Volag

Weather Delay Analysis

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Goals

- Identify causes of flight delays
  - Focus on weather observations on the day of a particular delayed flight
- Find other correlations in data
- Predict flight delays
  - Whether or not a flight *will* be delayed
 - How *long* a flight will be delayed

Progress

- Linked weather stations to airports
- Merged weather data with flight data
- Visualized data
- Performed initial correlation analysis
  - Created correlation heatmap, correlation matrix, and analyzed top correlation figures
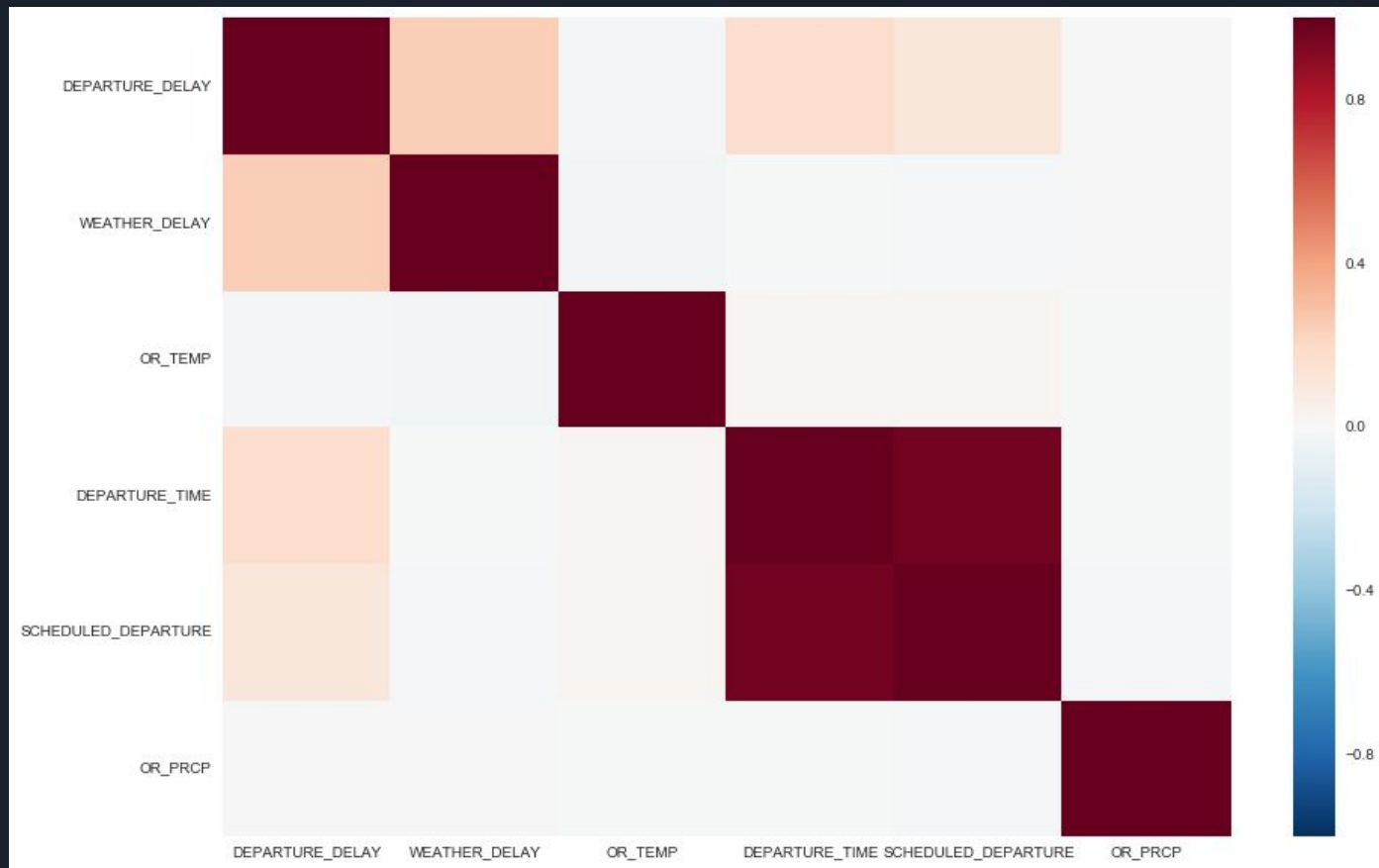- Started training decision tree model

