

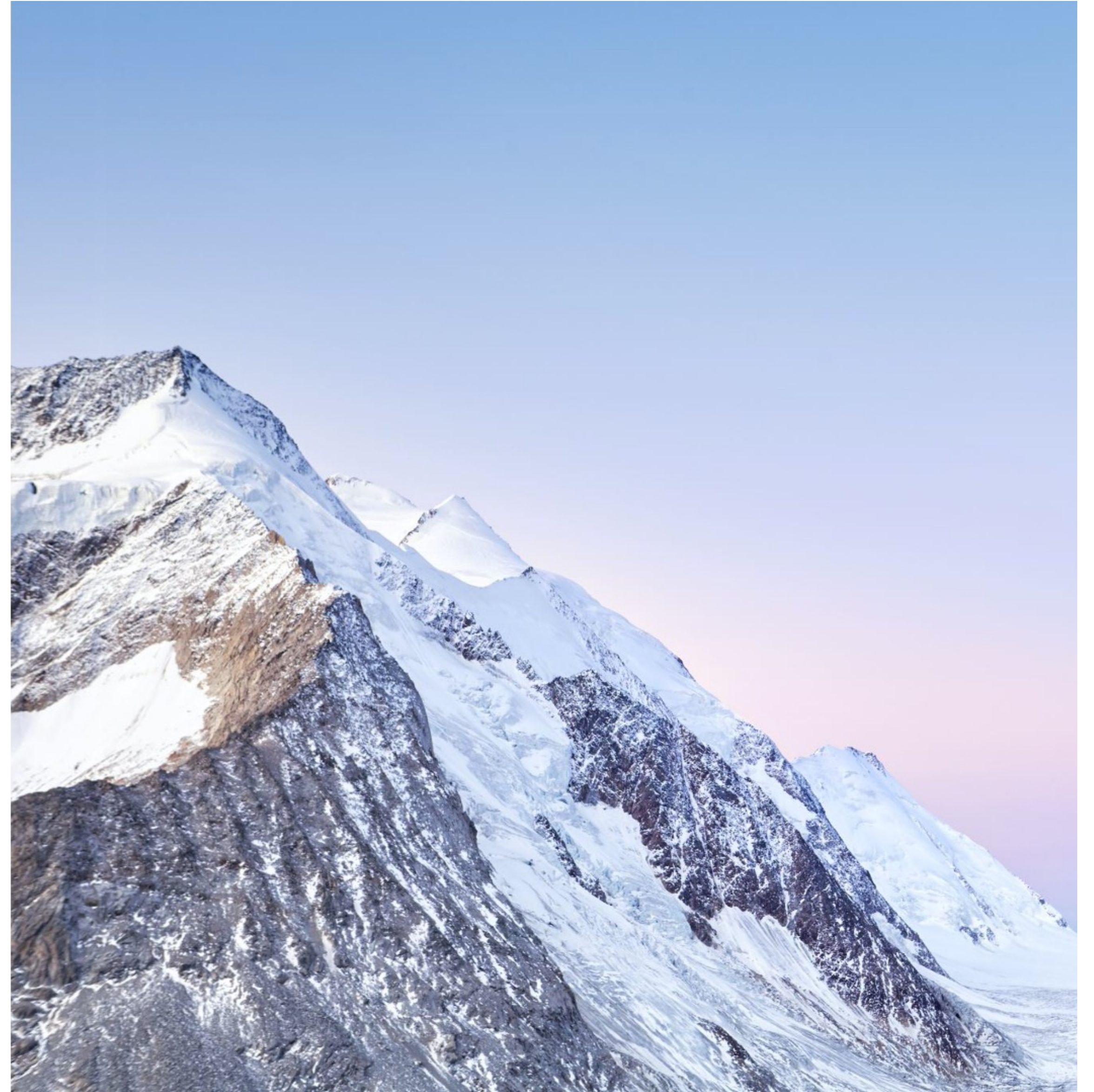
Let's Datafy Big Mountain Resort

Business Recommendations and Skiable Pricing Model

Problem Identification

**How to maximize profit
without lower price?**

- **Increase ticket price?**
- **Cut costs? Which one?**



Context

- **New chair lift increases operating costs by \$1.5M**
- **Lowering ticket price will hamper investment strategy**



