except for the number of trams

- Proposed Scenarios
  - Closure of one run
  - Closure of upto five runs
  - Addition of a run, Increase vertical drop by 150ft, and addition of a chair lift
- Addition of a run, increase of vertical drop by 150ft, and addition of a chair lift will provide the opportunity to increase revenues by $3,474,638, however the associate increase in cost must be considered.