# Fire up the Grill?

## Using Classification Modeling to Predict Weather Outcomes

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# Outline

- Overview

- Business Understanding

- Data

- Modeling

- Evaluation

- Conclusions



https://www.tripadvisor.ie/LocationPhotoDirectLink-g294009-d5874450-i354005338-The_Seasons_Restaurant-Doha.html

# Overview

- Find the best classification model for predicting BBQ weather

- Determine most important weather factors



https://www.amazon.com/HIZLJJ-Firepit-Outdoor-Griddle-Restaurant/dp/B08JTQ6RGH
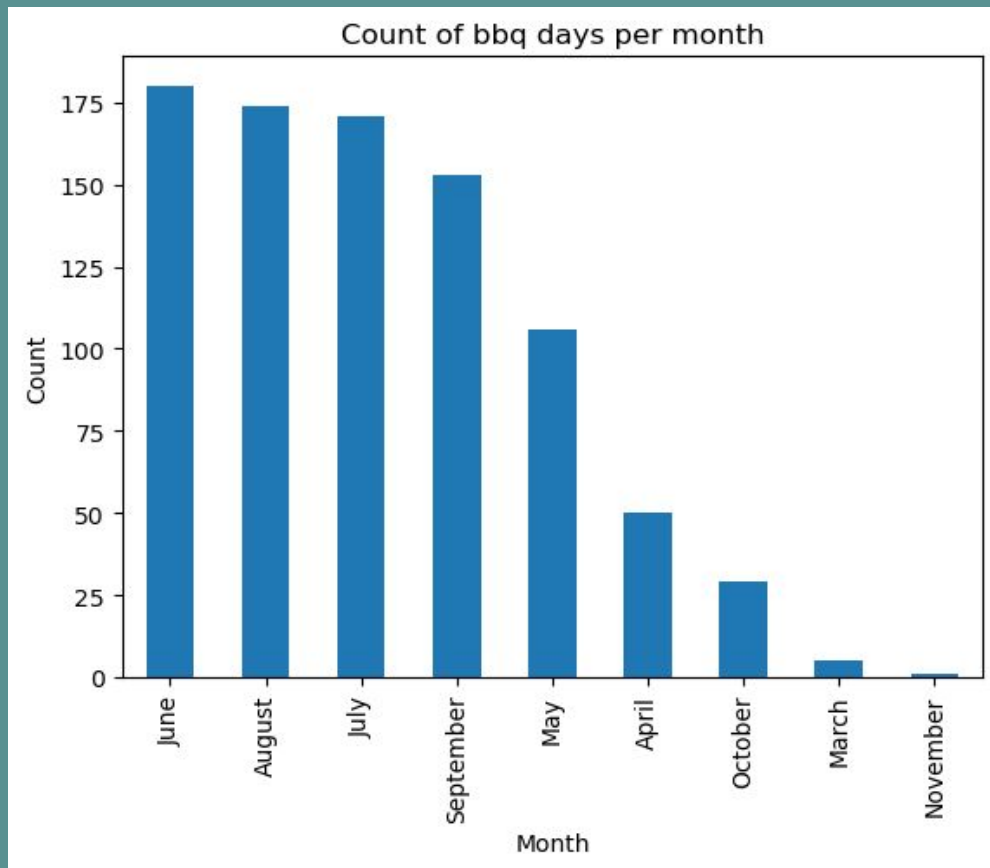
# Business Understanding

- All Fired Up- barbeque restaurant in London, UK.