Key Findings

- **Permanently close down 5 of the least used runs at maximum (\$1.2M expected decrease in revenue)**
- **Extend vertical drop by 150 feet plus new chair lift installment that leads to increasing expected revenue by \$3.47M**

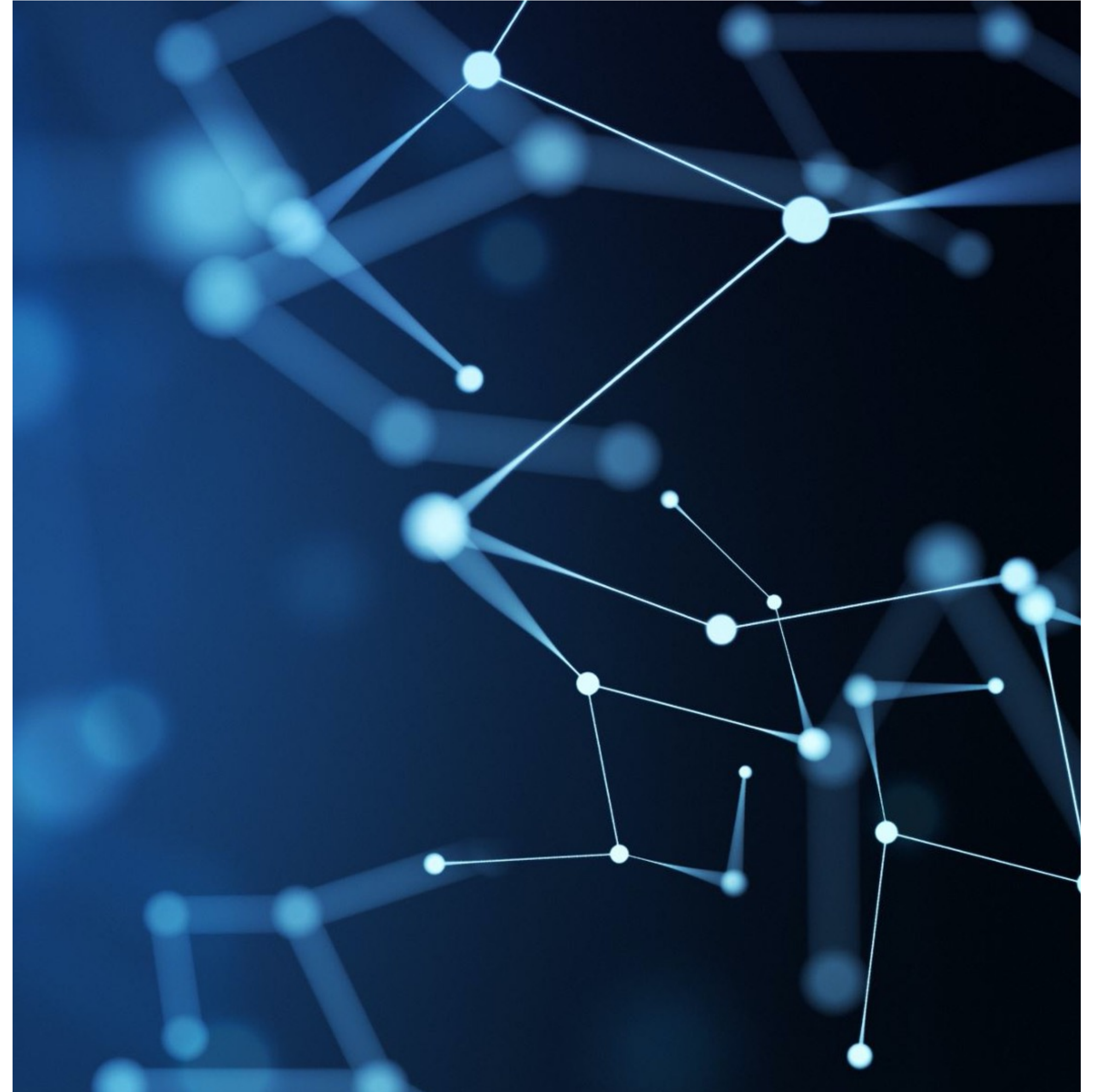
Exploratory Data Analysis

EDA

DP

PM

- Big cleanup - remove AdultWeekday and FastEight variables
- Big Dirty Finding - size area of night skiing and fast quads have a positive correlation with ticket price.



