



# Big Mountain Resort



# Problem Identification

## Problem

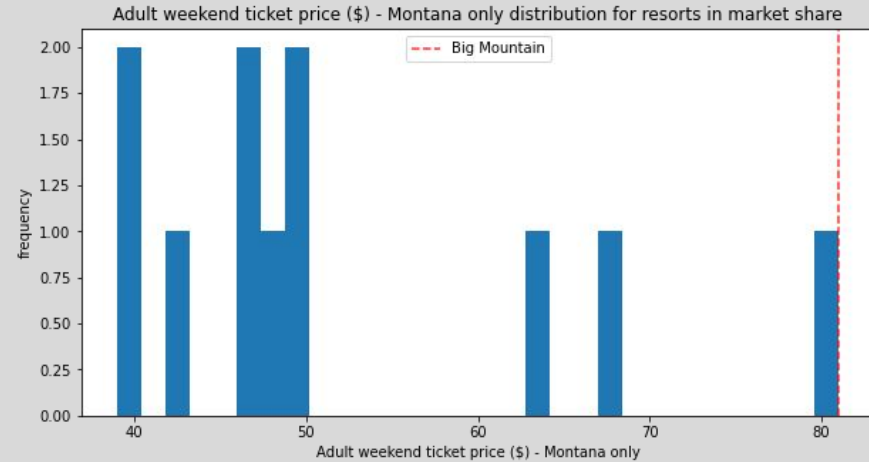
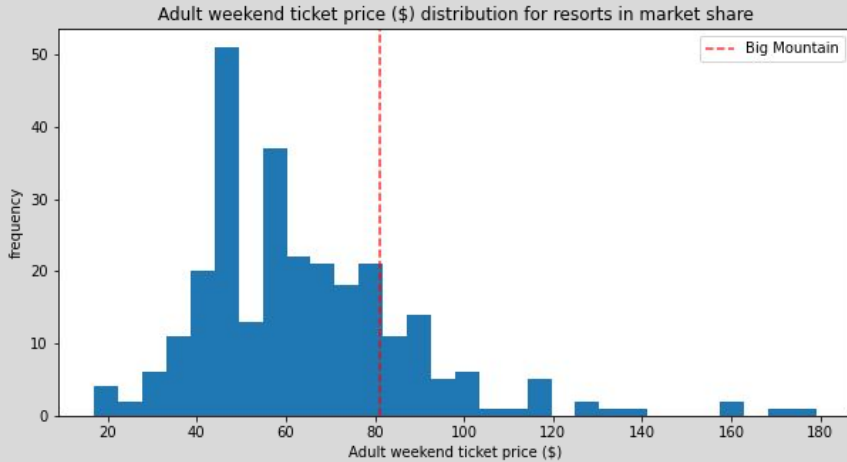
- Historical pricing was set using local market data
- Increase margins by reducing OpEx or investing in additional facilities

## Solution

- Create pricing model for more accurate results
- Identify key facilities for cost cutting
- Identify key facilities to invest in

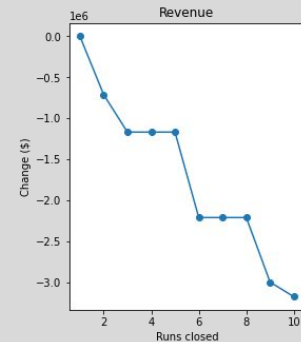
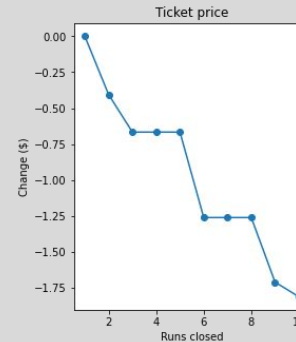
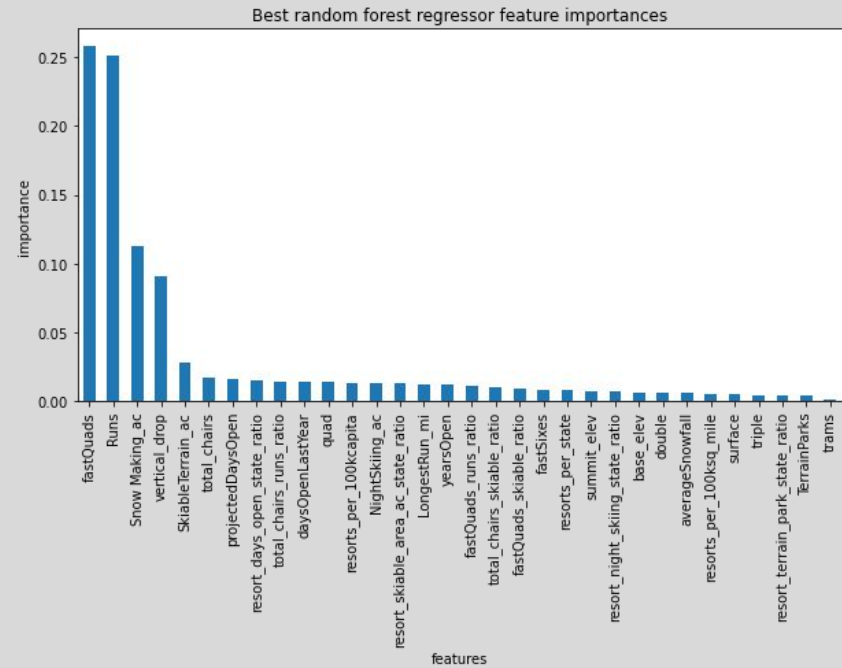
# Problem Identification

