Taxi Fare

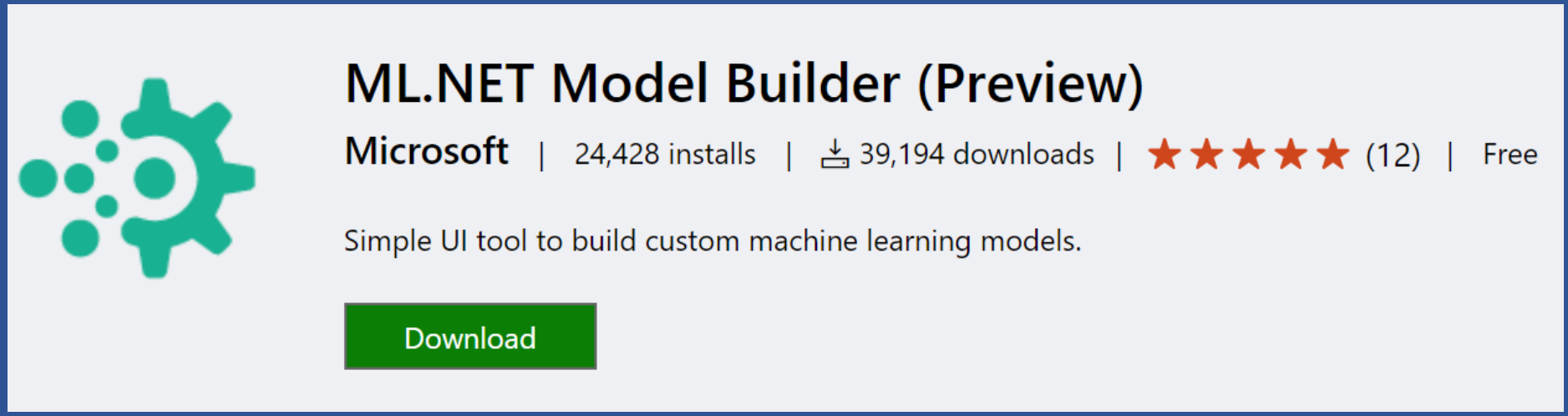
AutoML

What's in this session?

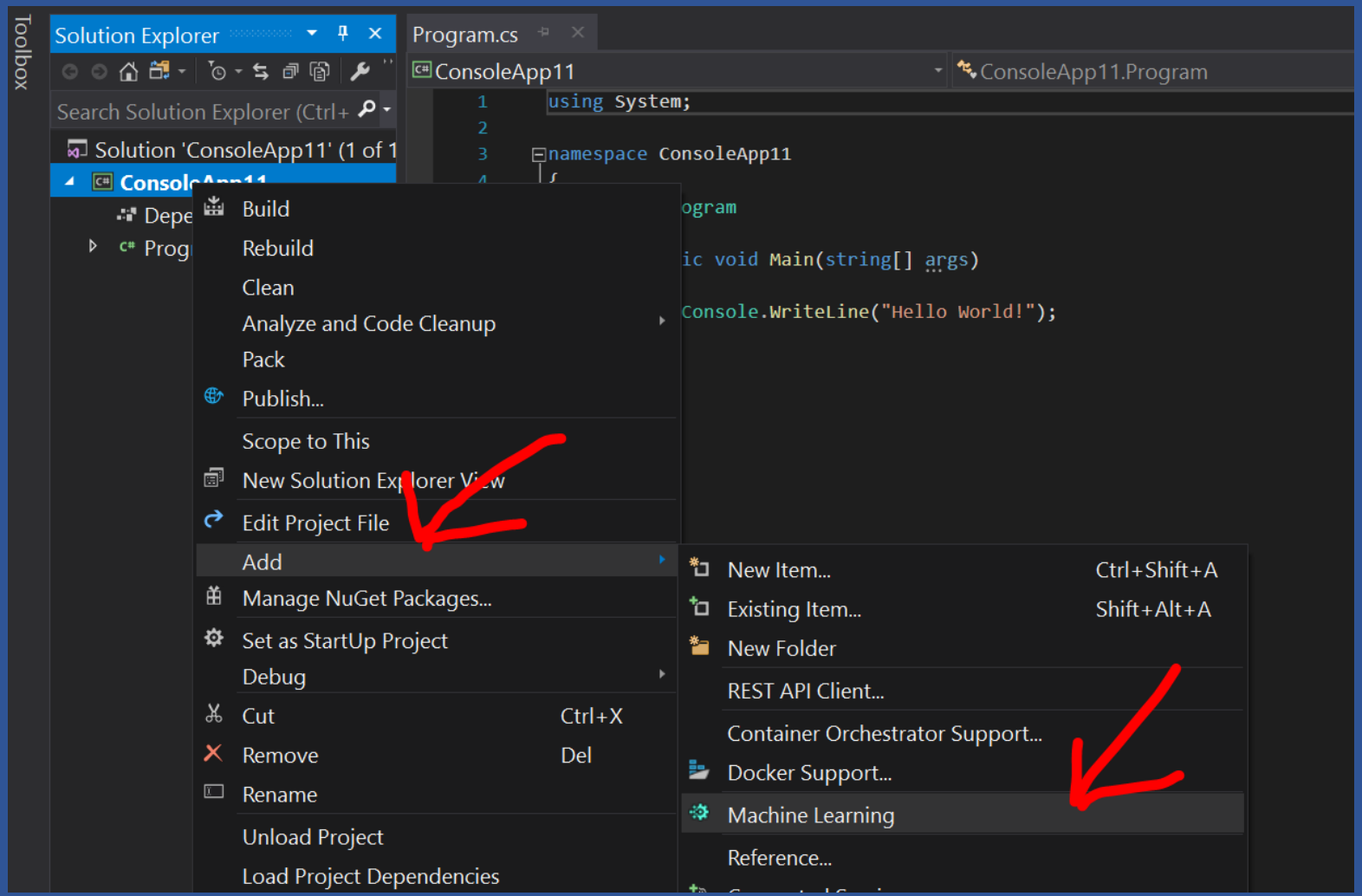
1. Install ML.NET Model Builder
2. Create new .NET CORE console project and add Machine Learning job
3. Pick a Scenario / Price Prediction
4. Set Data File
5. Train 60 seconds
6. Understand Train result
7. Understand evaluation result
8. Generate Code
9. Examine Code

