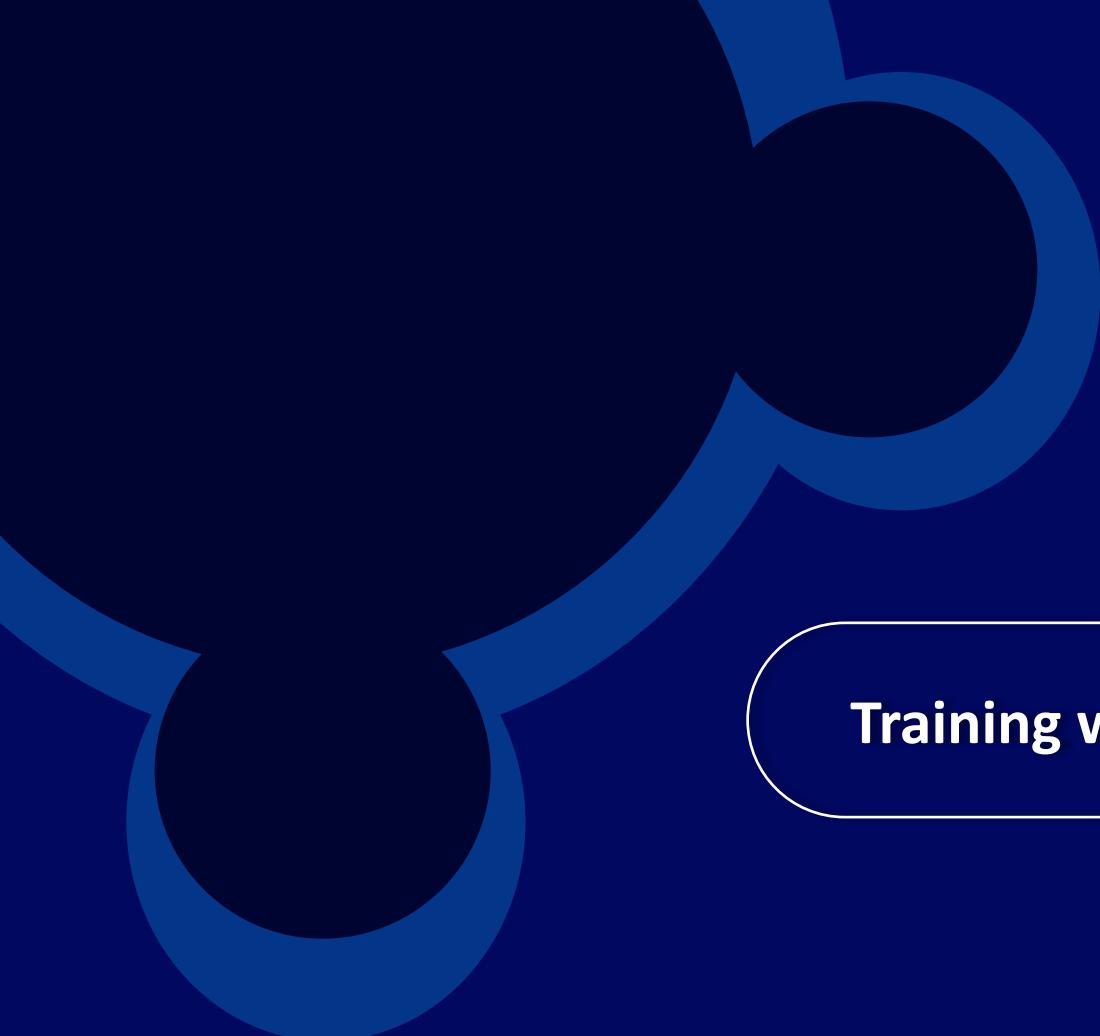


Waiting
Times

WALT DISNEY





Training with Random Forest