## Pricing of Big Mountain compared to all resorts and only Montana



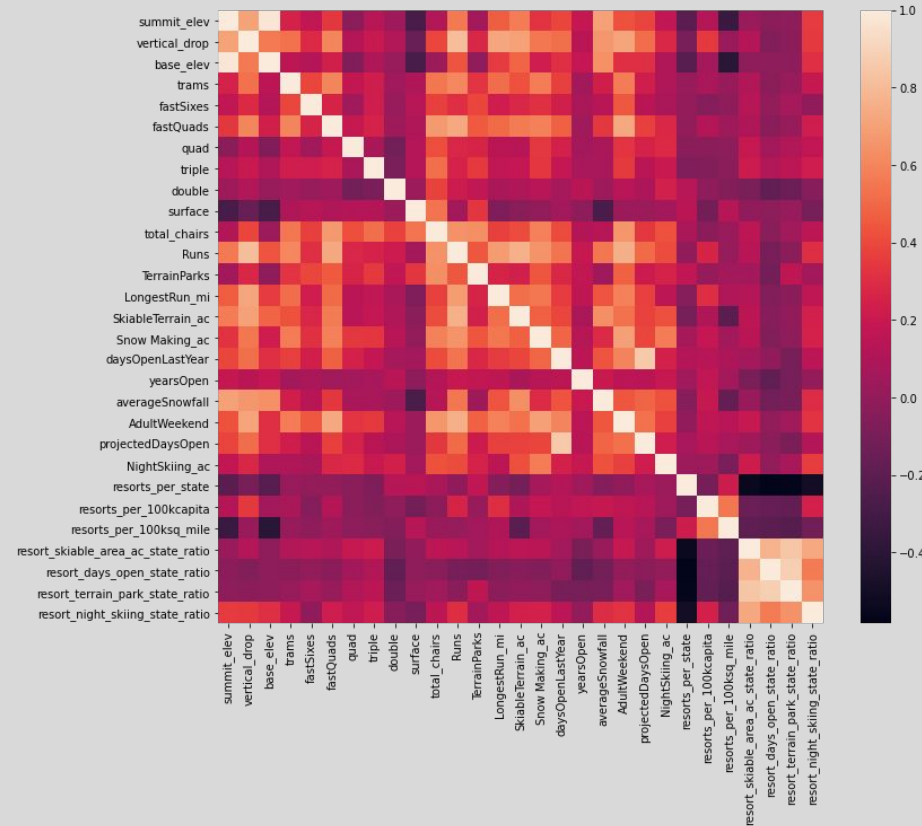
# Recommendations and Key Findings

- Model suggests price of \$95.87
  - Fast Quads and # of runs having highest impact on pricing
  - Other factors include vertical drop, snowmaking, total chairs, longest run, trams, and total skiable terrain
- Closing 1 run has no impact on ticket price
- Opening 1 more run and building a chairlift supports price increase of \$1.99



