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STUDENT AMBASSADOR




# Azure ML Proje Ödevi

Ferhat Ali Tokuç



# Aşama 1-Verileri Register Etme

Covid Vaka tablosunu sisteme yükledim. Algoritmanın hızlı çalışması ve Auto ML 'in verimliliğini arttırmak için boş sütunları ve gereksiz verileri (handwashing\_facilities gibi) kaldırdım.

Attributes
Properties
Tabular
Description

Created by
Ferhat Ali TOKUÇ
Datastore
<a href="#">workspaceblobstore</a>
Relative path
UI/03-22-2021_112125.UTC/owid-covid-data-_2_.csv
Profile
No profile generated
Files in dataset
1
Total size of files in dataset <sup>①</sup>
19,55 MiB
Current version
1
Latest version
1
Created time
Mar 23, 2021 2:44 AM
Modified time
Mar 23, 2021 2:44 AM

# Aşama 2 -Designer

Birden fazla model üzerinde geliştirme yaptım. En verimli çalışanı seçtim.

Run 1	f77fcef0-ed48-415d-b681-1054bf0dd089	covidalphatest02	Completed	Pipeline-Created-on-0...	24 Mar 2021 16:35	8m 47s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	4d6f1796-dff5-4cfe-a2a4-09b6f4c07d59	CovidMLAlphaV1	Completed	Pipeline-Created-on-0...	23 Mar 2021 18:58	16s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	ed9ff484-ea60-44e5-abd4-6f838bde9202	twoclassboosted	Failed	Pipeline-Created-on-0...	23 Mar 2021 18:52	5m 7s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	53e040bc-11c8-4fe4-9a65-91ff91cebeac	CovidMulticlassboosted	Completed	Pipeline-Created-on-0...	23 Mar 2021 17:18	38m 15s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	bec139d6-5070-455f-b737-eb7a6ef4e3...	CovidDataManuelTrainTestTwoclass	Failed	Pipeline-Created-on-0...	23 Mar 2021 17:02	5m 1s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	1287a853-a0e7-40dd-a2b7-2795bcd66ff2	CovidDataManuelTrainTestmultipleDecision	Completed	Pipeline-Created-on-0...	23 Mar 2021 16:54	6m 56s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	dc3de35d-f250-4763-bfed-d24e47f608d6	CovidDataManuelTrainTestBoostedDecision	Completed	Pipeline-Created-on-0...	23 Mar 2021 16:43	9m 3s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	685684c0-f54e-443e-8e42-1da77c1a03d2	CovidDataManuelTrainTestDecisionForest	Completed	Pipeline-Created-on-0...	23 Mar 2021 16:02	23m 59s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	6532fea9-87fe-4d75-9f80-ea937f2ad281	CovidDataManuelTrainTestNeuralNetwork	Completed	Pipeline-Created-on-0...	23 Mar 2021 15:51	8m 9s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 11	ea513a97-0b62-49d3-8256-de2afb8d0d...	CovidDataManuelTrainTestFastForest	Completed	Pipeline-Created-on-0...	23 Mar 2021 15:49	12s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	f72ad197-49c1-46a0-a13f-42476a328dd1	CovidDataManuelTrainTestFastForest	Completed	Pipeline-Created-on-0...	23 Mar 2021 15:48	11s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 22	a44fcde7-e824-4f3d-8f3b-6e7608c7ece5	CovidDataManuelTrainTest08Poission	Completed	Pipeline-Created-on-0...	23 Mar 2021 15:40	5m 4s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 15	1f986e72-8f72-4f38-9863-aefeced8e405	CovidDataManuelTrainTest08Poission	Failed	Pipeline-Created-on-0...	23 Mar 2021 15:34	5m 31s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 8	3578fdf5-153d-48f8-9b9d-ace292566b28	CovidDataManuelTrainTest08Poission	Failed	Pipeline-Created-on-0...	23 Mar 2021 15:26	5m 47s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	dfc7c60a-6f66-4b04-8e45-0461f228649e	CovidDataManuelTrainTest08Poission	Failed	Pipeline-Created-on-0...	23 Mar 2021 15:23	1m 45s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	b98a3bb3-579f-4c12-9a5e-faeb3b92c428	CovidDataManuelTrainTest07	Completed	Pipeline-Created-on-0...	23 Mar 2021 15:11	11m 2s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	db3aa0a8-8fe4-43c0-843f-1848bfa2b3dc	CovidDataManuelTrainTest06	Completed	Pipeline-Created-on-0...	23 Mar 2021 12:50	12m 16s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	31de6ca3-2971-40c8-9e76-eafe8a3f1c4b	CovidDataManuelTrainTest05	Completed	Pipeline-Created-on-0...	23 Mar 2021 12:07	18m 3s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 9	81bb2d4c-f740-40a1-a7a4-322f5140cbf6	CovidDataManuelTrainTest04	Failed	Pipeline-Created-on-0...	23 Mar 2021 05:48	5m 18s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run	Run ID	Experiment	Status	Description	Submitted time ↓	Duration	Submitted by	Tags	
Run 7	28cc48c2-dfbc-43ad-98e5-db7d0a5cf450	CovidDataManuelTrainTest03	Completed	Pipeline-Created-on-0...	23 Mar 2021 05:07	9m 5s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	48c7628d-5a4e-4127-9880-3c9fa33bc2f3	CovidDataManuelTrainTest03	Failed	Pipeline-Created-on-0...	23 Mar 2021 05:00	5m 55s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	db40cf9f-7ece-4064-8a0b-576fd0c00e5b	CovidDataManuelTrainTest02	Failed	Pipeline-Created-on-0...	23 Mar 2021 04:43	15m 3s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	f1113ddf-0e5d-4baa-a8fa-66aa035a3a70	CovidDataManuelTrainTest01	Failed	Pipeline-Created-on-0...	23 Mar 2021 04:27	10m 5s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun
Run 1	39868a68-9ba5-4ead-96bf-d3ff501efef6	Proje03Test01	Completed	Regression - Automobi...	23 Mar 2021 02:03	15m 34s	Ferhat Ali TOKUÇ	azureml.Designer : true	azureml.pipelineComponent : pipelinerun

