Big Mountain Resort Price Modeling

Problem identification

Pricing strategy so far:

charge a fixed premium above the average market price

Problem:

- Relative importance of each facility unknown
- Which investments would be profitable (e.g. recently installed chair lift)? Which facilities could be closed down?

Problem identification

Goal:

1. Identify contribution of each existing facility to ticket price
2. Decide
    (a) whether to increase the price and/or
    (b) which facilities to shut down/extend and/or

Recommendation and key findings

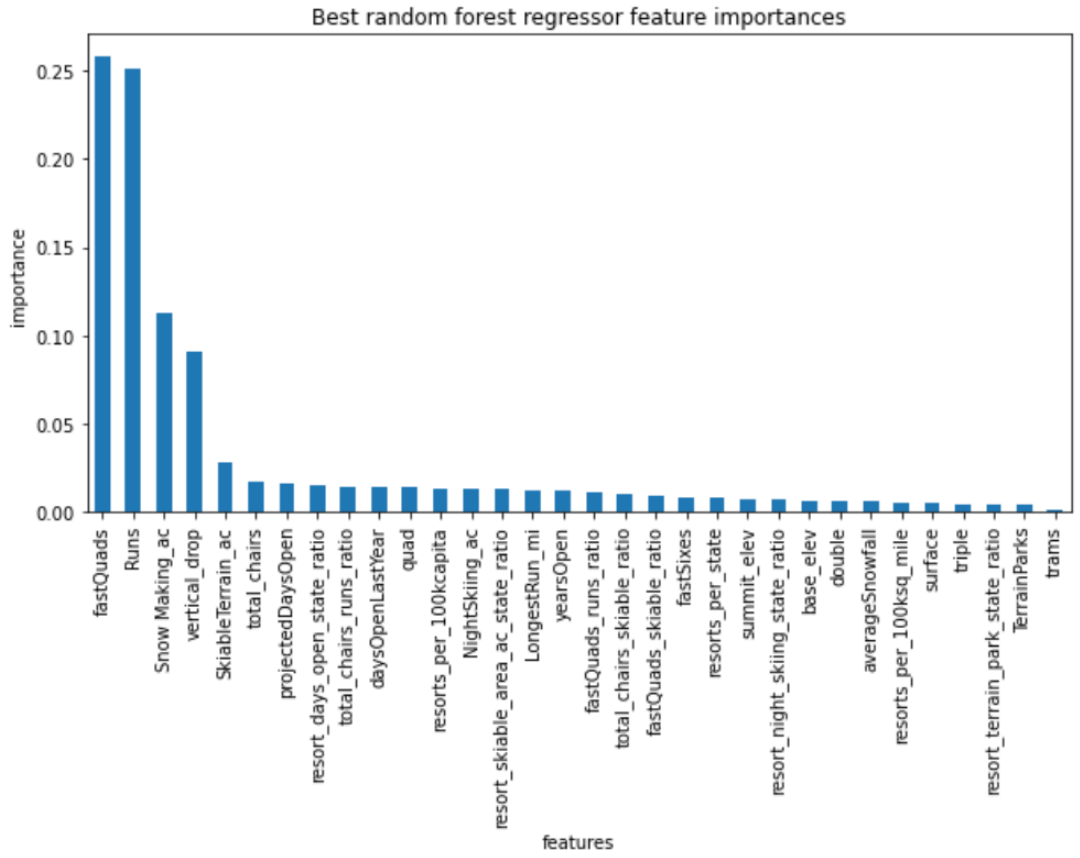
- Current adult weekend ticket price: **$81**
- We recommend raising the ticket price to **up to $95.87** based on our modelling results given Big Mountains facilities
- Seasonal revenues would increase by $**26.02m**
- Recommendations about shutting down or extending certain facilities requires more data on
  - operating and investment costs
  - visitors

Modeling results and analysis

- Dataset
  - All US ski resorts obtained from (source)
  - 330 resorts in 38 states and 27 features, including weekend and weekday adult ticket prices (no data on visitors), 277 after cleaning
- Modelling approach
  - Target value: adult weekend ticket price
  - Random forest model with 5 fold cross validation (best fit)