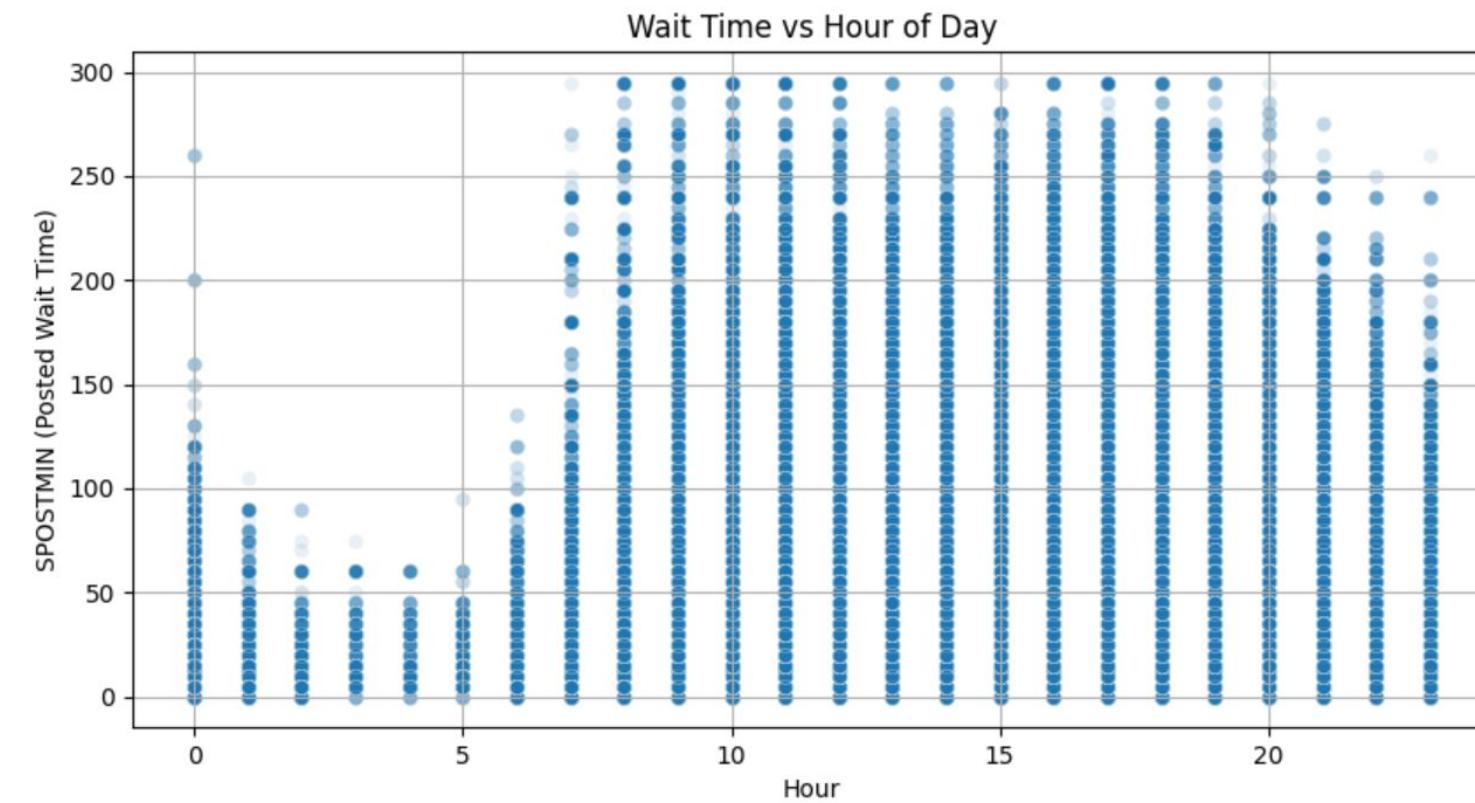




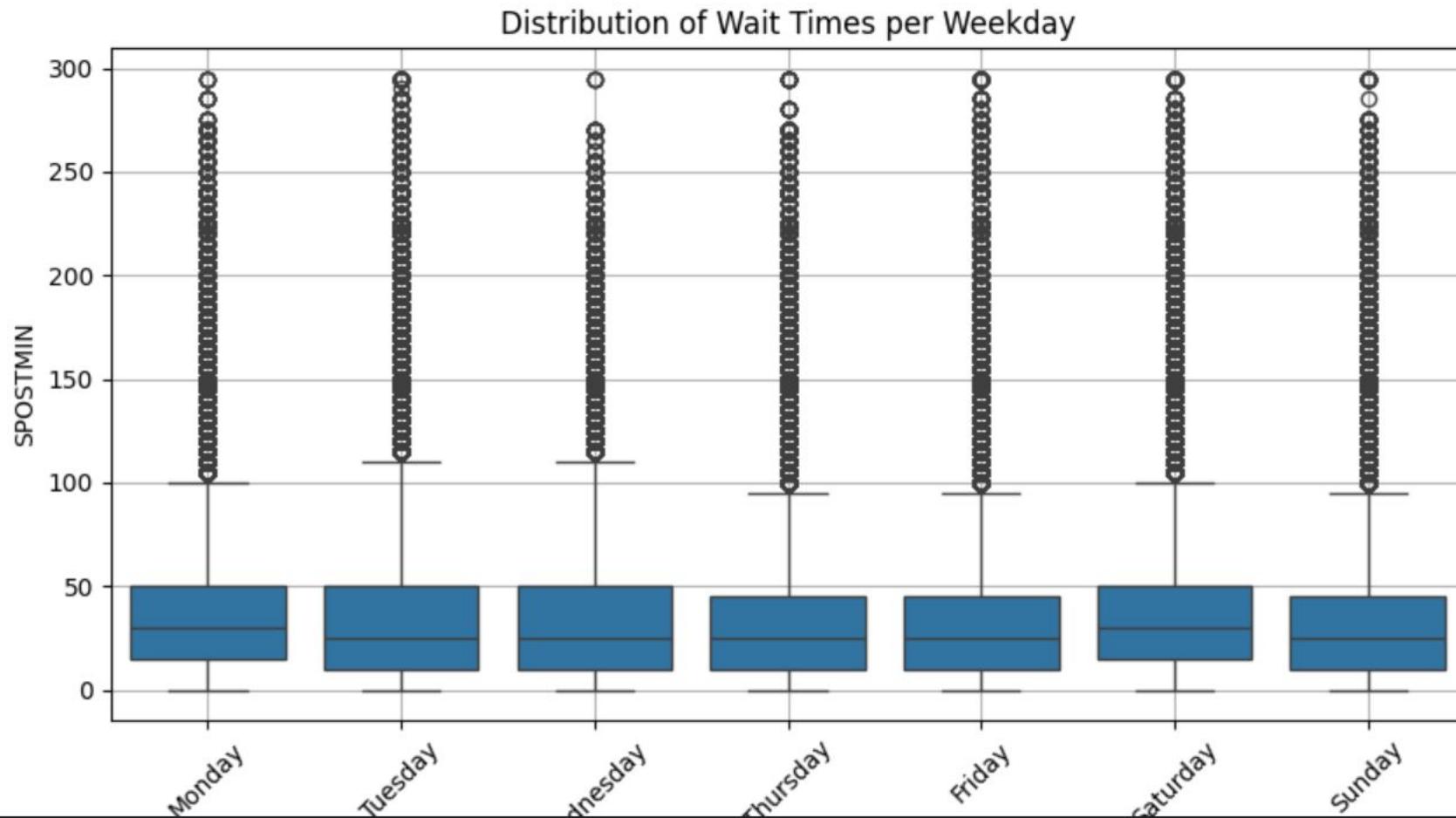
Why Random Forest?



