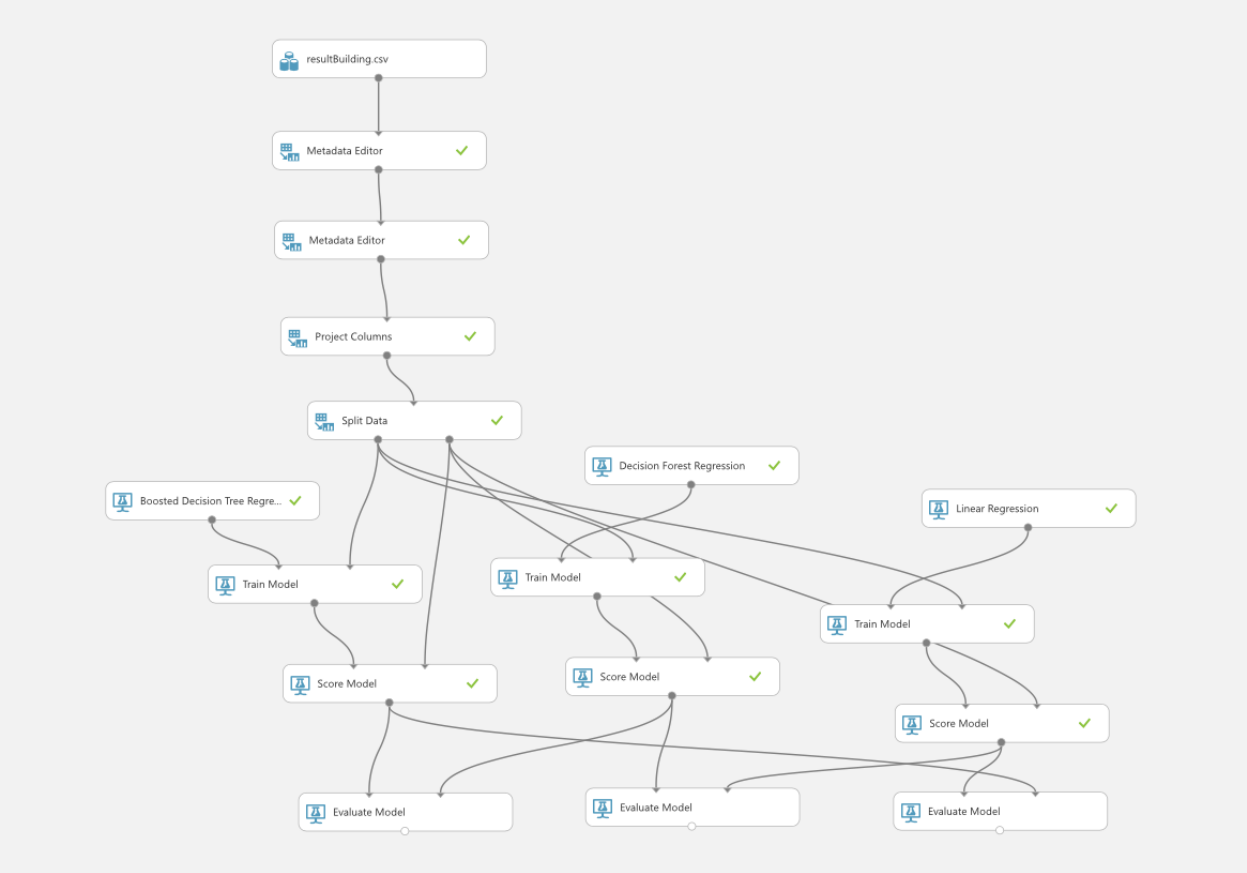
Algorithms and Evaluation

Group 1

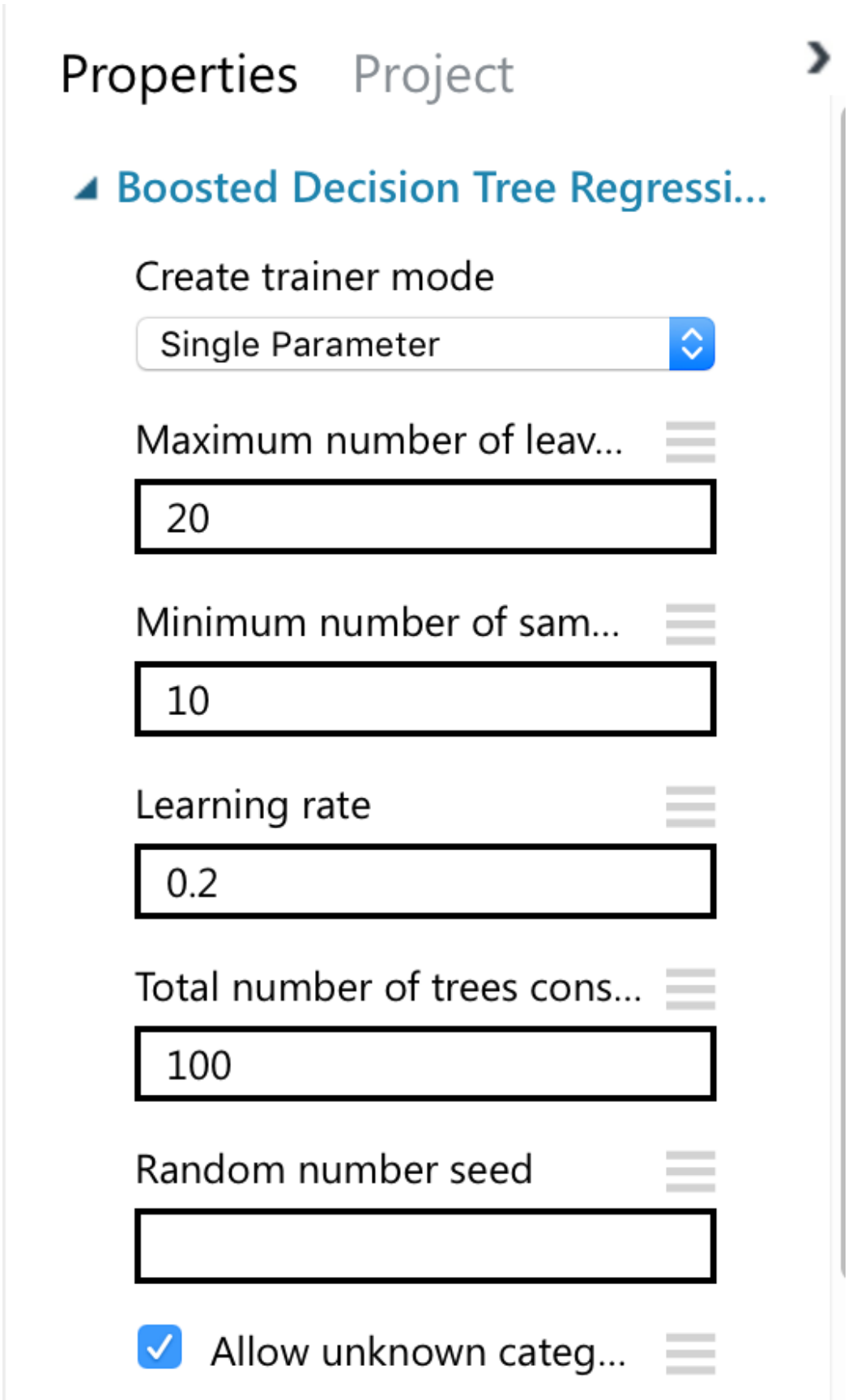
