In this capstone project, I worked on data for 330 resorts in the market. I investigated different features and their impact on the Adult weekend ticket price at Big Mountain Resort.

Big Mountain Resort has recently installed an additional chair lift to help increase the distribution of visitors across the mountain. This additional chair increases their operating costs by $1,540,000 this season. Every year about 350,000 people ski or snowboard at Big Mountain. This business profit margin is 9.2% and the investors would like to keep it there.

To maintain their profit margin and recoup their operations cost, I recommended a price increase in Big Mountain resort services during step 1 of problem identification.

In other to determine the appropriate price increase, I implemented the following in different Jupyter notebooks:
- Data Wrangling
- Exploratory Data Analysis
- Pre-processing and Training Data Development
- Modeling (involving three (3) different models with different features)

Through these steps, I performed a 75/25 train/test split using three (3) different models. This was done by dropping some of the data features in each of the models. Based on the model results, Model 2 appeared as the best fit model. It has the highest Explain Variance Score/R-squared of 0.54 and lowest Mean Absolute Error (MAE) of 6.73.

Using model 2 in predicting the Adult weekend price, Big Mountain Resort new expected price is $42 as compared to the current price of $38.

By this price increase, Big Mountain resort will be able to cover their operational cost and still maintain the existing profit margin of 9.2%