**Steps**

1. Write a 1-2 page report summarizing your recommendations for Big Mountain Resort. Be sure to include the figures you created to back up your recommendations. See what should be included in [this rubric](https://docs.google.com/document/d/1-rfj7oz16egQZ1lhmtA1zPHKIECy68AnHcJYozNb84o/edit?usp=sharing).
2. Title this document "Guided Capstone Project Report"
3. Add your project report to your GitHub repo Guided Capstone folder
4. Submit a link to the folder below

The objective of this project was to predict the adult weekend ticket price through model comparison. After completing data cleaning and imputing missing values in both the training and test datasets, several key features emerged as significant predictors:

* + Vertical drop.
  + Snow-making area.
  + Total number of chairs.
  + Number of fast quads.
  + Number of runs.
  + Longest run length.
  + Presence of trams.
  + Skiable terrain area.

Subsequently, we tested Linear Regression and Random Forest models. Ultimately, the Random Forest model exhibited a lower cross-validation mean absolute error, nearly $1 less than the Linear Regression model. However, it was observed that the modeled price exceeded the actual price by over 15%, raising concerns about competitiveness as shown in the screenshot below.

A screenshot of a computer

Description automatically generated

A graph of a number of tickets

Description automatically generated with medium confidence

Given this discrepancy, Big Mountain Resort should explore scenarios aimed at either reducing costs or increasing revenue, or ideally, both. For example, based on the dataset, implementing changes such as adding a run, increasing the vertical drop by 150 feet, and installing an additional chairlift would only marginally increase the ticket price by $0.52, resulting in an expected revenue boost of $907,407 as depicted in the screenshot below.

A screenshot of a computer program

Description automatically generated

In summary, Big Mountain Resort should prioritize investment in three key features: runs, vertical drop, and chairlifts, as these are areas where the resort already ranks among the top competitors. By enhancing these features, Big Mountain can further solidify its position in the market and potentially attract more visitors.