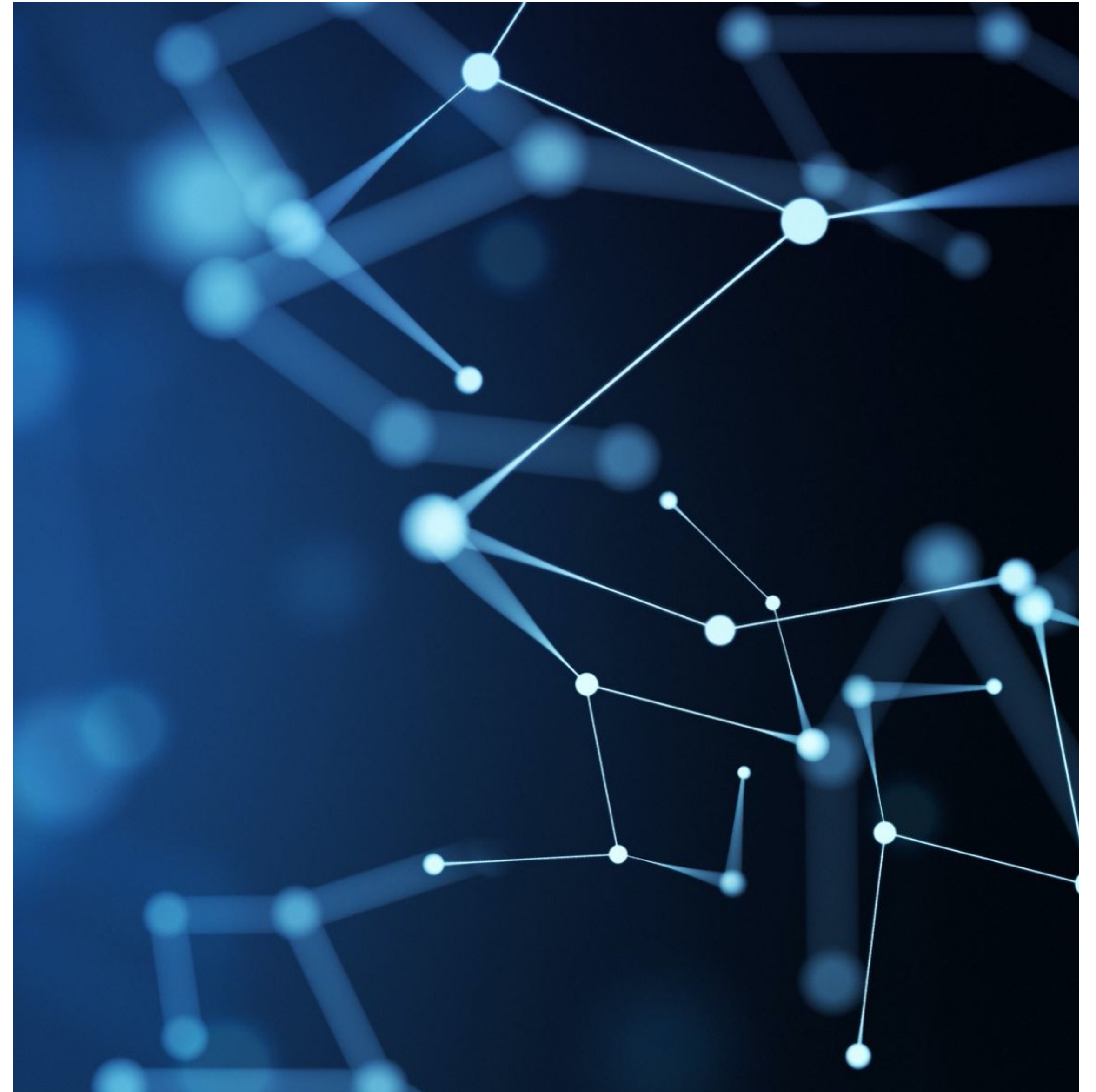
Data Preprocessing

EDA

DP

PM

- Baseline:
 - R-squared: 0.0
 - MAE: 17.92
- Best Model:
 - CV R-squared: 0.721
 - CV MAE: 9.64
- Components in Model:
 - Random Forest Regression
 - Median Imputation
 - K = 8 (i.e., fastQuads & Runs)



