



Guided Capstone Project: Big Mountain Resort

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Problem Identification

- Big Mountain resort charges \$81 per Adult ski ticket
 - Higher than competitors
- May not maximize revenue relative to position in the market
- Does not have strong sense of important facilities
- Big Mountain added a ski lift which will increase operating costs
 - \$1,540,000 ↑
- Goal: Develop a data-driven business strategy for selecting a better value for ticket price to maintain revenue that will at least offset new lift operation costs for next year.



Recommendations and key findings

- Big Mountain's best features:
 - Number of fast quad lifts
 - Number of runs
- Additional ski lift = increased ticket value (+\$1.99 each)
- New ticket price: \$82.99
 - Expected ticket revenue: \$3, 474, 638
- Close least used run

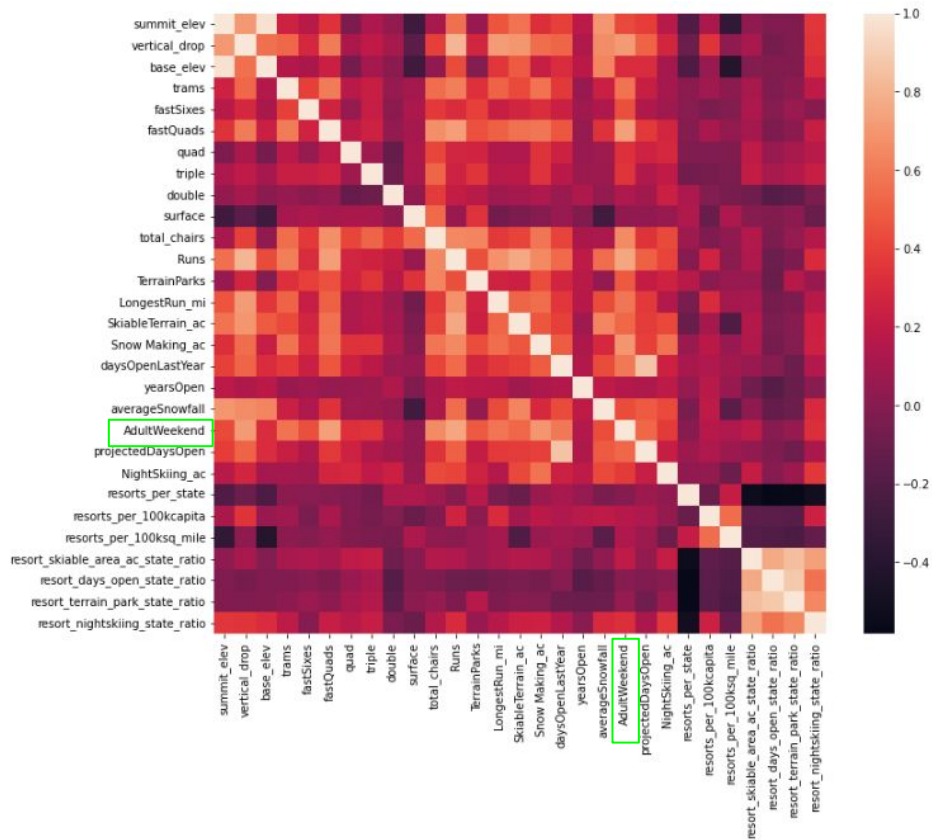


Model choice and project goals

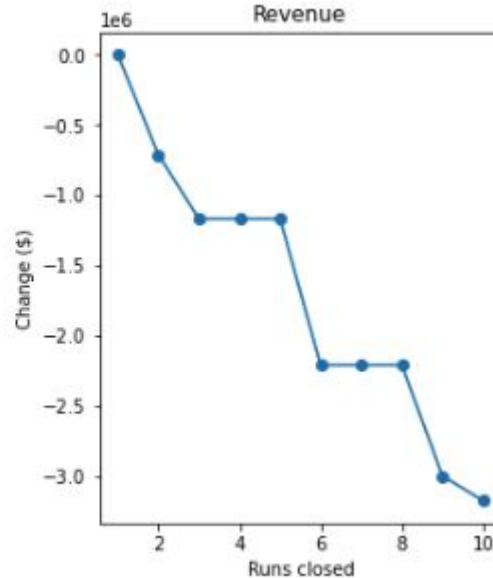
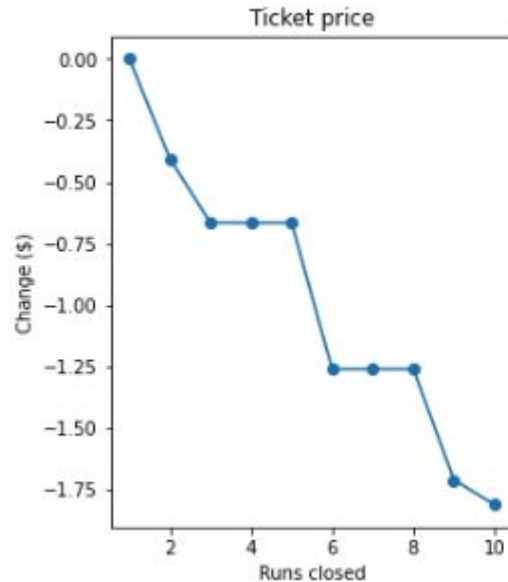
- Random Forest regression model
 - Target variable: Adult Weekend (ticket price)
- Identify key features that provide value to ticket price
- Four scenarios
 - Scenario 1: Close up to 10 ski lifts
