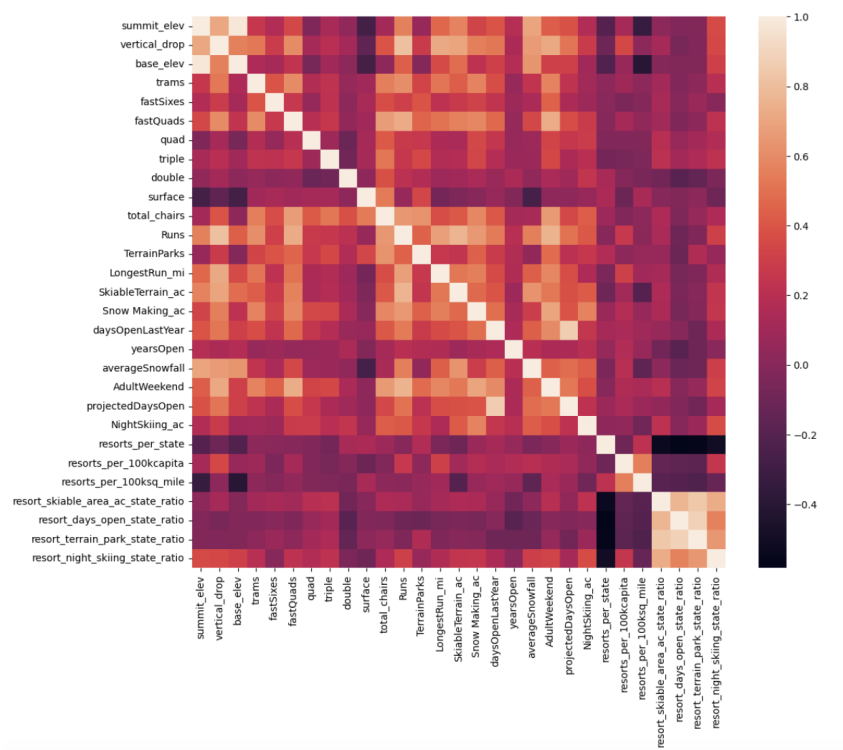


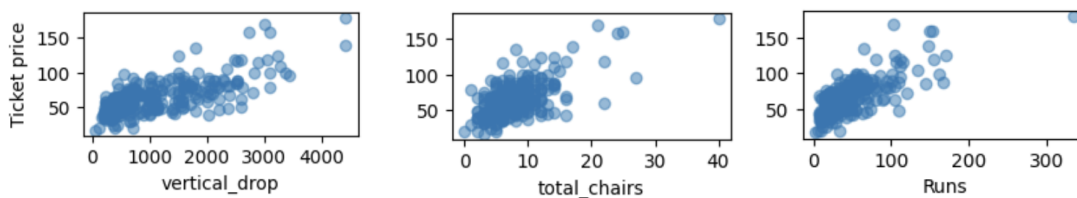
Guided Capstone Project Report

Two main dataframes were merged and cleaned for the purposes of this project: the ski resort data frame and a Wikipedia-sourced data frame that provided state population and square mile area statistics for scaling. The target feature chosen for analysis is Adult Weekend ticket price.

