**Guided Capstone Project Report**

In our objective of raising the ticket price of Big Mountain Resort to bring in more revenue, many features across the resorts were analyzed and considered meticulously. Montana is the 3rd largest state by 100k sq. miles, and it also happens to be less populated. Montana also happens to have fewer but larger resorts. The state ranks 4th for resorts per 100k capita. Amongst the features analyzed and explored, snowmaking is valued highly, and I recommend investing in more snow-making equipment to attract larger and loyal crowds to both drive ticket price up to a desirable level and cover these additional costs. In the same vein as the snow-making scatterplot, the night-skiing scatterplot demonstrates that this feature should also be implemented into Big Mountain Resort’s agenda as this correlates positively with ticket price increases but only to a certain extent. Additional chairs should be considered as the corresponding scatterplot shows an increase in ticket price from the 0 to 15 mark and a substantial increase once passed that 15-mark level.

Our linear model also demonstrates positive indicators for the vertical drop and snow-making features, so these features are highly valued as people want guaranteed skiing. Along with these two features, fastQuads and Runs rank even higher at a metric of 0.25 and 0.20 respectively on our Random Forest Regressor model therefore these are paramount to our goal of finding support for ticket price increases.

A ticket price of $95.97 would both be feasible and ideal as this is supported by the pipeline model’s fit method. Also, the histograms from the plot-compare verifies that BMR has one of the highest vertical drops, has one of the largest snow making areas, has one of the largest quantities of chairs, is competitive with fastQuads containing 3 of them, has many runs above the 100 threshold, and BMR also has one of the longest runs at over 3 miles. All these features BMR delivers in which are highly desired and requested features by customers which also supports a ticket increase to generate more revenue. One suggestion I’d like to make to save on operational costs without any deleterious effects on revenue would be to close one run as scenario 1 displays, and adding a run, increase the vertical drop by 150ft, including installing an additional chair lift to support a ticket price increase by $1.45 and rake in an increase of $2.5 million in revenue as per scenario 2.