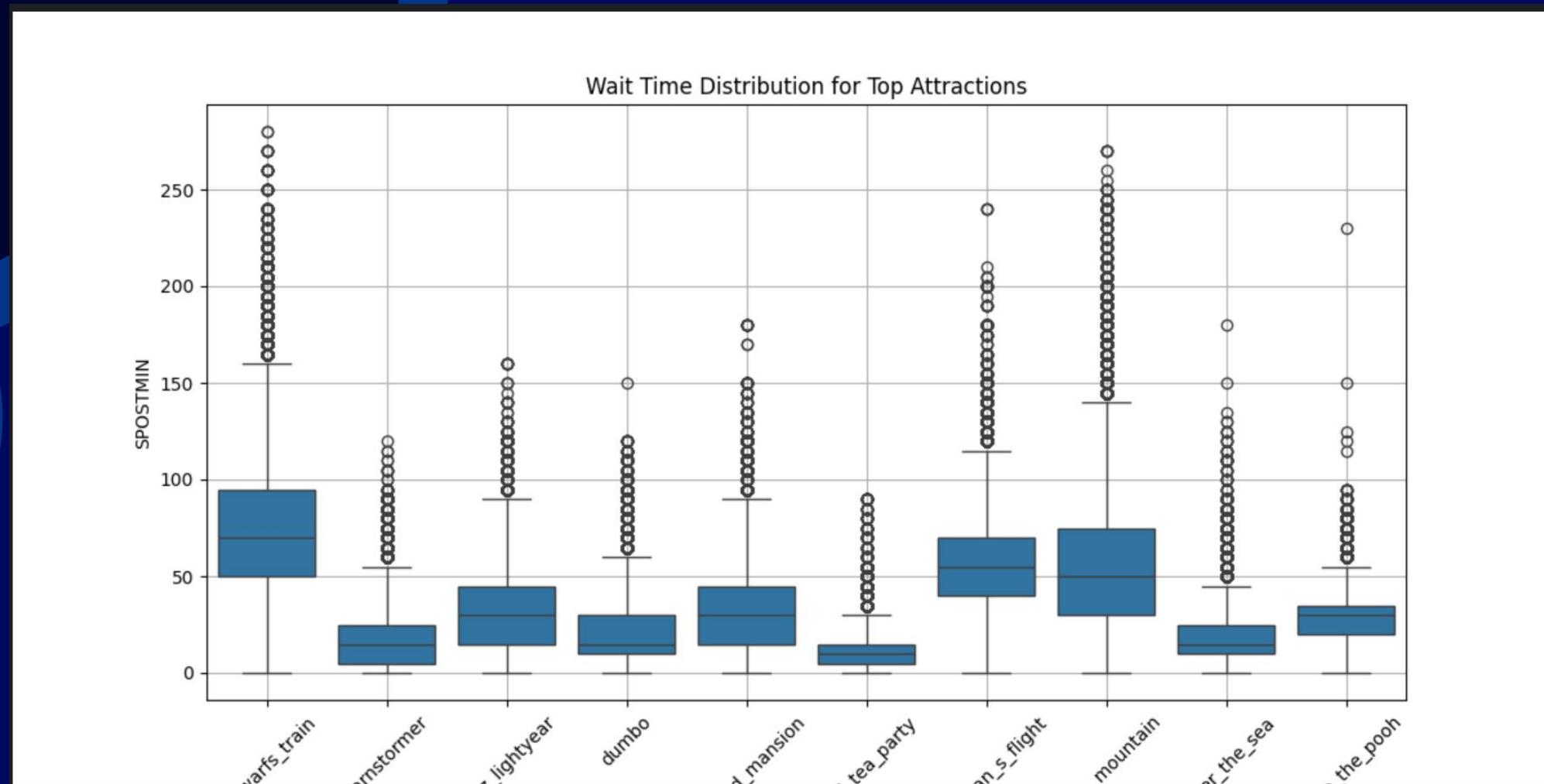
Non-linear relationships



Noisy Data



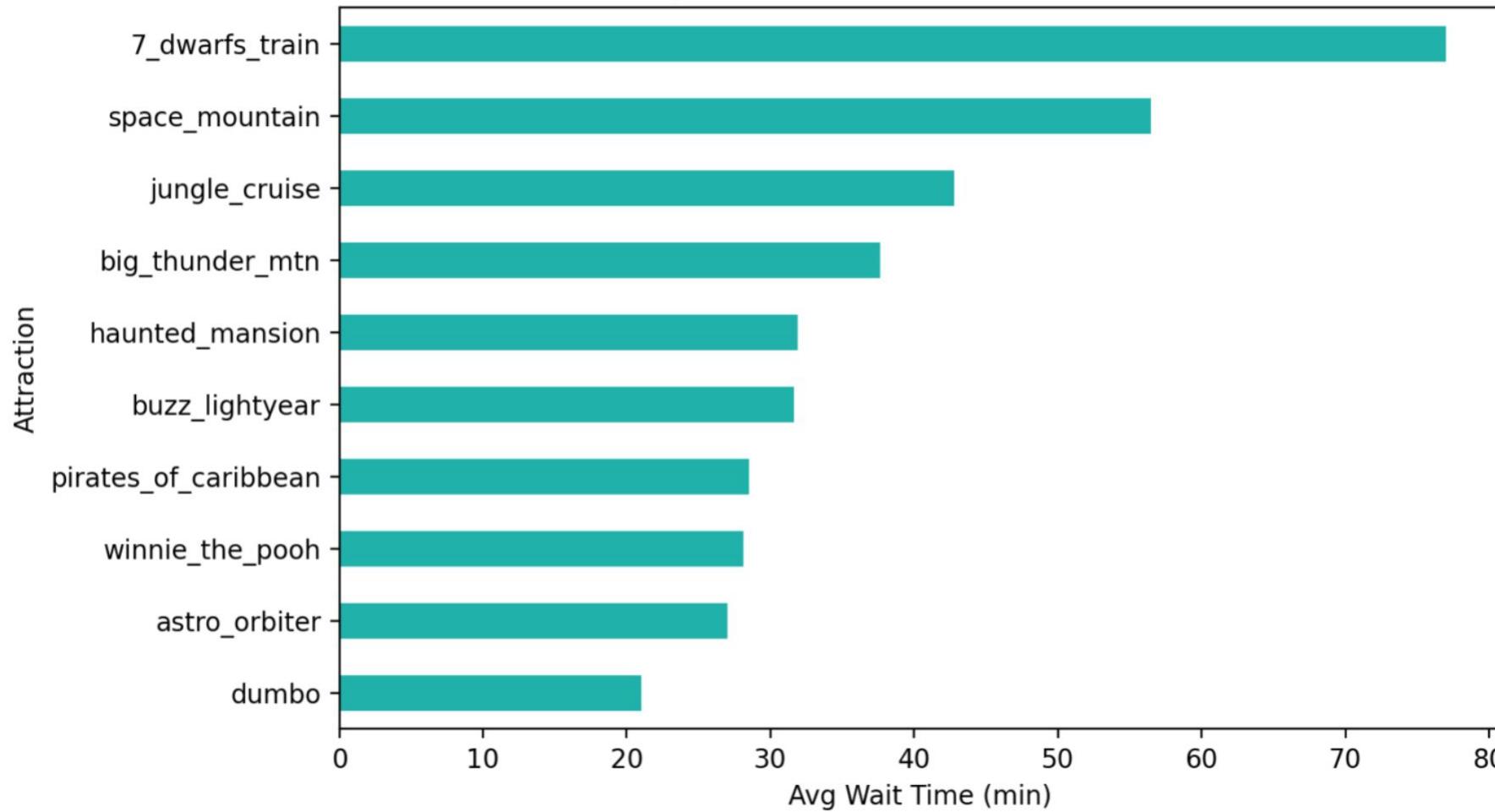
Huge variation ride to ride



