



Guided Capstone Project Presentation



Big Mountain Resort



Problem Identification

Installation of additional chair lift caused extra operational cost that needs to be cover:

1. Cut unnecessary costs
2. Increase the ticket price

Problem Identification (Continue)

What features are correlated with more expensive tickets?

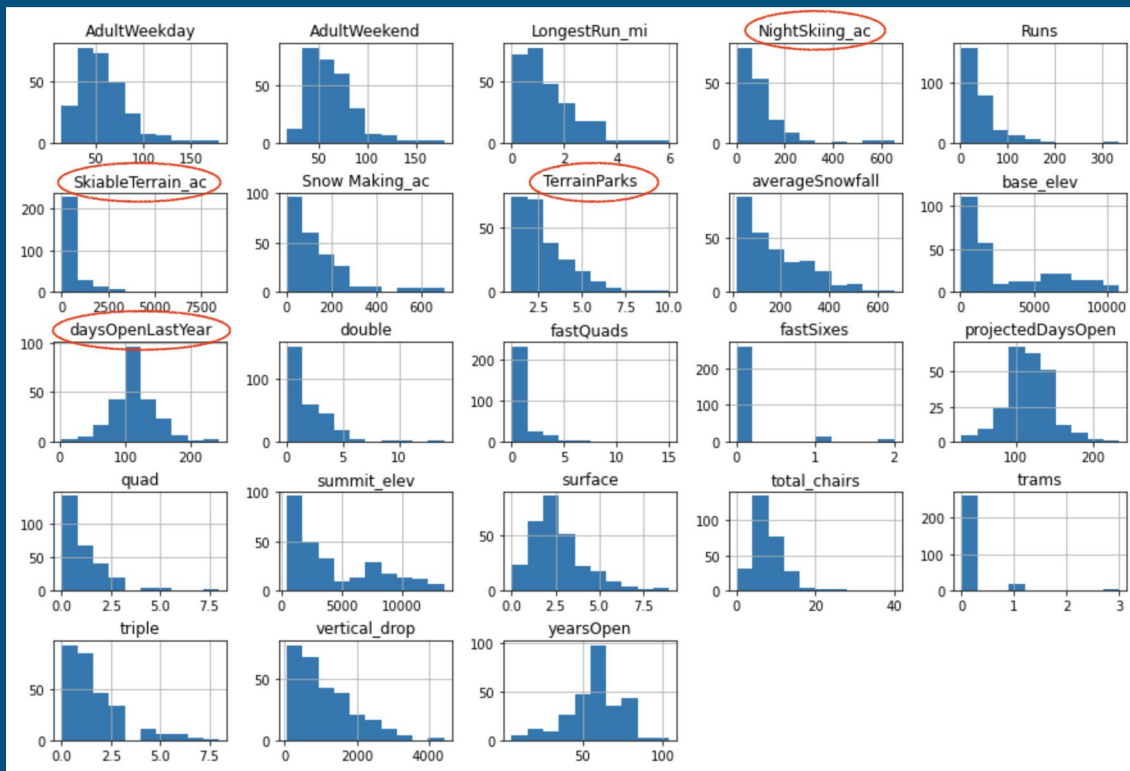
1. Resorts all around the country
2. Resorts only in the home state

How each of these features can affect the ticket price?

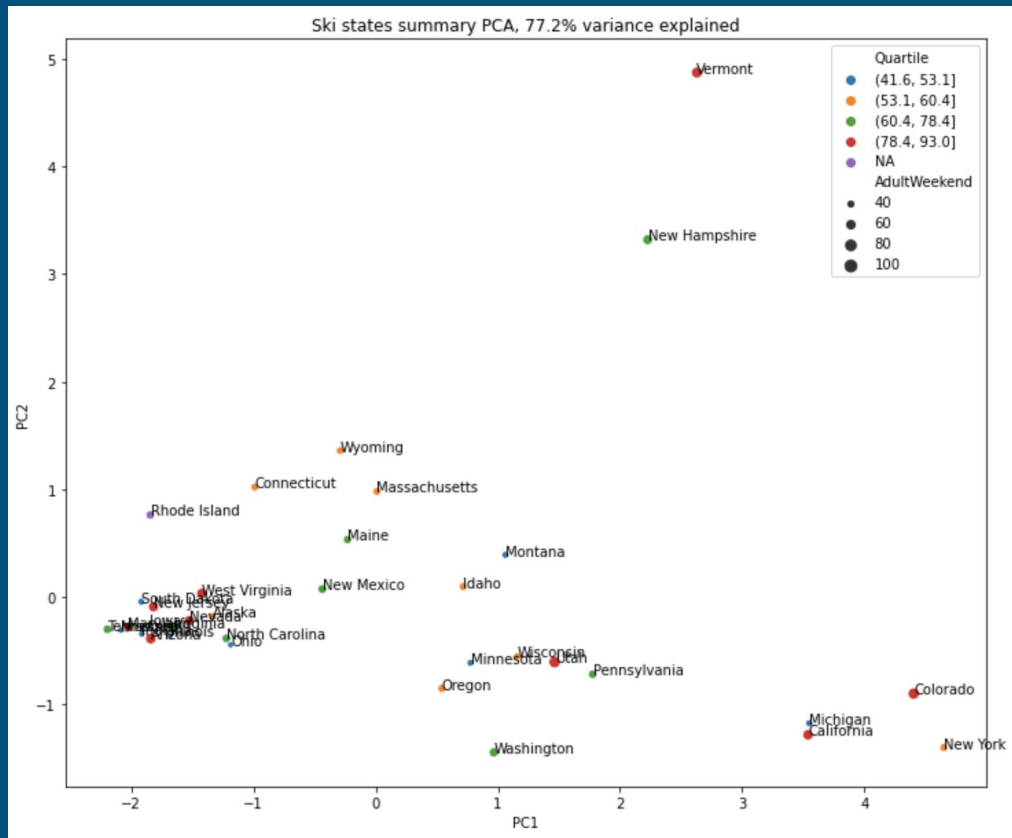
Recommendation & key findings

- All the features and required target values are available in correct format
- keep weekend prices as weekday prices have the more missing values
- Big Mountain resort is in the dataset without any missing value
- Missing values from either numeric or categorical fields are found, imputed or removed
- Unique data on rows not any missing values on columns
- Added two new columns, population and area

