# Guided Capstone Project Report

To provide a pricing model for ski resort tickets that would allow Big Mountain Resort to maximize its returns, relative to its position in the market we analyzed data pertaining to the 330 ski resorts in 38 regions within 35 states in the US. We analyzed ticket prices for adults for weekday and for weekend visits, as well as features and facilities and days the resorts were open. We excluded 14% of the resorts from our analysis due to missing ticket prices. For the same reason we focused on adult weekend ticket prices.

With the exception of a few extreme prices in California, Colorado, and Utah the price ranges of most of the resorts lay within $25 - $100. In addition, the adult weekend ticket prices were higher in most of the resorts.

We compared the average price of the remaining resorts to a random forest regressor model. We also calculated the mean absolute error as well to verify the accuracy of calculations. The difference of the two predicted values was approximately $1 per person, allowing for an annual difference of $350,000. We selected the Random Forest Regressor model instead of the average because it provided less variance as well as accounting for any skew in the data.

The current price is $81 which is at the high end of the Montana resorts market, but Big Mountain also provides features such as fast quads that the other resorts do not have. The modelled adult weekend ticket price is $95.87. above the expected mean absolute error of $10.39. This shows there is room for a price increase.