- New outdoor grill

- Weather seems to be a huge factor in business

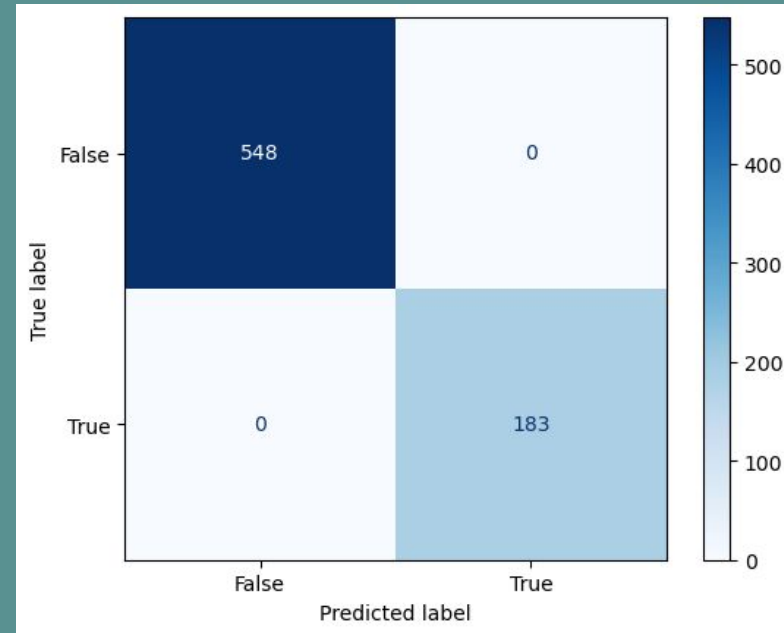- Setting up the outdoor charcoal grills takes a lot of time and resources
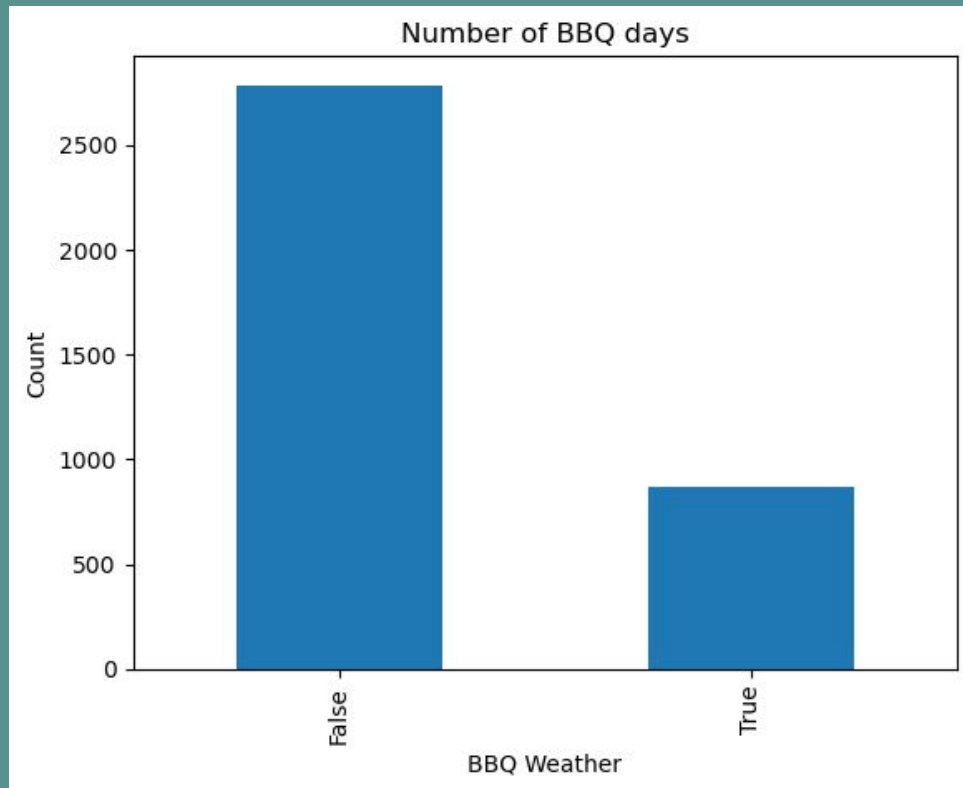
# Data