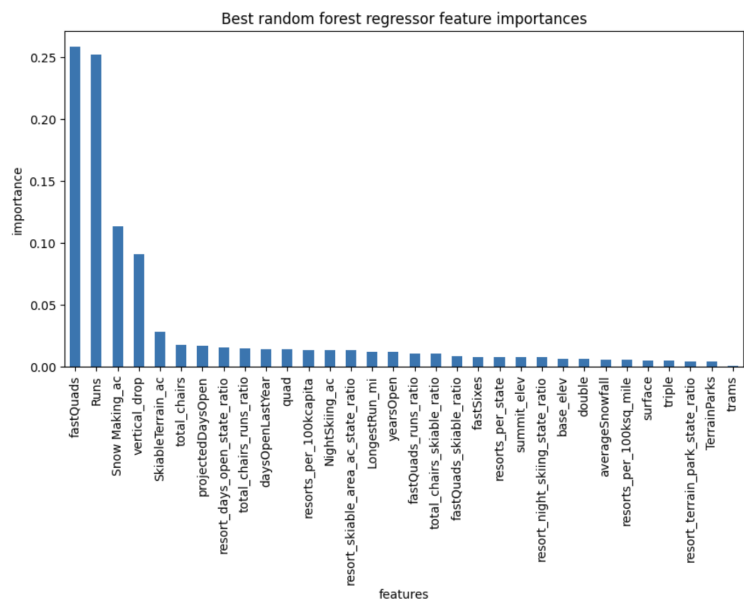
A heatmap is created in order to explore correlations between features, namely our Adult Weekend price as it relates to other features. FastQuads, Runs, and Snow Making_ac are noted to have higher correlations. However, resort_night_skiing_state_ratio seems to be the highest correlation to Adult Weekend ticket price. Runs and total_chairs could be noted as honorable mentions.



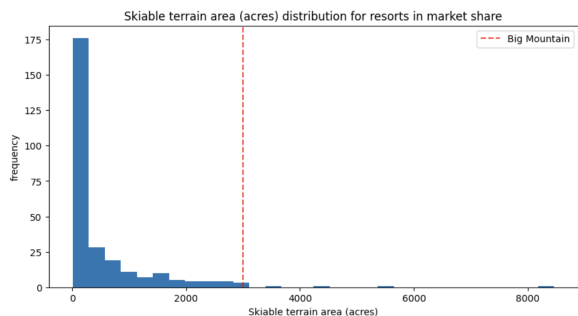
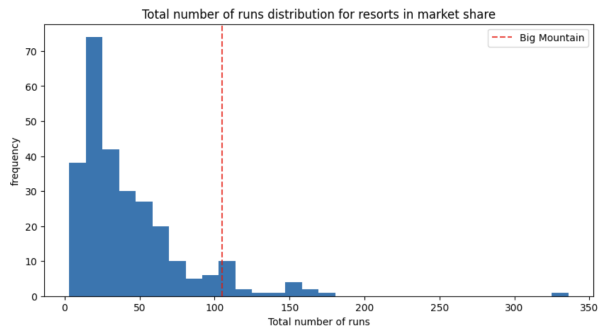
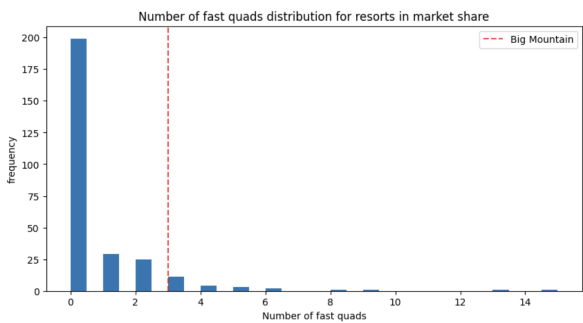
Independent feature subplots are created to further explore these relationships. Vertical drop, total chairs, and runs display the strongest correlations, which happen to be positive, when plotted against Weekend price.



A Random Forest Pipeline model is created and fit to our data set, revealing similar significant features.



To further investigate market behavior, histograms are created by feature to display how it is spread across other resorts, with an axv line highlighting where Big Mountain stacks up to its competitors. Fast quads, runs, and skiable terrain are found to be features that set Big Mountain apart from the average competitor, something to be bookmarked for future ticket price adjustment conversations.



Big Mountain Resort modelled price is \$95.87, while its actual price is \$81.00. Snowmaking costs, fast quad operational costs, and general grounds maintenance costs may be helpful in efforts to rationalize this cost increase. Other data that could be useful to justifying ticket price increase include: surrounding lodging prices, quality of gear rental amenities, guest reviews, and snow quality.