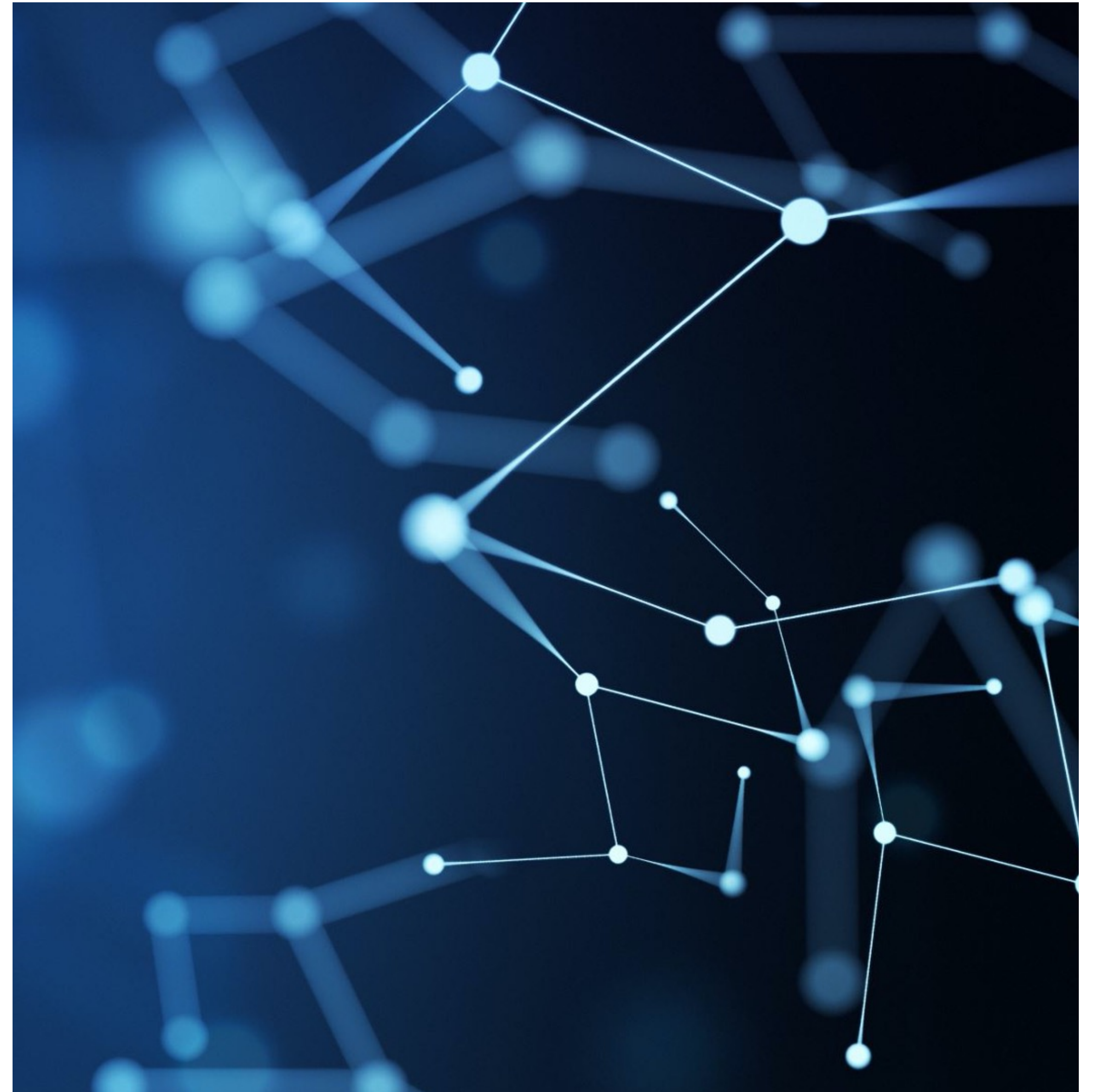
Pricing Model

EDA

DP

PM

- Out-of-sample test set:
 - MAE: 10.39
 - MAE STD: 1.47
- Result for Big Mountain Resort
 - Predicted Price: \$95.87
(between \$85.48 - \$106.26)
 - Actual Price: \$81.00