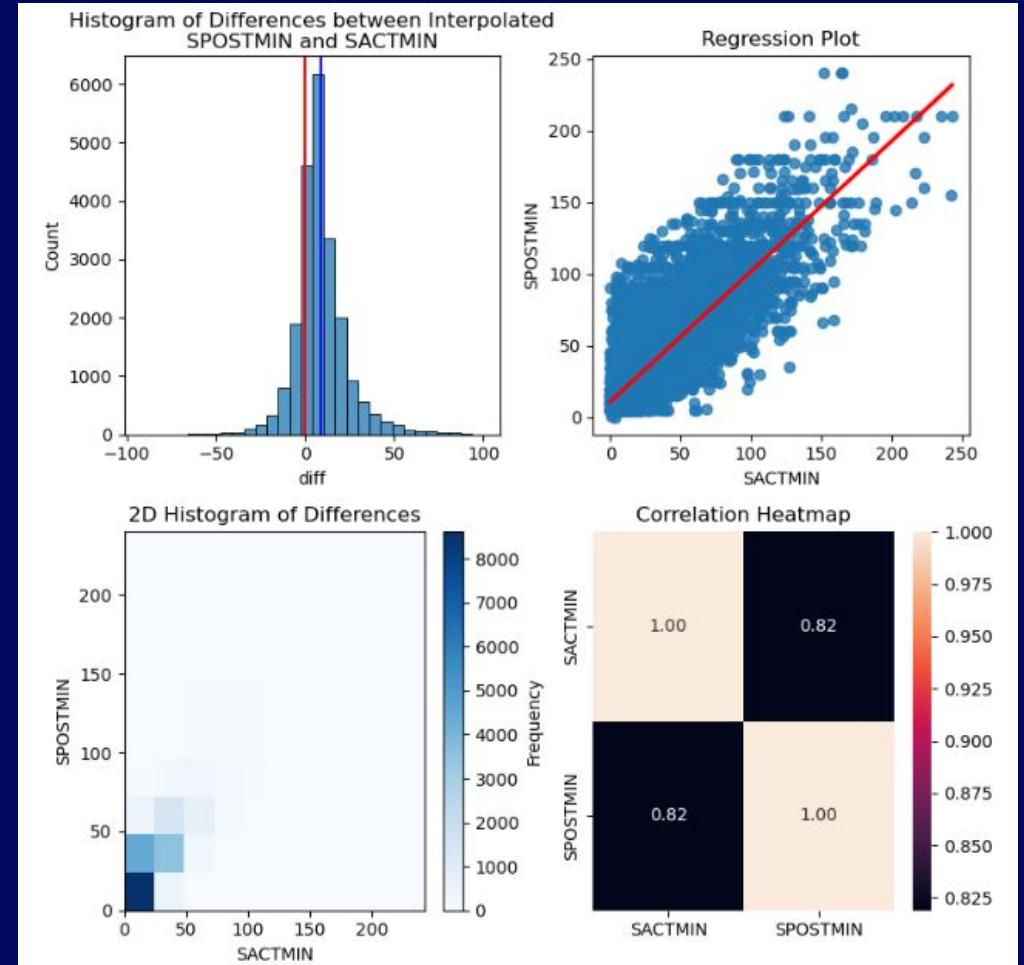
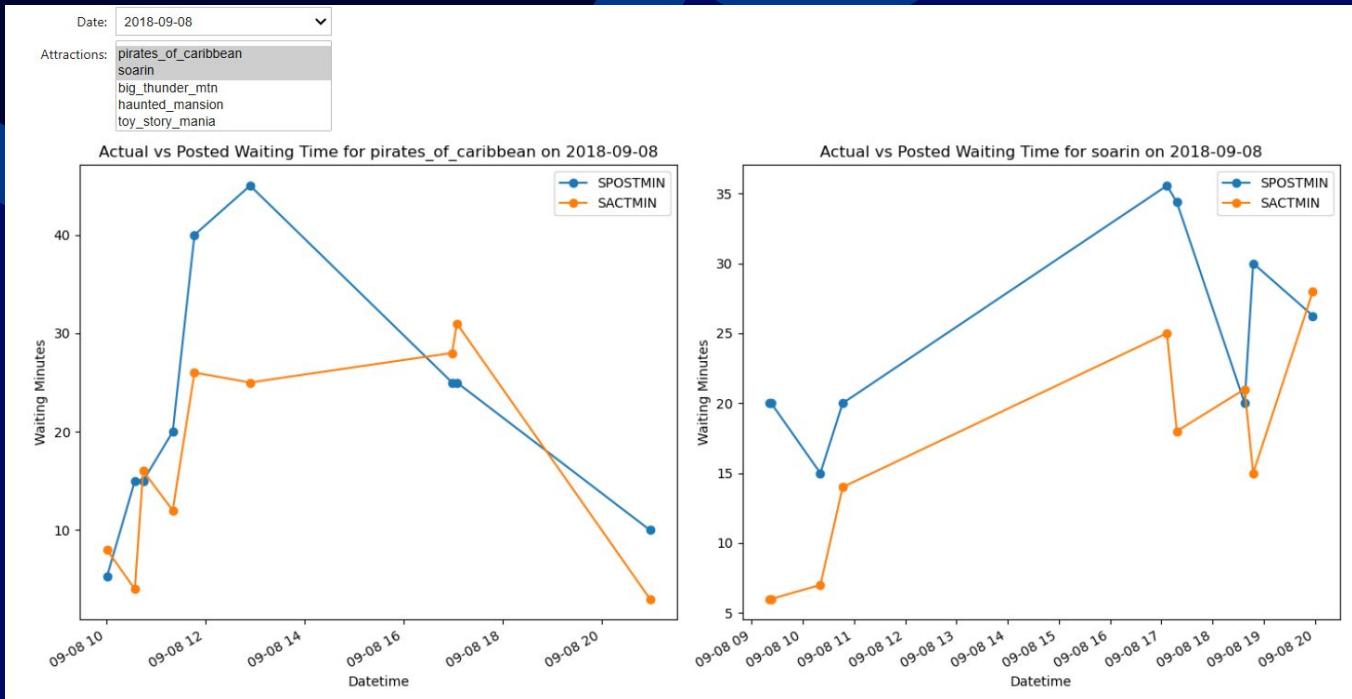
```
# Evaluate  
y_pred = model.predict(X_test)  
print("MAE:", mean_absolute_error(y_test, y_pred)) # 12.43 minutes  
print("R2 Score:", r2_score(y_test, y_pred)) # 0.65  
# That means our model predicts with an average error of ~12 minutes, and explains 65% of the variance.
```