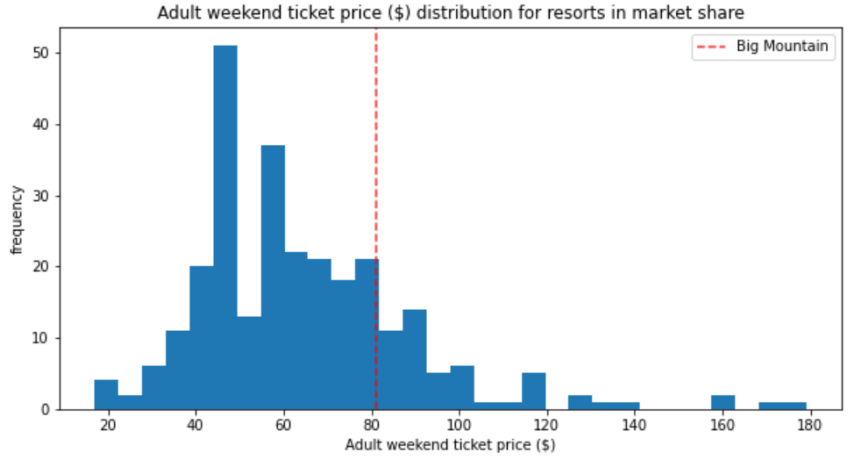
Modeling results and analysis

- Results
  - Most important predictors of price:
    - FastQuads
    - Runs
    - Snow Making_ac
    - vertical_drop.



Modeling results and analysis

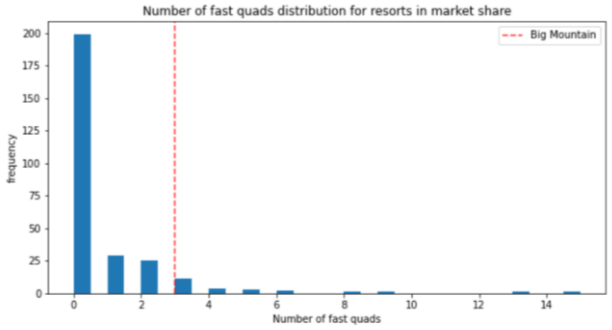
- Majority of prices across resorts: $25 to $100
- Big Mountain is in the upper third of price distribution



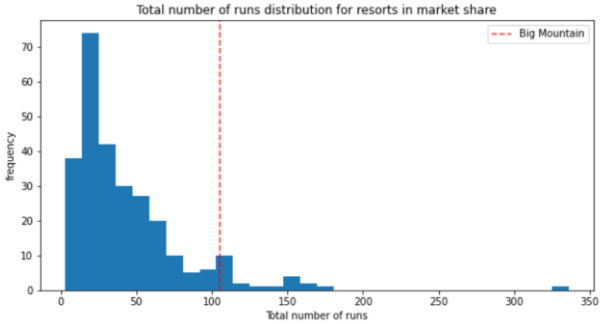
- But in the top for the most decisive features

→Price increase justified

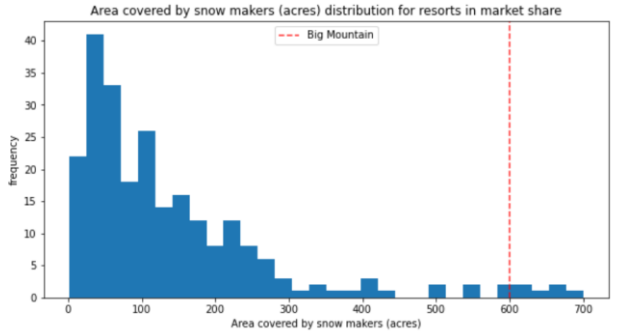
FastQuads



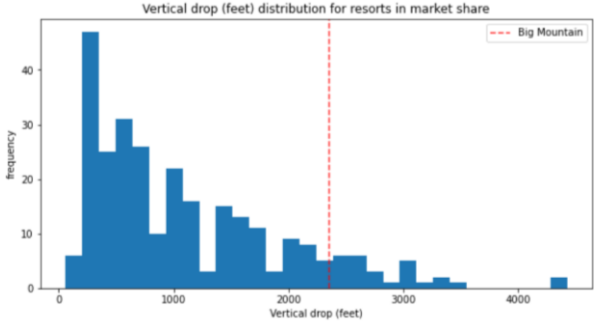
Runs



Snow Making Area



Vertical Drop



Modeling results and analysis

- **Scenario Analysis**

(1) Permanently closing down up to 10 of the least used runs

→ Seasonal revenues will drop by between $710,145 and $3.17m

(2) Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage

→ Seasonal revenues increase by $1,5m

(3) Same as 2, but adding 2 acres of snow making cover

→ Seasonal revenues increase by $1,7m

(4) Increase the longest run by 0.2 miles to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres

→ No change in seasonal revenues

Summary and conclusion

- Currently, Big Mountain is charging $81 per adult weekend ticket
- The modeling results based on the characteristics of other resorts suggest a price increase up to $95.87 would be justified
- Annual revenues would increase by $26.02m
- For a recommendation on which facilities to extend or close down, data on operating as well as investment costs would be needed
- Also, it is unclear how the number of visitors (assumed to be constant) would change if facilities were added or closed down