Install ML.NET Model Builder

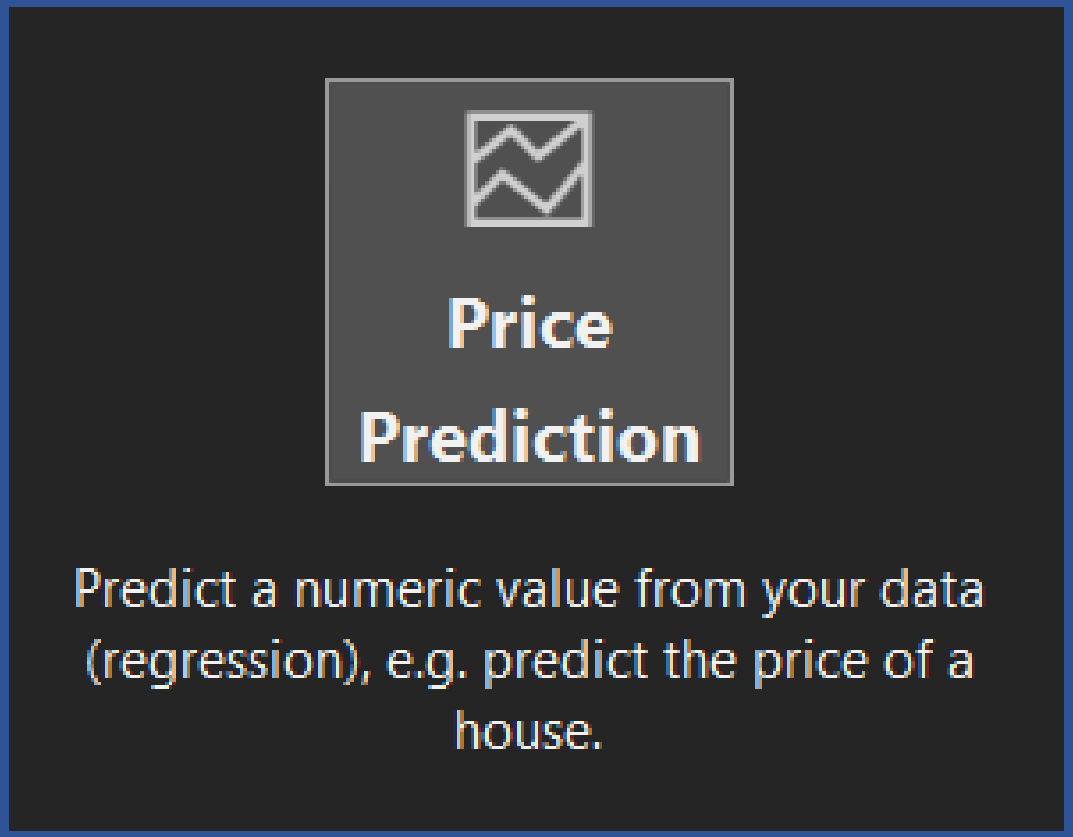
https://marketplace.visualstudio.com/items?itemName=MLNET.07