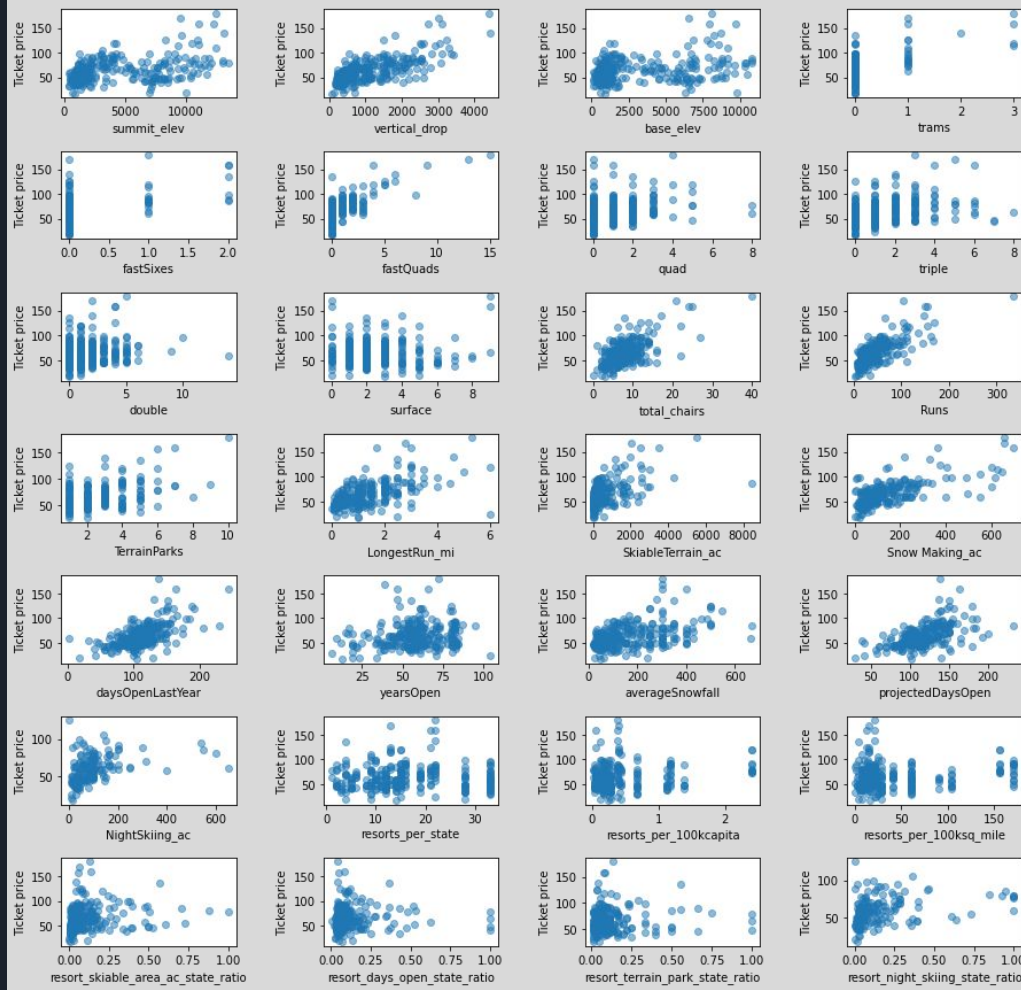
# Modeling Results And Analysis

- Several resort facilities are correlated with each other
- Fastquads, runs, snow making, runs, total chairs are well correlated with ticket price



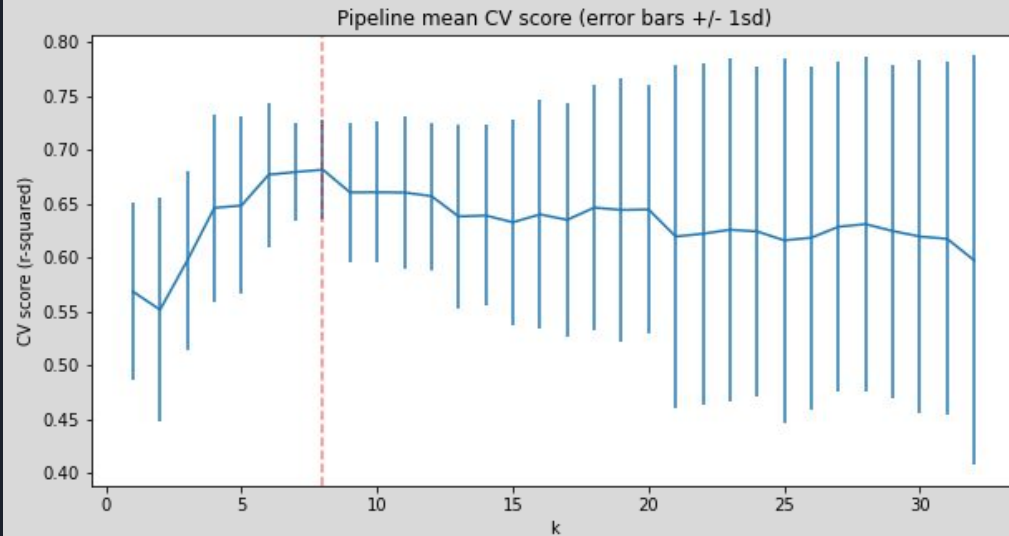
# Modeling Results And Analysis

- Strong positive correlations with vertical drop and fast quads
- Runs and total chairs still well correlated as well



# Modeling Results And Analysis

- Hyperparameter search suggests  $k=8$  gives best results
- Comparison of linear regression and random forest model shows better performance from random forest



## Model Performance

	Linear reg	Random forest
Mean absolute error	11.79	9.54



# Summary and Conclusion

- Random forest model implemented
- Suggests \$95 ticket price vs \$81
- Closing 1 run saves costs without changing ticket price
- Opening 1 run and installing 1 lift can increase price by \$1.99