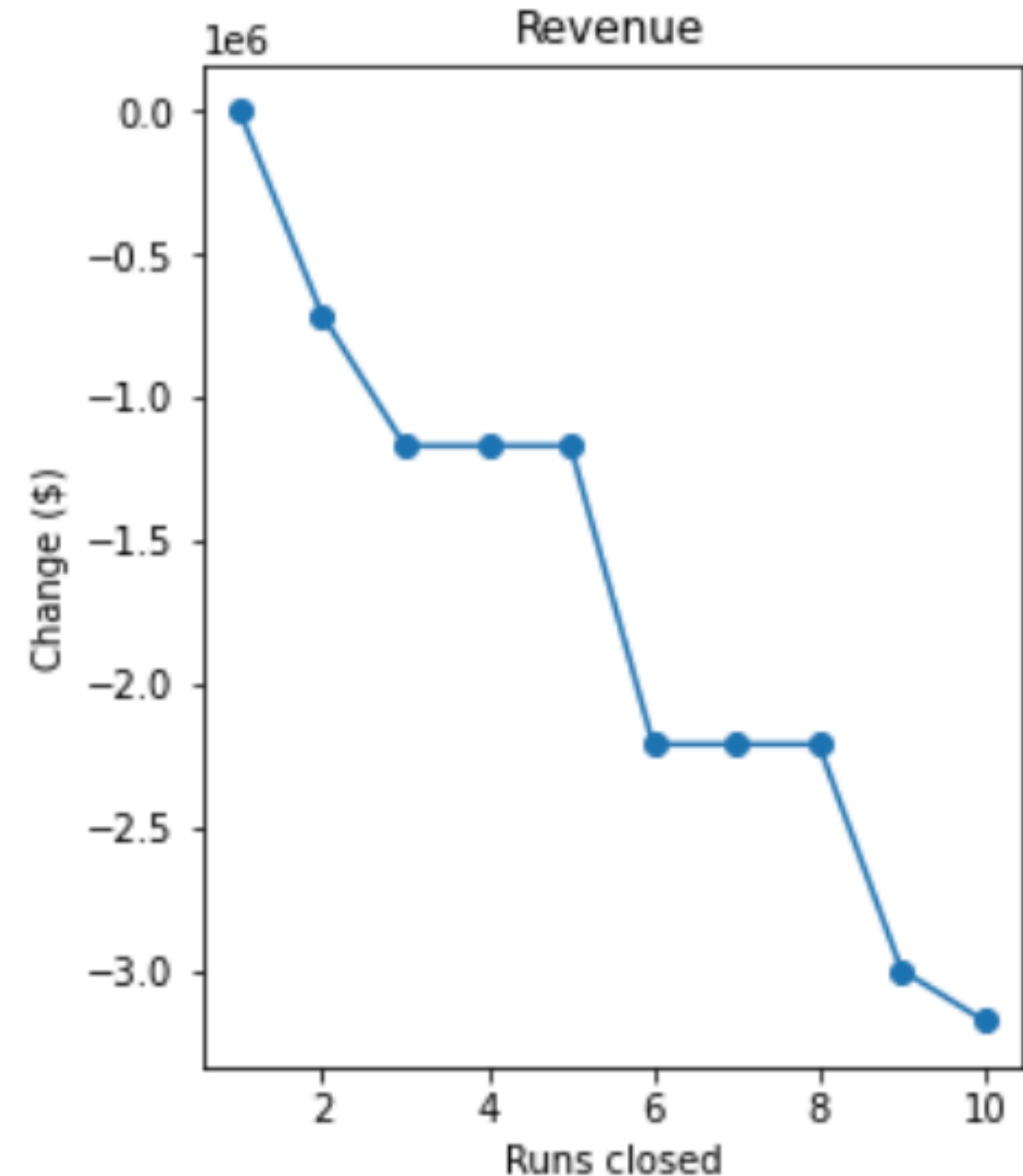
Pricing Model

EDA

DP

PM

- First Scenario
 - Permanently close 5 runs at maximum
 - If 6th run closes, the large drop revenue will be expected.
- Limitations in Model
 - Lack of scrap value
 - Lack of maintenance cost
 - Lack of predicted number of customers



Conclusion

- Pricing model can turn into user-friendly Ad Hoc analysis
- Mismatch price in Big Mountain Resort requires more assessments