 - Scenario 2: Add 1 run, 150 ft vertically, 1 chair lift
 - Scenario 3: Add 2 acres of snowmaking + Scenario 2
 - Scenario 4: Increase longest run by 0.2 miles and add 4 acres of snow making.

Big Mountain's best features

- Adult weekend
- Lighter colors = more correlation
 - Vertical drop
 - Total fast quad lifts
 - Total chairs
 - Runs
 - Snow making



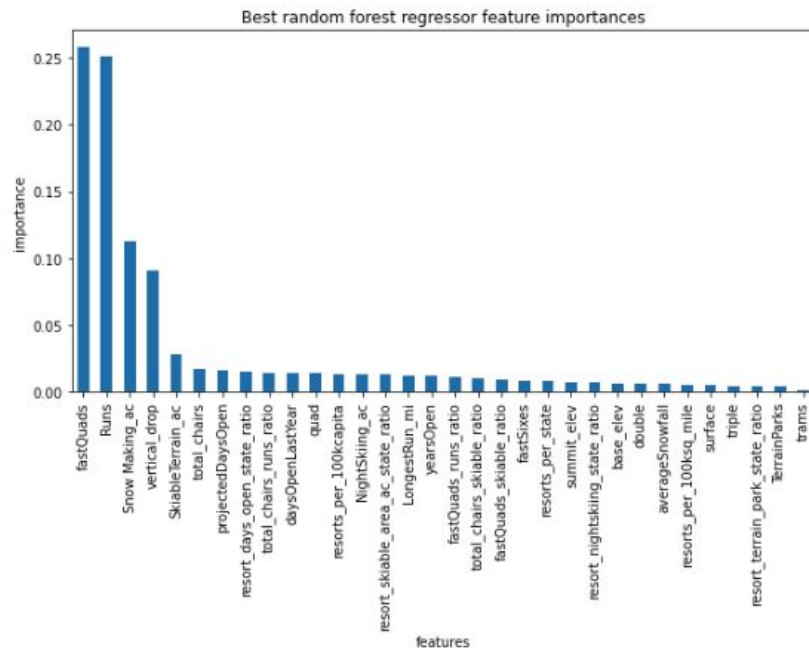
Projected ticket price and revenue for closing runs



- Scenario 1
- There is **no effect** on ticket price when closing 1 run
- Closing 2 or more **drops** ticket price and therefore revenue.

Additional ski lift increases ticket prices and revenue

- Scenario 2: Additional ski lift increases best features
 - Ticket prices should increase \$1.99
 - Total projected ticket revenue: \$3,474,638
- No benefits of adding more acres of snowmaking (Scenario 3 and 4)





Summary and Conclusion

- Additional ski lift
 - New lift operation costs: \$1,540,000
 - Expected revenue - new lift operation costs = ~\$2,000,000
- Top feature not modeled: Number of fast quad lifts
- Limitations
 - Does not consider other resort operation expenses and revenue
- Model is publicly available for future use