Models

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



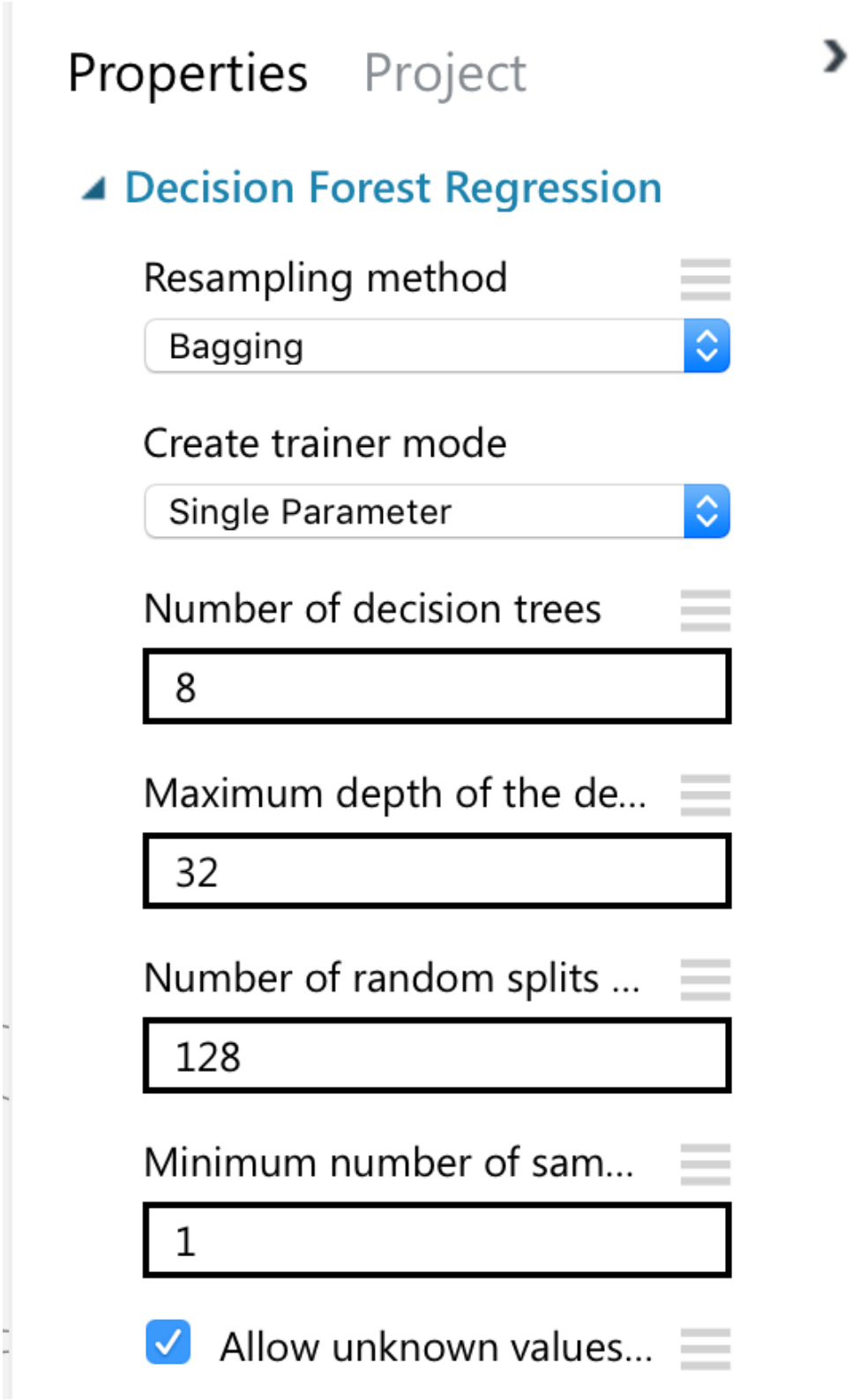
Boosted Decision Tree:

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 categ...