Findings

● Almost no apparent correlation between individual weather features and delay.
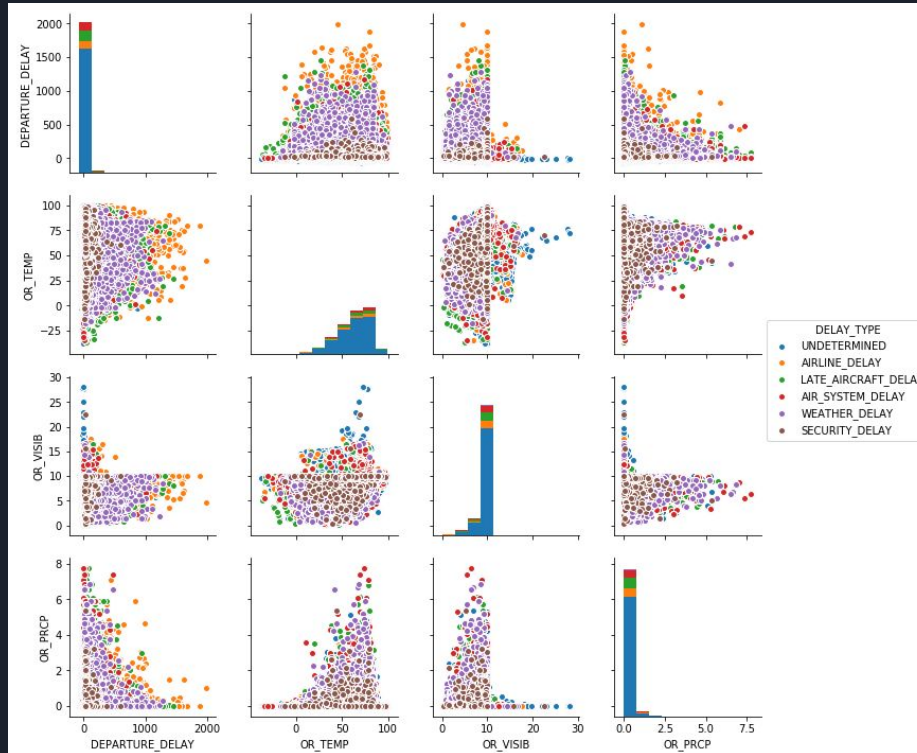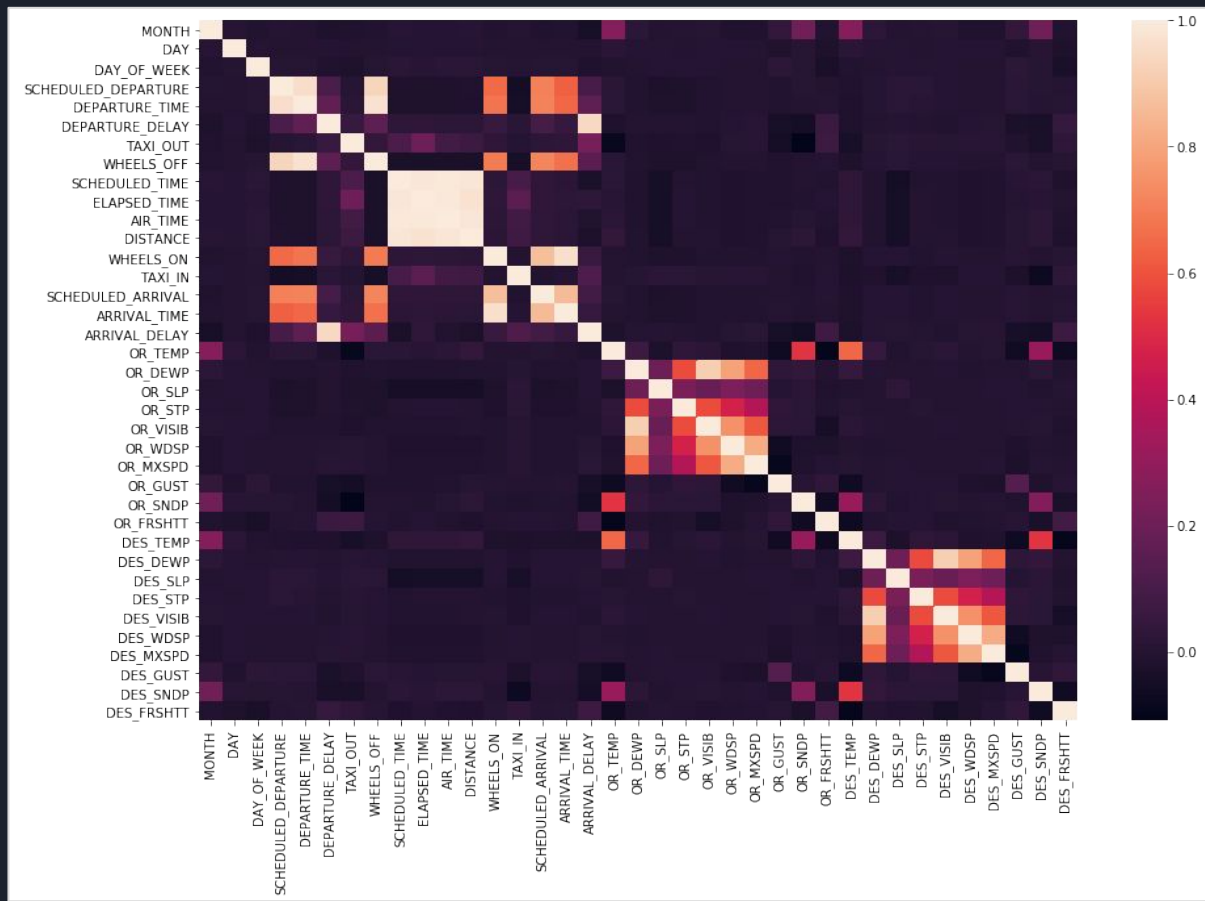
Correlation heatmap of flight features vs. weather features

Another correlation heatmap - no correlation between delay and temperature or precipitation

Challenges

- Weather data is daily instead of more granular
- Flight data doesn't show which airport was the cause of the delay
    - Was the delay caused at the origin or the destination
- Single features may not capture the complexity of weather effects
    - We're able to use temperature, wind speed, dew point, air pressure, visibility, gust, etc.

Going Forward

- Continue to search for correlations
- Train models to find features, or combinations of features, that can predict flight delays
- Possibly find better weather data (time intensive)

Questions