Create new .NET CORE console project and add Machine Learning

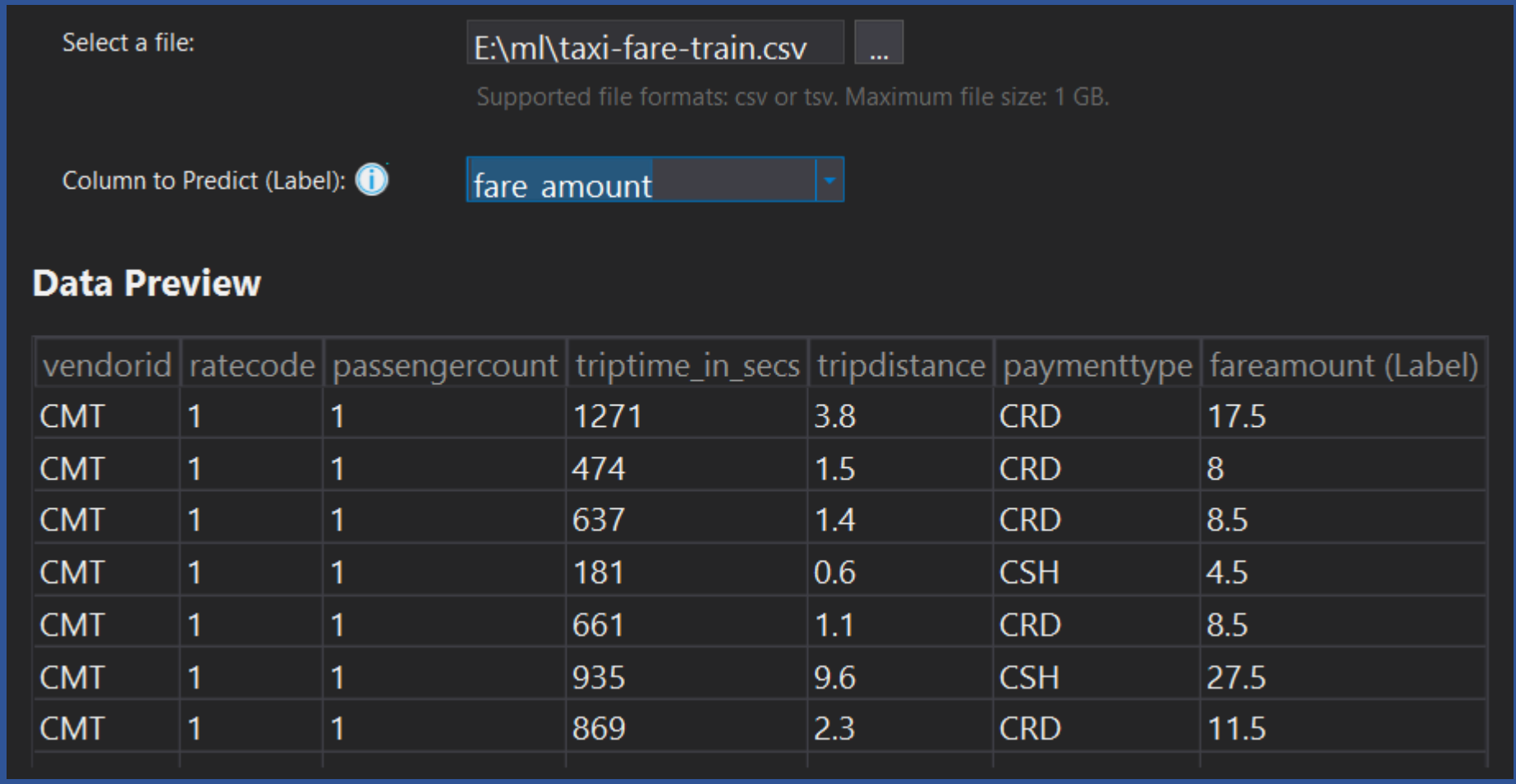


Pick a Scenario / Issue Classification



