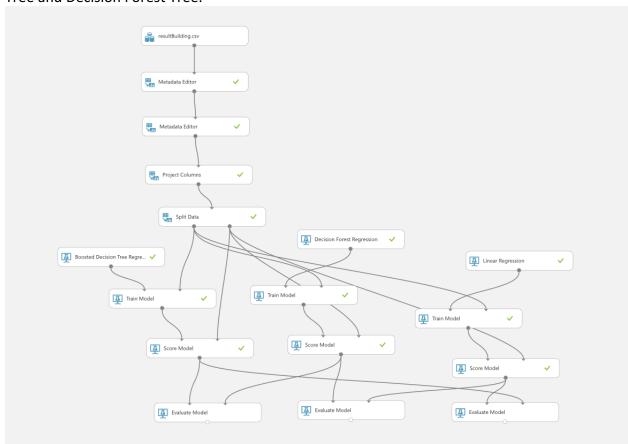
Algorithms and Evaluation

Group 1

Models

We used three algorithms to train the model, they are Leaner Regression, Boosted Decision Tree and Decision Forest Tree.



Boosted Decision Tree:

The setting of Boosted Decision Tree is like this:

Properties Project

| Boosted Decision Tree Regressi |
|--------------------------------|
| Create trainer mode |
| Single Parameter 💠 |
| Maximum number of leav |
| 20 |
| Minimum number of sam |
| 10 |
| Learning rate |
| 0.2 |
| Total number of trees cons |
| 100 |
| Random number seed |
| |
| ✓ Allow unknown cated == |

Properties Project

Decision Forest Regression

| Resampling method |
|--------------------------|
| Bagging |
| Create trainer mode |
| Single Parameter 💝 |
| Number of decision trees |
| 8 |
| Maximum depth of the de |
| 32 |
| Number of random splits |
| 128 |
| Minimum number of sam |
| 1 |
| ✓ Allow unknown values |

Properties Project

▲ Linear Regression

| Solution method | |
|--------------------------|-----------|
| Ordinary Least Squares | \$ |
| L2 regularization weight | |
| 0.001 | |
| ✓ Include intercept term | = |
| Random number seed | |
| | |
| ✓ Allow unknown categ | |

Evaluation

| | Leaner Regression | Decision Tree | Decision Forest Regression |
|---------------|-------------------|---------------|-------------------------------|
| Root Mean | 1225.98 | 685.89 | 708.79 |
| Squared Error | | | |

| ▲ Metrics | | | | | |
|---|---|---|---|---------------------------------|--|
| Mean Absolute Error Root Mean Squared Error | | Mean Absolute Error Root Mean Squared | | 378.621608 685.89243 | |
| e Error | 0.235613 | Relative Absolute Error 0.1208 Relative Squared Error 0.0128 Coefficient of | | 0.120809 0.01281 | |
| d Error | 0.040928 | | | | |
| | 0.959072 | | | 0.98719 | |
| Mean Absolute Error | Root Mean Squared Error | Relative Absolute Error | Relative Squared Error | Coefficient of Determination | |
| 1.1 | 1.1 | 1.1 | 1.1 | | |
| 378.621608 | 685.89243 | 0.120809 | 0.01281 | 0.98719 | |
| 443.948324 | 708.978501 | 0.132175 | 0.011964 | 0.988036 | |
| Mean Absolute Error | Root Mean Squared Error | Relative Absolute Error | Relative Squared Error | Coefficient of Determination | |
| 1.1 | 1.1 | 1.1 | 1.1 | | |
| 443.948324 | 708.978501 | 0.132175 | 0.011964 | 0.988036 | |
| 738.425898 | 1225.986035 | 0.235613 | 0.040928 | 0.959072 | |
| t | Mean Absolute Error 378.621608 443.948324 Mean Absolute Error | 1225.986035 te Error 0.235613 0.040928 0.959072 Mean Absolute Error Root Mean Squared Error 378.621608 443.948324 Root Mean Squared Error Root Mean Squared Error Root Mean Squared Error Root Mean Squared Error Additional Squared Error Root Mean Squared Error Root Mean Squared Error Root Mean Squared Error | Ared 1225.986035 Relative Are Error 10.040928 0.959072 Relative Are Coefficient Determin Mean Absolute Error Root Mean Squared Error Relative Absolute Error Available Error Relative Absolute Error Available Absolute Error Relative Absolute Error Relative Absolute Error Available Absolute Error Relative Absolute Error Relative Absolute Error Available Available Absolute Error Relative Absolute Error Relative Absolute Error Relative Absolute Error Available Absolute Error | Error 738.425898 | |

Finally, we decided to use Decision Tree model to build service for prediction.