Optimizing Ticket Price at Big Mountain Resort

Goal: Determine if Big Mountain Resort is optimizing its adult weekend ticket price compared to other U.S. ski resorts

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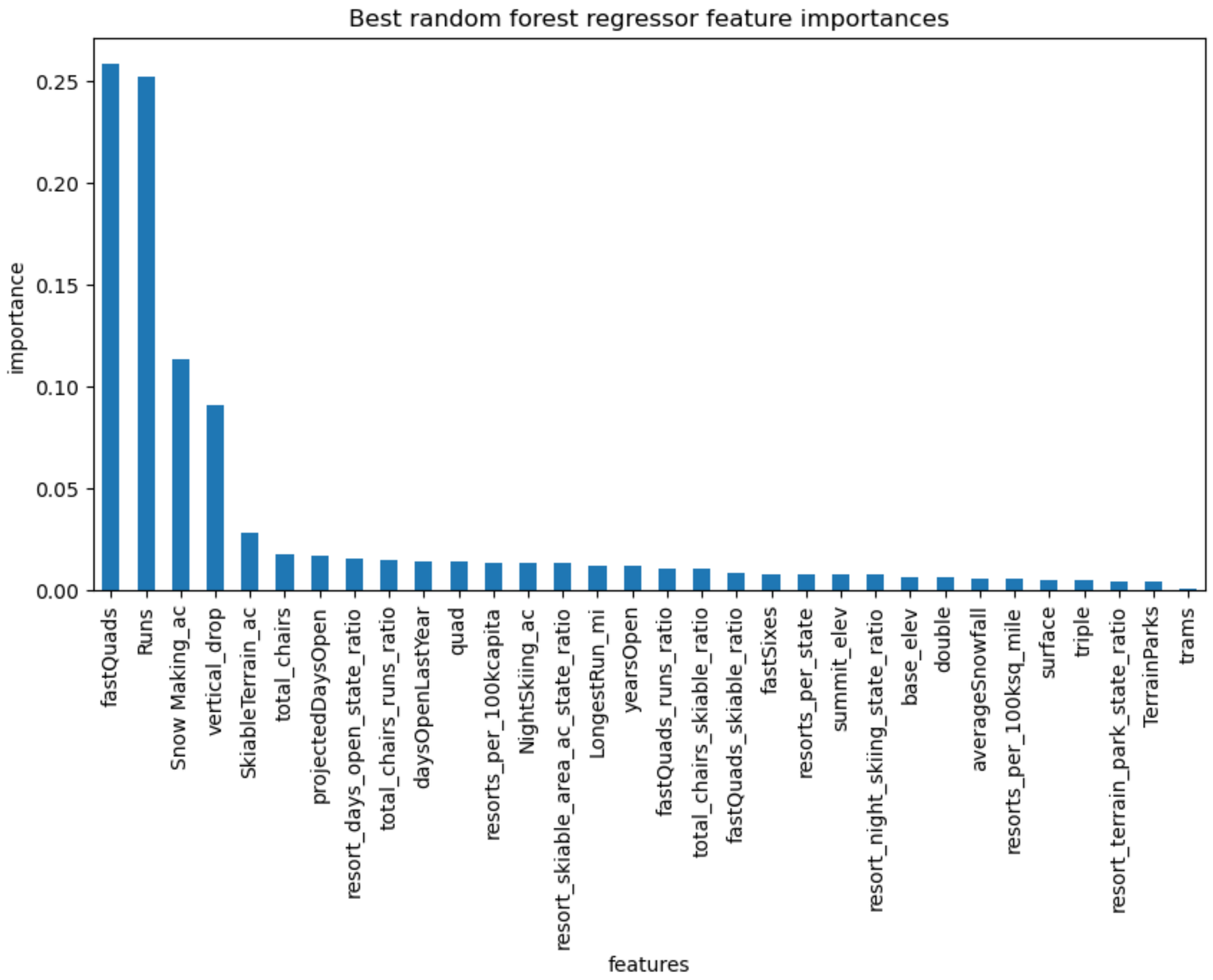
Market Context

- Dataset: 277 ski resorts, 25 features analyzed
- Key factors affecting ticket price: number of runs, chair lifts, vertical drop, skiable terrain, snowmaking coverage
- State-level population & area not significant predictors



Recommendation and Key Findings

- Big Mountain is currently underpricing at $81
- Recommended ticket price based on our data-driven model: $90–96
- Adding features like new runs or lifts can justify further price increases, producing large revenue gains
  - *Example: A $2 ticket price increase —> estimated $3.47M in additional revenue over one season (assuming 350,000 visitors purchasing an average of 5 tickets)*