Modeling results & analysis



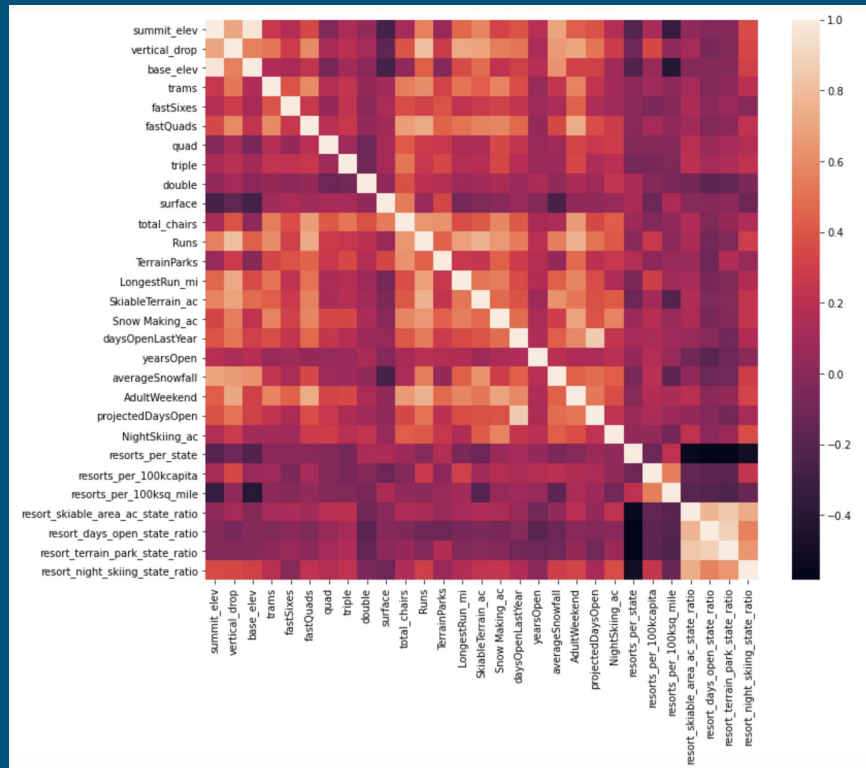
Modeling results & analysis (Continue)



Modeling results & analysis (Continue)

Highly correlated features with ticket price:

1. FastQuads
2. Runs
3. Snow Making_ac
4. resort_night_skiing_state_ratio



Modeling results & analysis (Continue)

Effective features and related coefficient based on linear model and **random forest model**:

vertical_drop 10.767857

Snow Making_ac 6.290074

total_chairs 5.794156

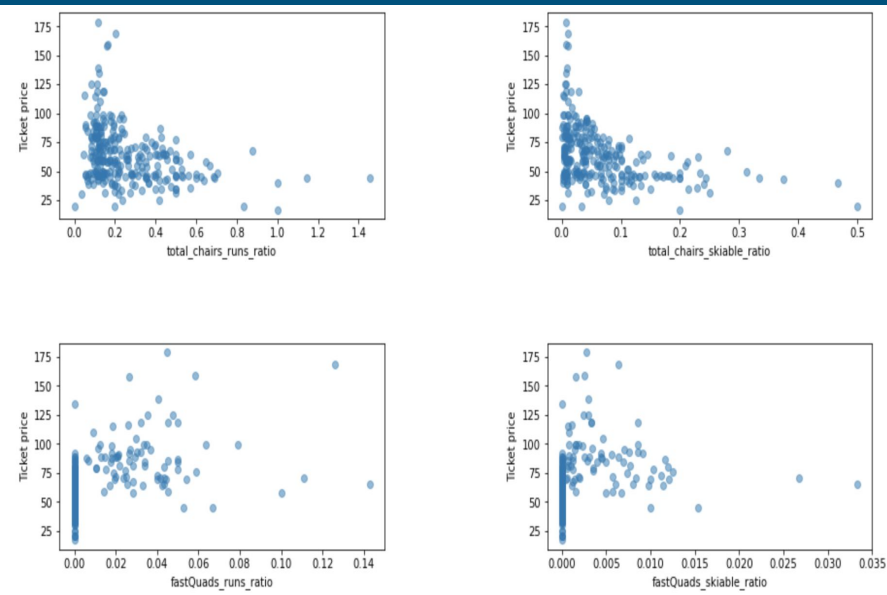
fastQuads 5.745626

Runs 5.370555

LongestRun_mi 0.181814

trams -4.142024

SkiableTerrain_ac -5.249780



Summary & conclusion

1. Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.
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 snowmaking coverage
3. Same as number 2, but adding 2 acres of snowmaking cover
4. Increase the longest run by 0.2 miles to boast 3.5 miles length, requiring additional snowmaking coverage of 4 acres

Second scenario supports the ticket prices by \$ 1.99 which results \$ 3,474,638 over the season

Thank you