Big Mountain Presentation

Our goal was to determine how to price our resort tickets for the upcoming season. We examined dozens of other resort ticket prices in correlation with their features to model how we should be pricing our tickets based on our facilities. Our current price is $81 per ticket, we determined we should be charging $95 per ticket.

First we wrangled and organized our data. We created a dataframe that allowed us to read, reference, and approach our data from a logical standpoint. We removed useless bits and remnants of missing information. In other words, we cleaned up.

Next we engaged in ‘exploratory data analysis’. We created graphs, charts and maps to observe patterns, trends and the overall characteristics of our data. We read the data like a story. We learned that resort features were going to be very useful in determining ticket price.

Then we began preprocessing and training our dataset. We applied a linear regression model to test different sets of features. To avoid tuning our model to an arbitrary test set we used ‘cross-validation’ to train our model to avoid unwanted biases. We then ran a Random Forest Model and compared it to our linear regression model. They both returned a similar set of resort features that correlated to ticket price; ‘vertical drop’, ‘snow making’, ‘total chairs’, ‘fast quads’, and ‘runs’. The margin of error was smaller with the Random Forest Model so we decided to use it for our final model.

Finally, we ran tests on our model. We learned that we can currently justify charging ~$95 per ticket. If we add a run and thus increase our vertical drop (by 150 ft) we can raise our ticket price by another $2. This will add another $3.4 million in revenue (on top of our previously proposed ticket price increase), which is more than enough to cover the cost of our new chair lift.