Set Data File

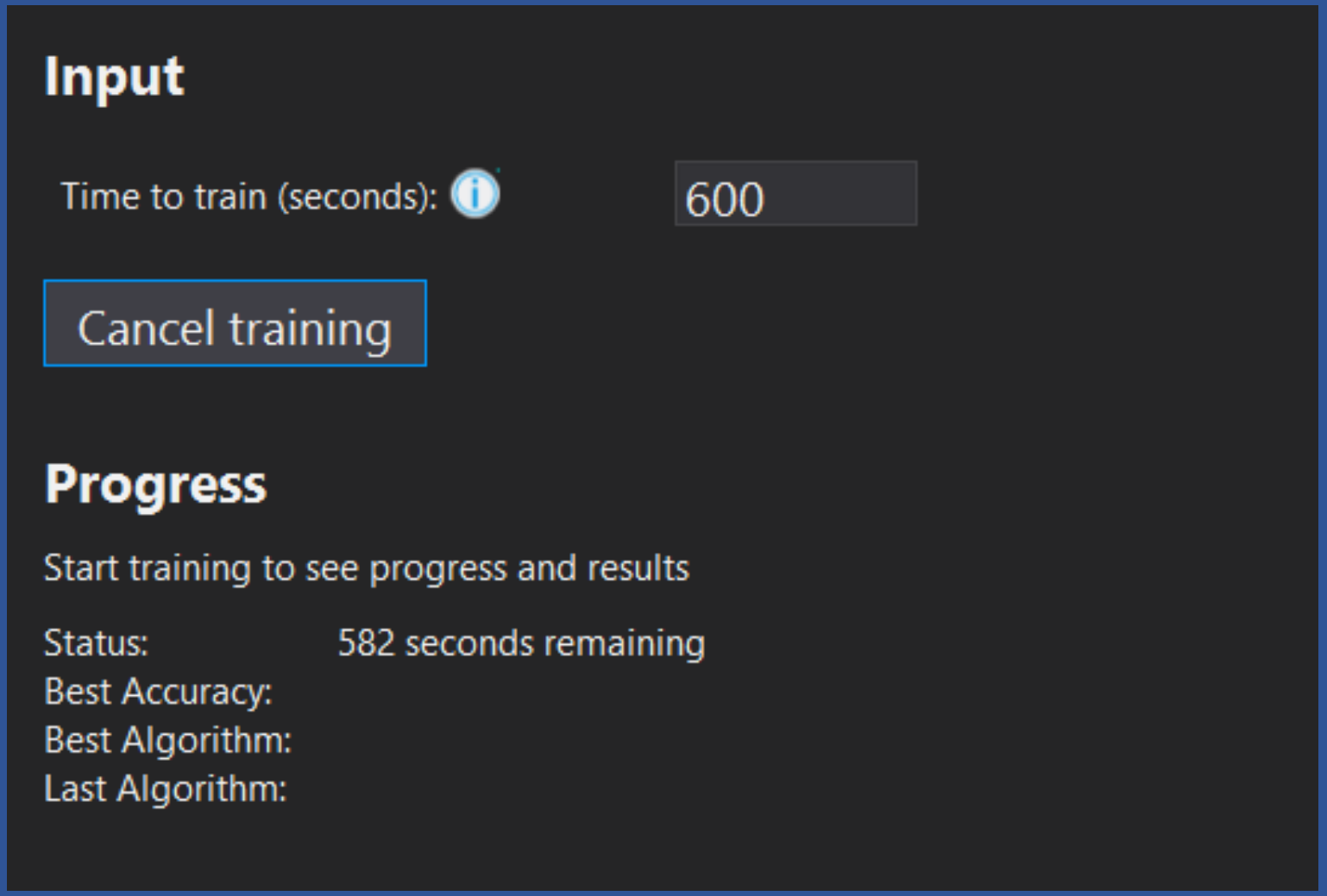
Data / File /taxi-fare-train.csv
Label column name = fare_amount