Top 10 Most Waited Ride Attractions



Compare Actual versus Estimated Waiting Times





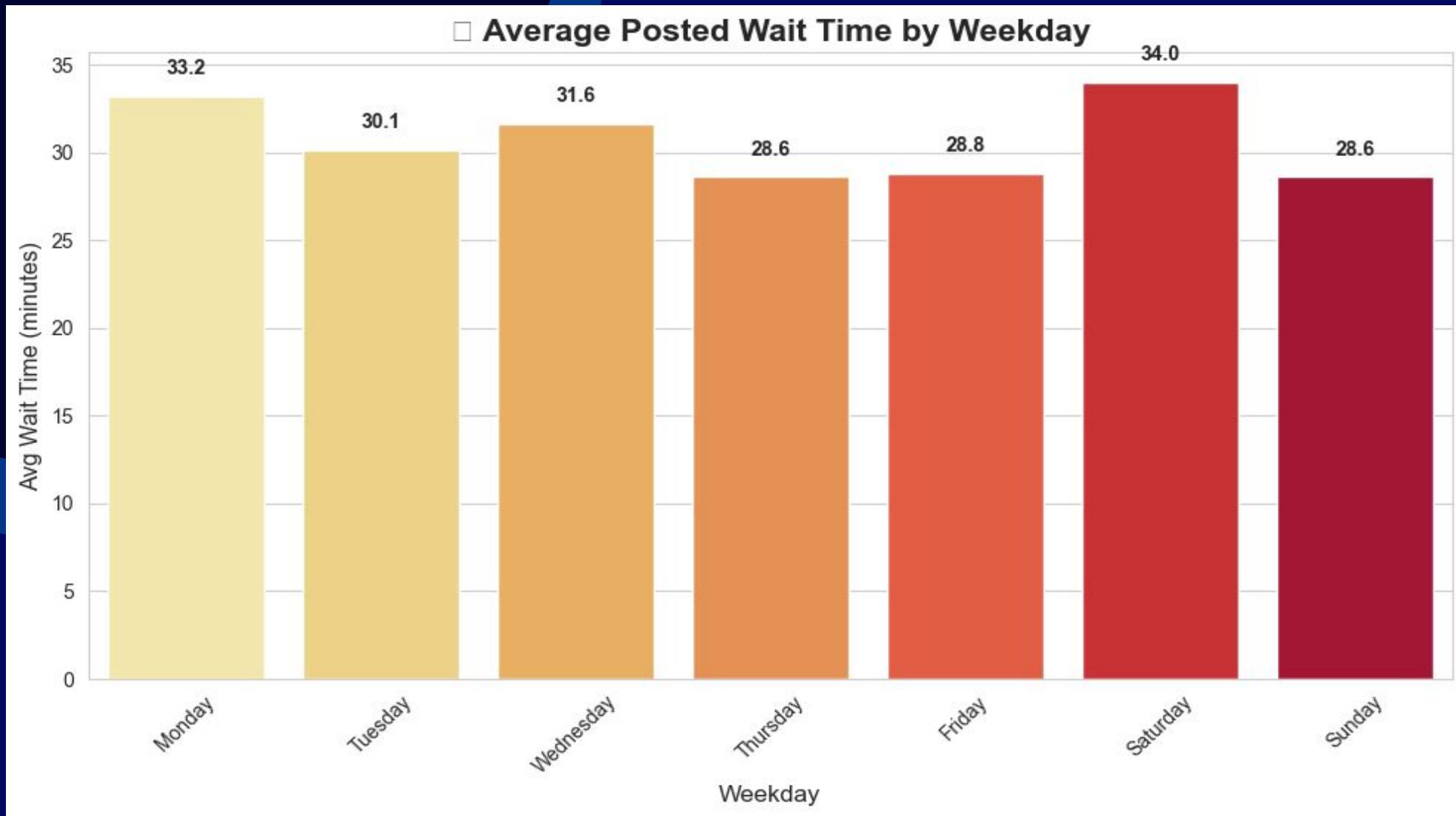
Analyzing Wait Times for Attractions

* Goal:

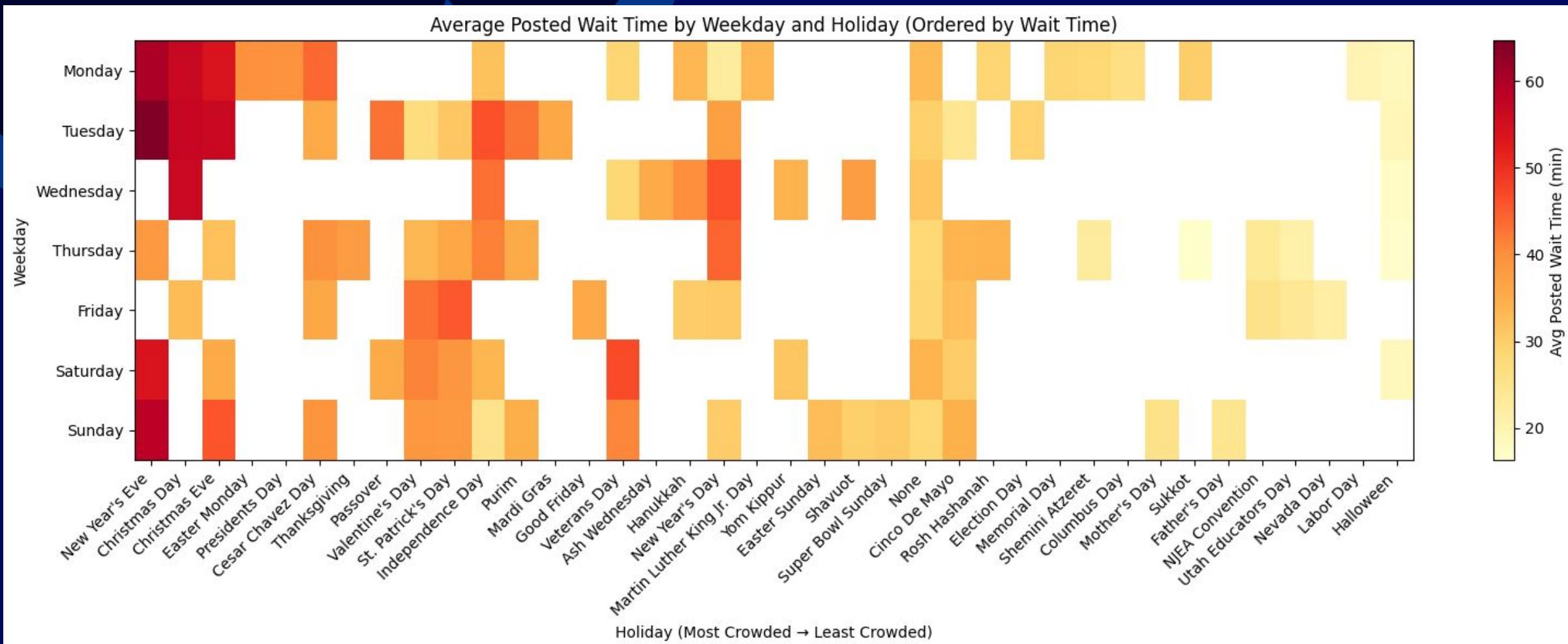
- Find out **which day of the week** (e.g., Monday, Saturday, etc.) has the **shortest average posted wait time**.
- Understand how **holidays (HOLIDAYM)** impact wait times **on different weekdays**.
- Help both **visitors and park management** make better decisions.



Average Posted Wait Time by Weekday



Average Posted Wait Time by Weekday and Holiday Name





📍 Why This Matters?

- **Visitors:** Can avoid busy days or pick the best days to go.
- **Park operations:** Can plan staffing, maintenance, or crowd control strategies based on trends.





FastPass vs Normal Visit Comparison

FastPass vs Normal Visit Comparison

For Wednesday, January 01, 2025

	Attraction	Time	Normal Wait (min)	FastPass Wait (min)	Time Saved (min)
0	Pirates Of Caribbean	10:00	25.3	5	20.3
1	Rock 'n' Roller Coaster	13:00	50.4	5	45.4
2	Splash Mountain	16:00	35.3	5	30.3

- ⌚ Total Normal Wait Time: 110.9 minutes
- 🚂 Total With FastPass: 15 minutes
- 💡 Time Saved: 95.9 minutes



FastPass vs Normal Visit Comparison



Why This Is Important

This part of the app helps users:

- Clearly see **whether using FastPass is worth it.**
- Understand **how much time they would save** by reserving ahead of time.
- Plan their trip more efficiently by choosing the best rides and time slots.