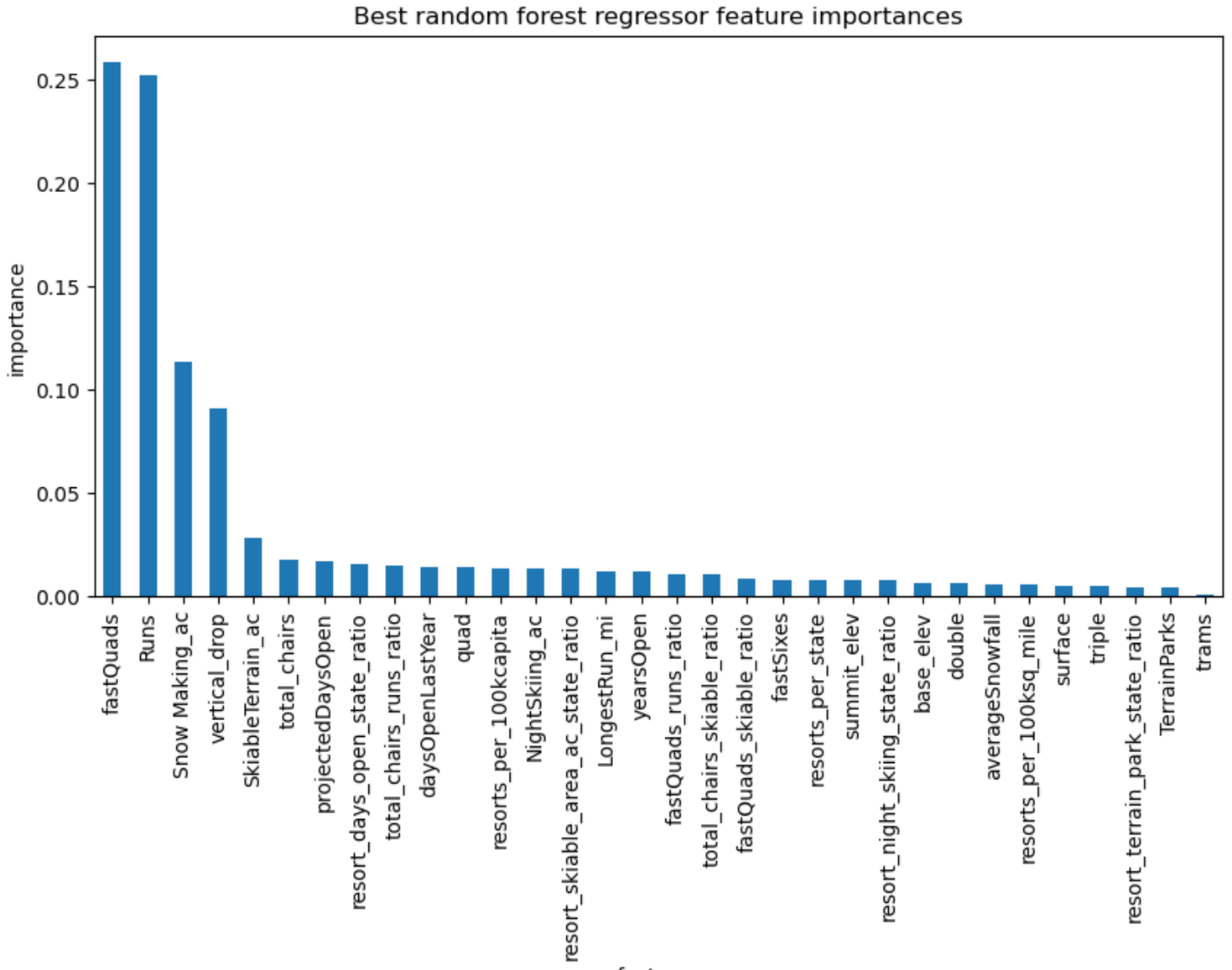
Modeling Results – Baseline vs. Random Forest

Predictive Modeling Results

- Baseline (mean): MAE ~$19
- Linear Regression: MAE ~$9
- Random Forest Regression: MAE ~$7 (winning model)

Key Factors Driving Ticket Price

- Most influential features:
  - Number of runs
  - Number of chair lifts / fast quads
  - Vertical drop
  - Skiable terrain
  - Snowmaking coverage



Resort Feature Upgrades

An example scenario

- Based on our model: Adding 1 new run that adds 150 ft vertical drop —> $2 ticket price increase
- Estimated revenue increase: ~$3.47M per season
- *This supports strategic investments in features that impact customer willingness to pay more*

Summary & Future Scope

- Big Mountain can increase ticket price to $90–96 without changing costs
- Feature improvements can justify higher prices leading to additional revenue
- Future: Collecting data on operating costs & other revenue streams to incorporate into our pricing model
    - With these new points of data we can optimize *profit* instead of just price