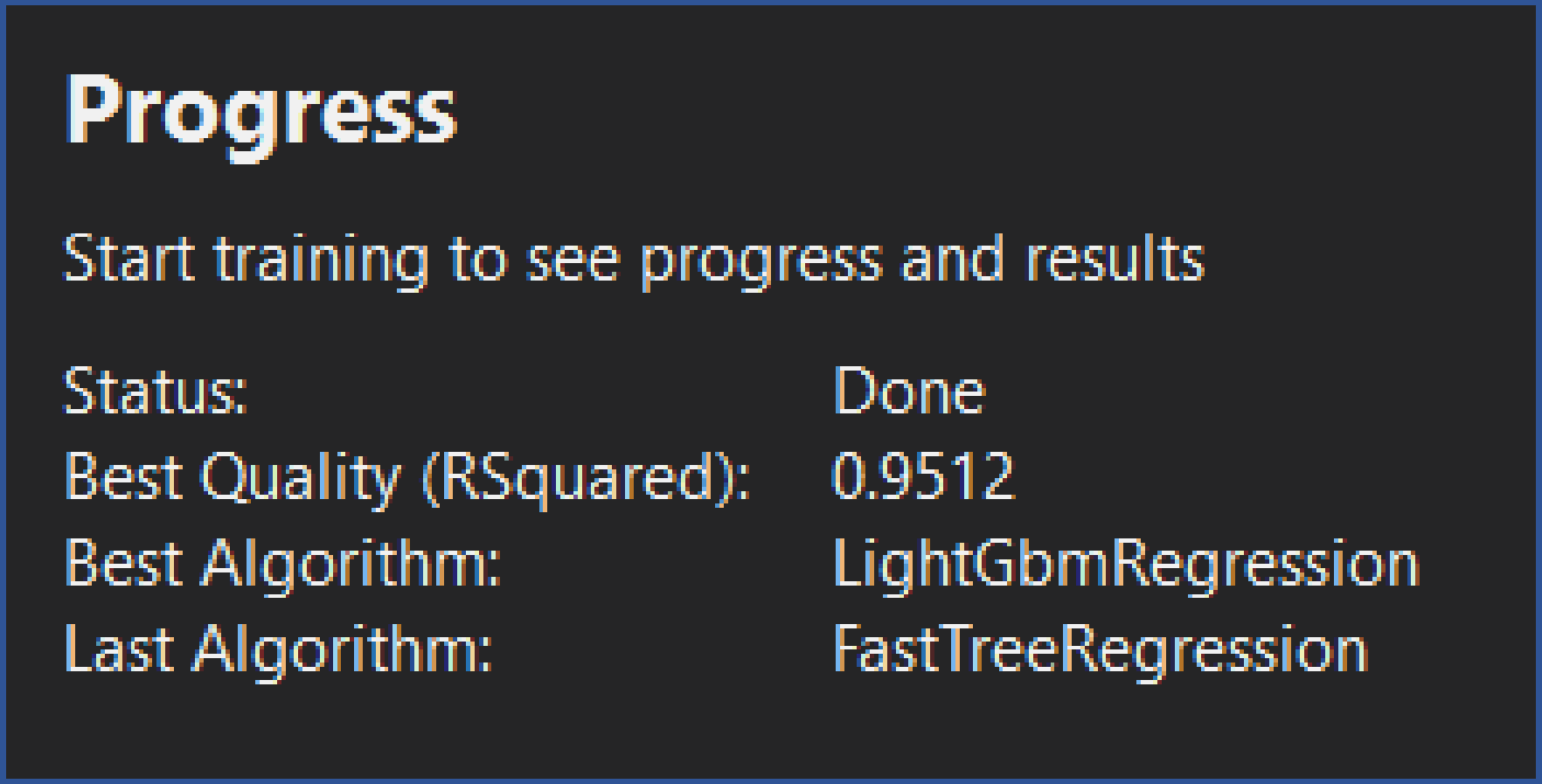
Data Preview

vendorid	ratecode	passengercount	triptime_in_secs	tripdistance	paymenttype	fareamount (Label)
CMT	1	1	1271	3.8	CRD	17.5
CMT	1	1	474	1.5	CRD	8
CMT	1	1	637	1.4	CRD	8.5
CMT	1	1	181	0.6	CSH	4.5
CMT	1	1	661	1.1	CRD	8.5
CMT	1	1	935	9.6	CSH	27.5
CMT	1	1	869	2.3	CRD	11.5