This also demonstrates real-world **data-driven decision making** and could be a standout component in a portfolio.



Predict the Future

01

10 millions data set

02

Gradient Boosting powerful for regression tasks
with complex patterns

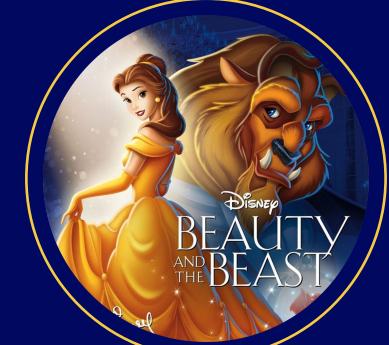
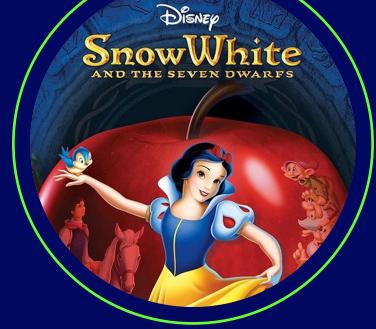
03

Train-test split strategy (80/20)

04

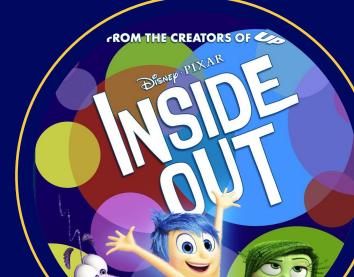
- n_estimators=100 (balanced between performance and efficiency)
- max_depth=5 (preventing overfitting)
- subsample and max_features (memory optimization)



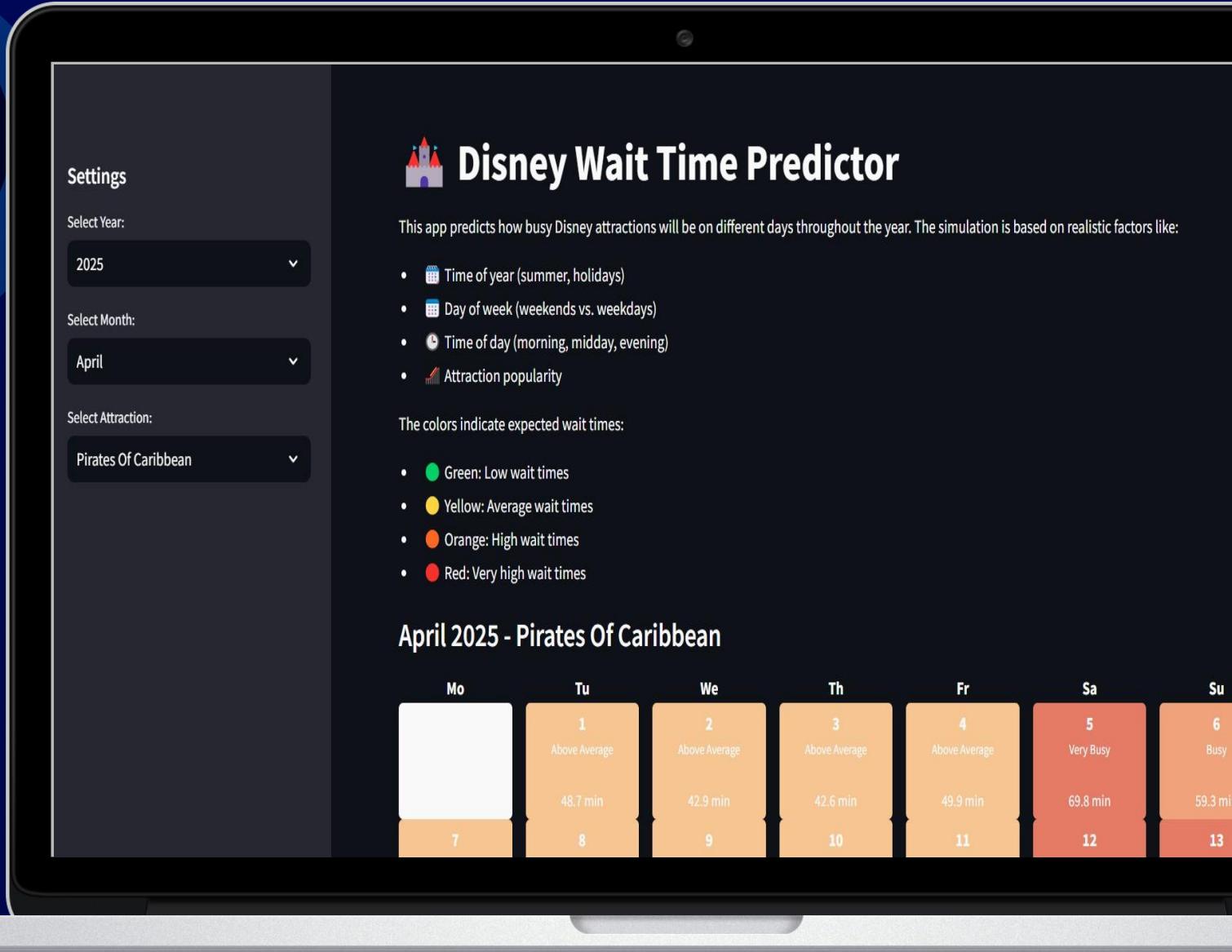
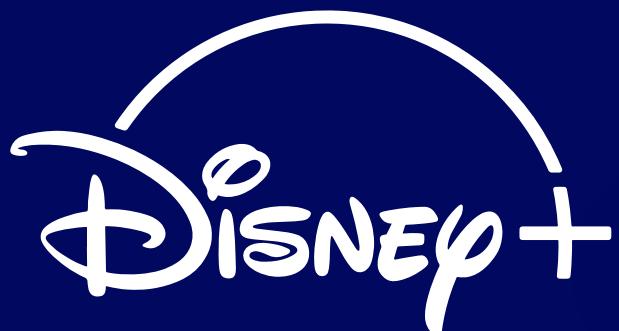