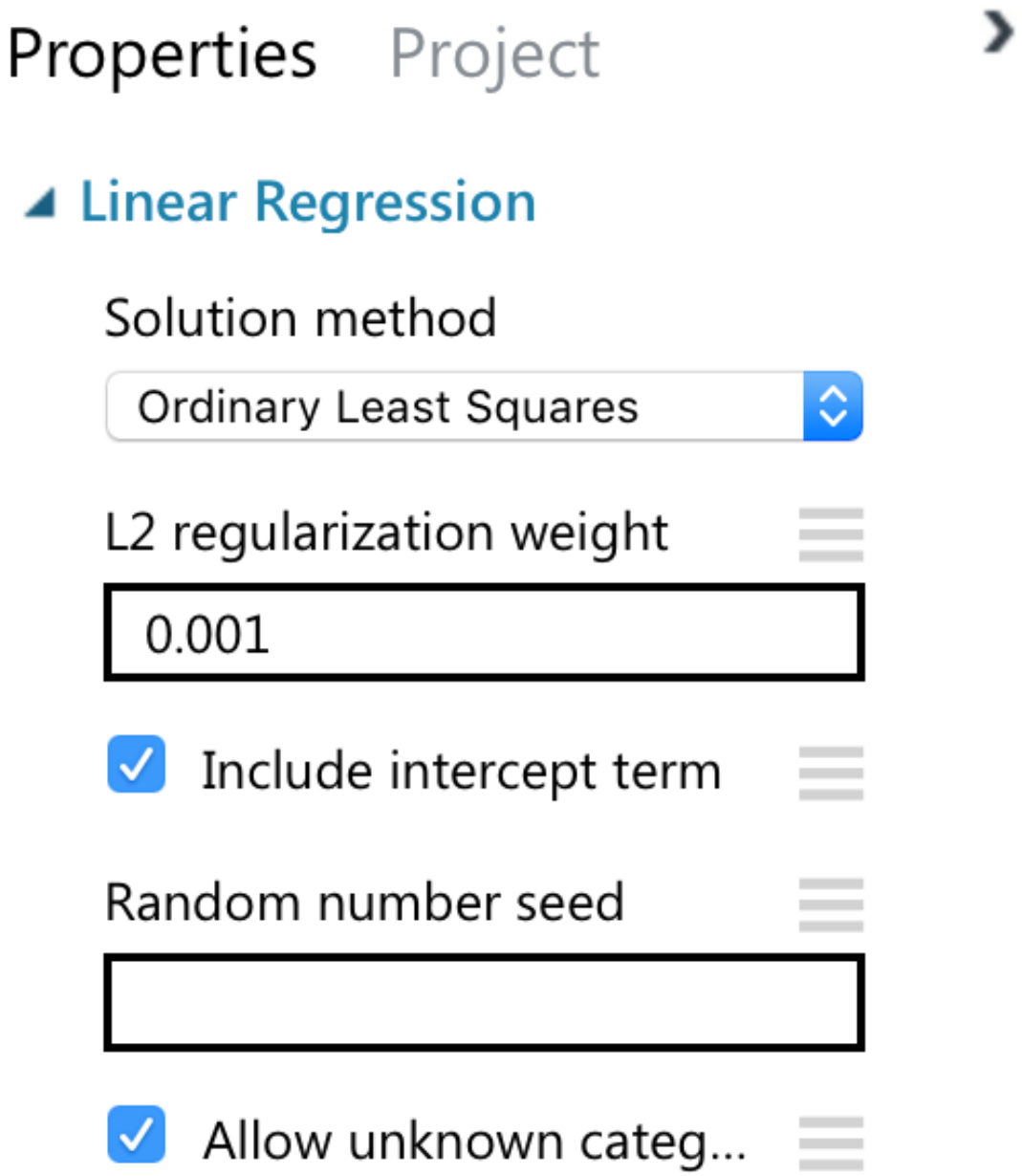
Decision Forest Tree

The setting of Decision Forest Tree is this:



Leaner Regression

Leaner Regression setting is that:



Evaluation

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

Metrics

Mean Absolute Error	**738.425898**
Root Mean Squared Error	**1225.986035**
Relative Absolute Error	**0.235613**
Relative Squared Error	**0.040928**
Coefficient of Determination	**0.959072**

Metrics

Mean Absolute Error	**378.621608**
Root Mean Squared Error	**685.89243**
Relative Absolute Error	**0.120809**
Relative Squared Error	**0.01281**
Coefficient of Determination	**0.98719**

Negative Log Likelihood	Mean Absolute Error	Root Mean Squared Error	Relative Absolute Error	Relative Squared Error	Coefficient of Determination
Infinity	378.621608	685.89243	0.120809	0.01281	0.98719
34762.24869	443.948324	708.978501	0.132175	0.011964	0.988036

Negative Log Likelihood	Mean Absolute Error	Root Mean Squared Error	Relative Absolute Error	Relative Squared Error	Coefficient of Determination
34762.24869	443.948324	708.978501	0.132175	0.011964	0.988036
Infinity	738.425898	1225.986035	0.235613	0.040928	0.959072

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