Train 600 seconds



Understand the Train result



Understand evaluation result

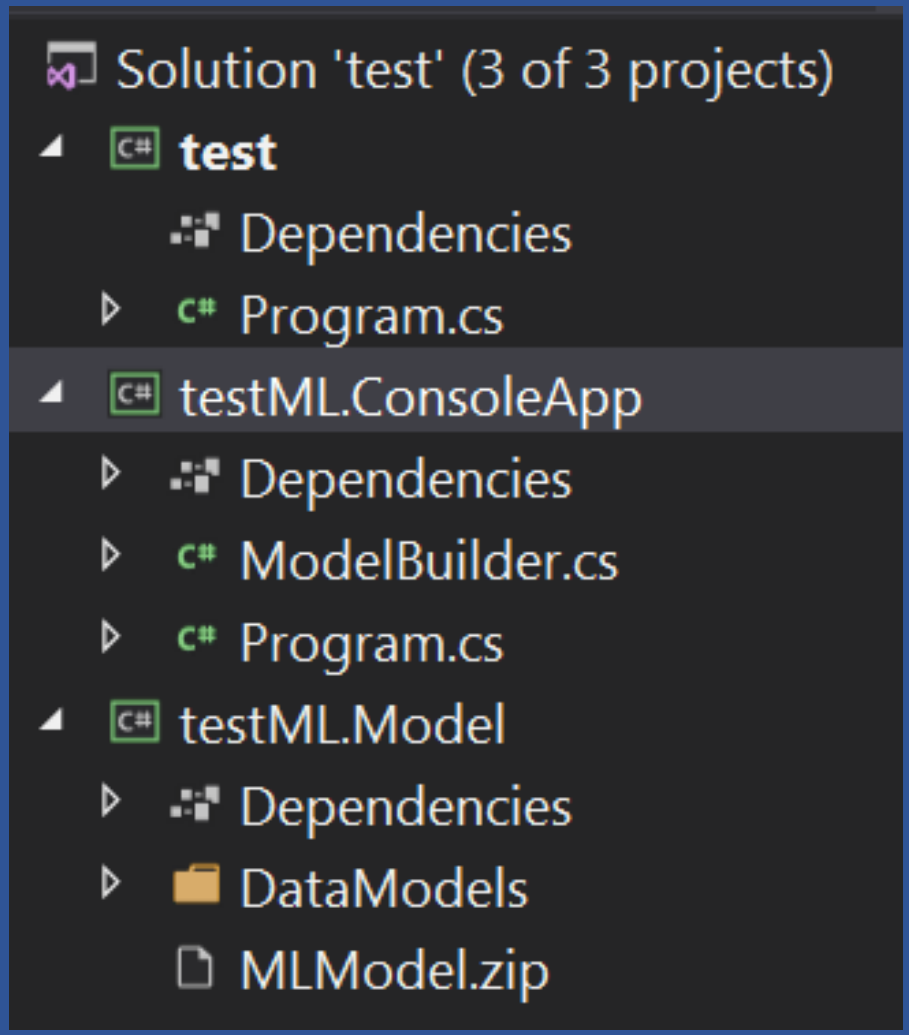
Output

ML Task:	regression
Dataset:	taxi-fare-train.csv
Column to Predict (Label):	fare_amount
Best Model:	LightGbmRegression
Best Model Quality (RSquared):	0.9512
Training Time:	601.41 seconds
Models Explored (Total):	58

Top 5 models explored

Rank	Trainer	RSquared	Absolute-loss	Squared-loss	RMS-loss	Duration
1	LightGbmRegression	0.9512	0.41	4.50	2.12	4.3
2	LightGbmRegression	0.9506	0.43	4.56	2.14	4.2
3	LightGbmRegression	0.9502	0.43	4.60	2.14	3.2
4	LightGbmRegression	0.9497	0.41	4.64	2.15	5.4
5	FastTreeTweedieRegression	0.9491	0.44	4.70	2.17	10.0

Examine Code



Next Step

Write Code to build, train, evaluate, and use ML model