- Heathrow meteorological station

- 3,654 records

- Weather factors

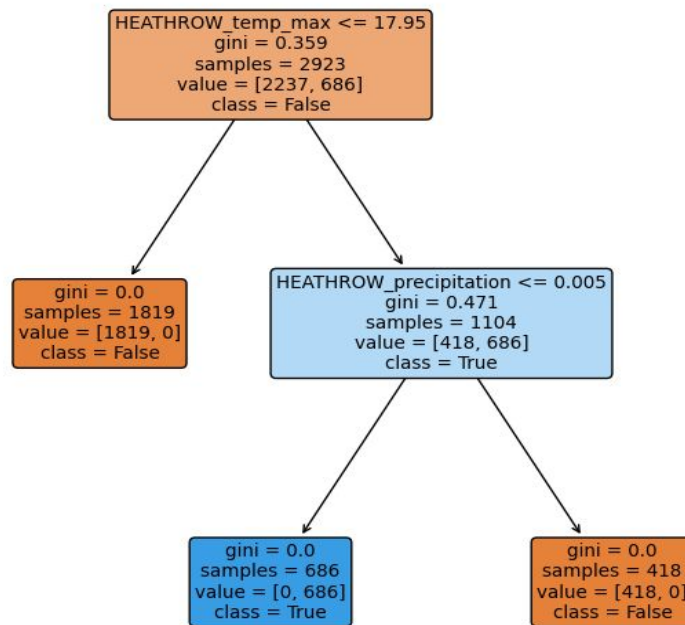- 2000 - 2010

- 2,785 False

- 869 True

# Modeling

- Various classification models were explored

- Experimented with altering hyperparameters

- Minimize false positives

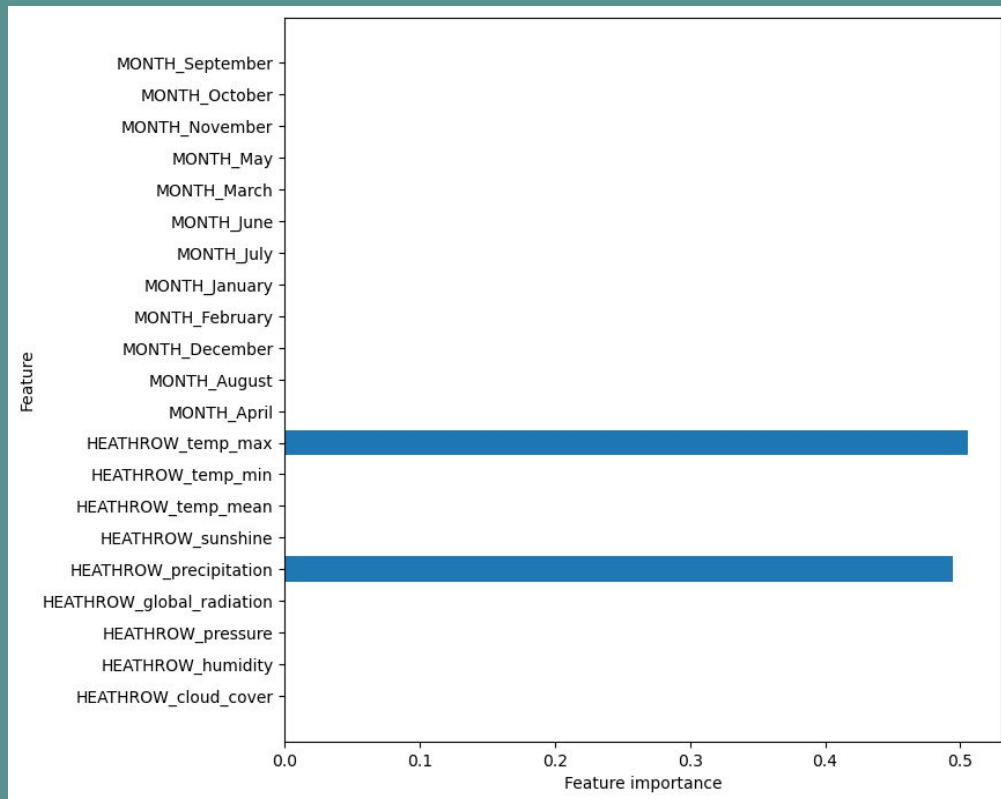- F1 score primary metric for evaluation

# Evaluation

- Decision tree models performed best

- F1 score of 100

- Basic decision tree less computationally expensive

# Conclusions

- Max temperature and precipitation are the most important factors

- Consider closing the outdoor area in Winter

# Limitations and Next Steps

- Determine relationship between "percent chance of precipitation" and outcome

- Wind is likely a factor

- Data is from a decade ago

- Climate change

# Thank You!

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