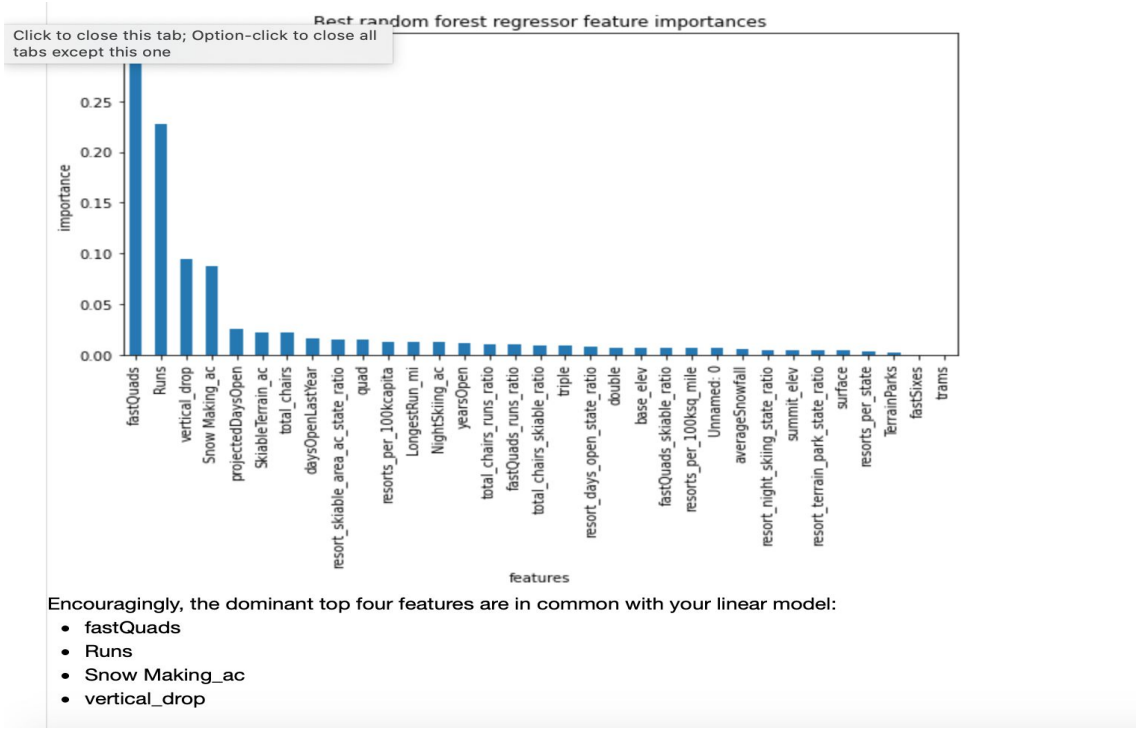
Guided Capstone Project Report

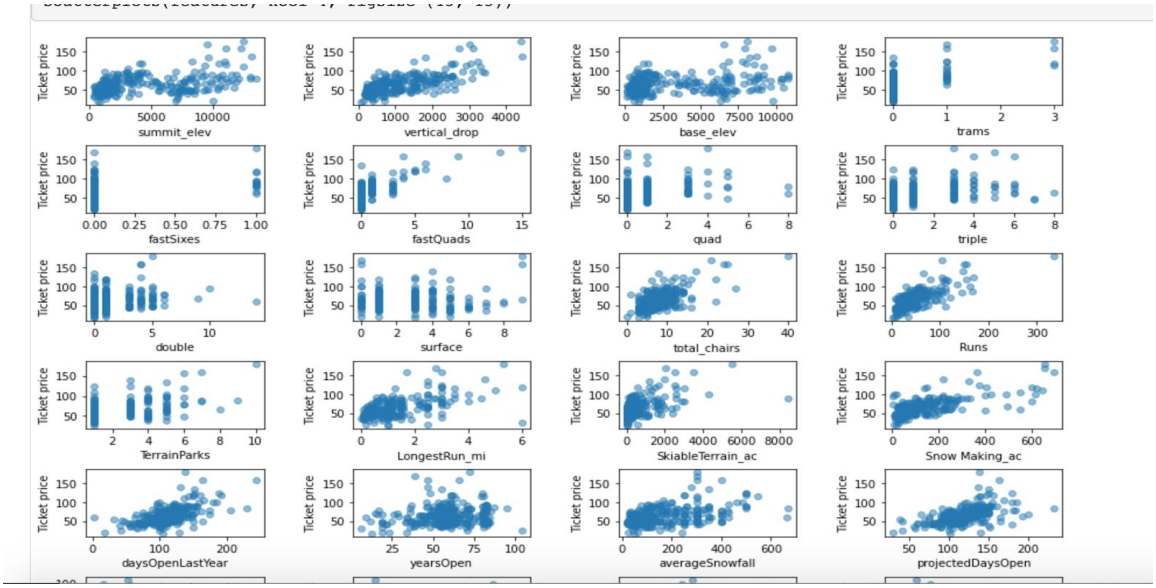
There were several options that the Mountain Resort can go regarding the addition of adding a new ski lift. I know it may sound like a risk adding on operational expenses while maintaining the value of your ticket price, but I recommend going with the additional ski lift. Based on the scenario you guys gave me, I recommend adding a run, increasing the vertical drop by 150 feet, installing an additional chair lift, and adding 2 acres of snow making. This will add just the tickets prices by about 11 dollars but increase the projected revenue by millions. You are probably asking why exactly did I choose those features. I did a random forest regressor model which is a learning algorithm used to classify decision trees.



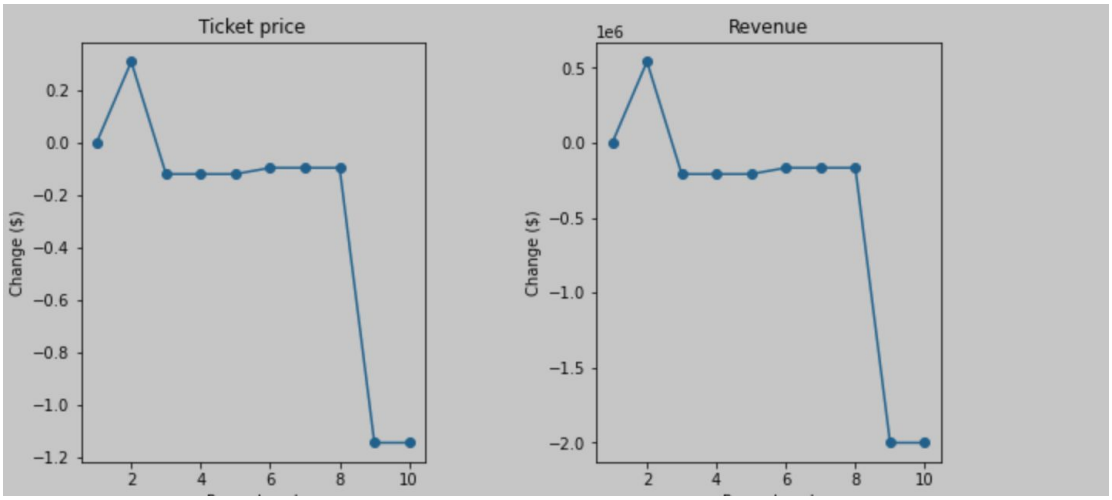
Encouragingly, the dominant top four features are in common with your linear model:

- fastQuads
- Runs
- Snow Making_ac
- vertical_drop

Above is a figure to show you which features at the resort are considered most vital for success. You can see that the most dominant ones are fastQuads, additional runs, snow making, and vertical drop. I also plotted scatterplots of the features against the ticket price. As you can see, from the figure below. There is a positive relationship with those top features and ticket price.



As for why I didn't go with the other options you gave me. The idea of closing up to 10 runs does not really make a lot of sense. You cannot really reduce the ticket price unless you remove 8 runs and the revenue would go down as well.



You can do scenario 2 which is everything I recommended but the snow making and the ticket price would go up 8 dollars but millions less in projected revenue. As for scenario 4, adding an additional 4 acres of snow would not make a difference and would just be more of a cost than a benefit. Please let me know if you have any additional questions.