12.65 Mean Absolute Error

Average prediction error in minutes



CALENDAR



The image shows a smartphone displaying the Disney Wait Time Predictor app. The app's interface includes a "Settings" section with dropdown menus for "Select Year" (set to 2025), "Select Month" (set to April), and "Select Attraction" (set to Pirates Of Caribbean). To the right of the phone, there is promotional text and a color-coded calendar for April 2025.

Disney Wait Time Predictor

This app predicts how busy Disney attractions will be on different days throughout the year. The simulation is based on realistic factors like:

- Time of year (summer, holidays)
- Day of week (weekends vs. weekdays)
- Time of day (morning, midday, evening)
- Attraction popularity

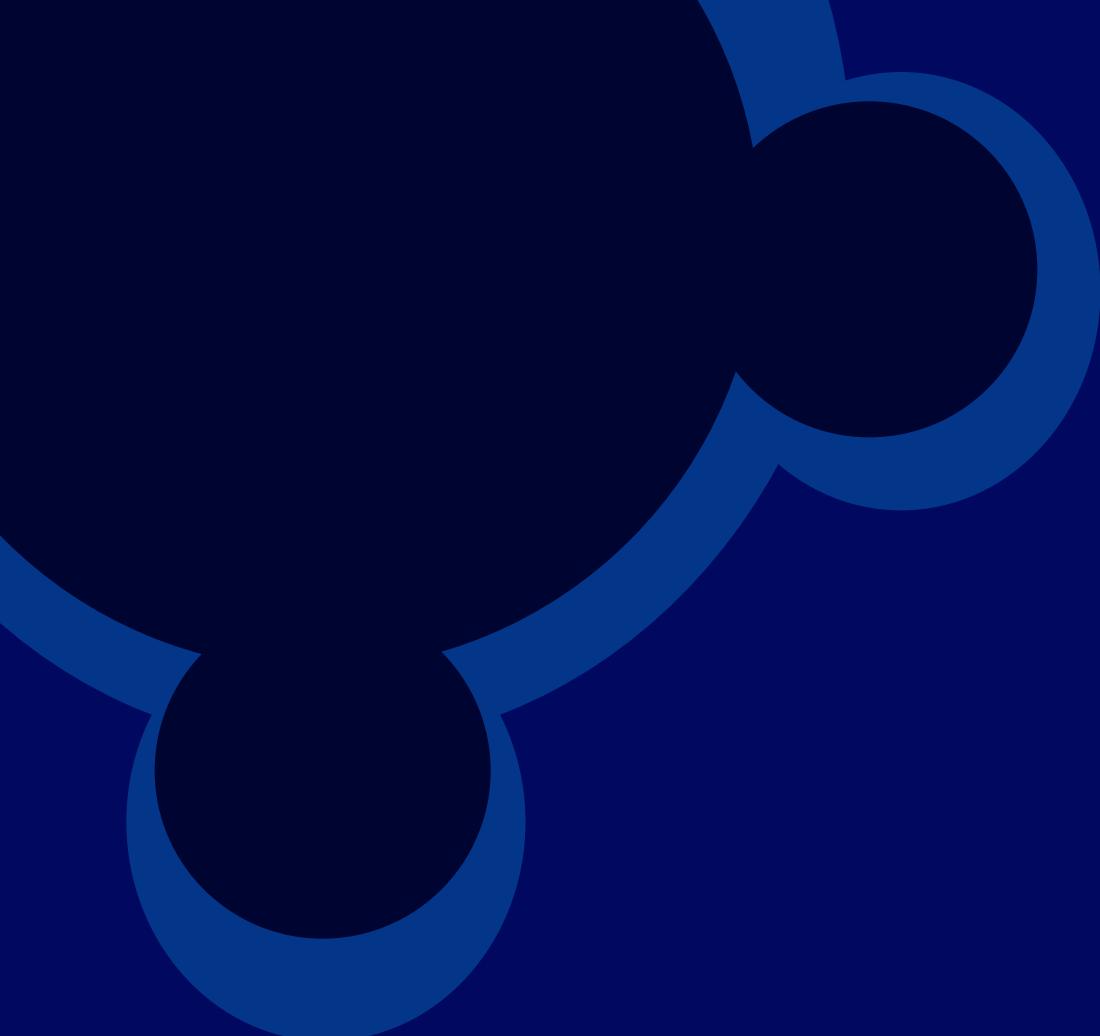
The colors indicate expected wait times:

- Green: Low wait times
- Yellow: Average wait times
- Orange: High wait times
- Red: Very high wait times

April 2025 - Pirates Of Caribbean

Mo	Tu	We	Th	Fr	Sa	Su	
	1 Above Average 48.7 min	2 Above Average 42.9 min	3 Above Average 42.6 min	4 Above Average 49.9 min	5 Very Busy 69.8 min	6 Busy 59.3 min	
	7	8	9	10	11	12	13





THANKS

- ! Walt Disney's first original character was a rabbit.
- Disney parks are popular places to scatter human ashes.
- The drawbridge at Sleeping Beauty's Castle actually works.
- You'll never hear a Disney cast member say I don't know.