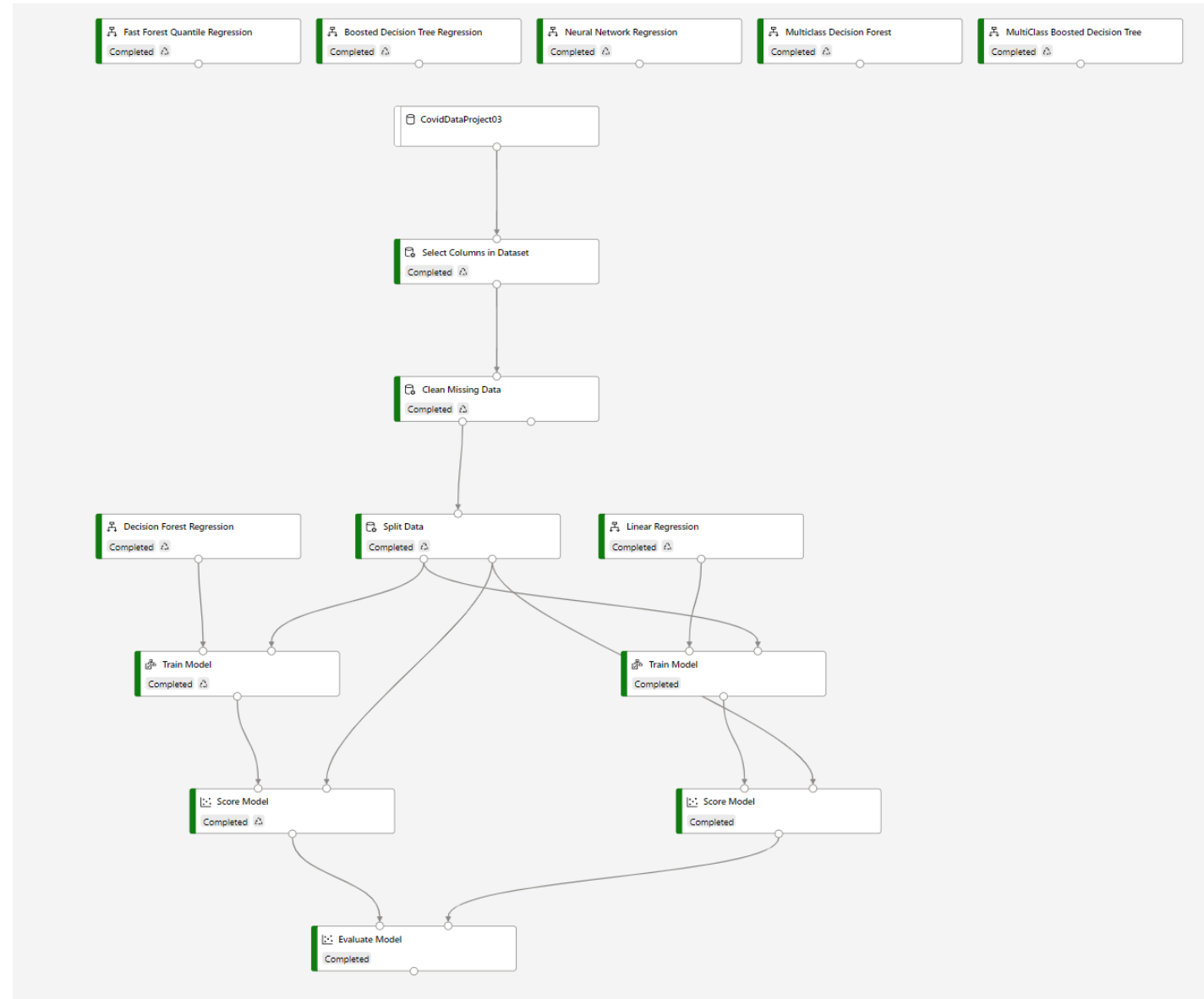
## Aşama 2 -Designer

Daha önceden herhangi bir ML şablonu üzerinde çalışmadığım için hazır bir şablon üzerinden geliştirme yaptım(Regression - Automobile Price Prediction (Compare algorithms)) .Benim tasarımım (üst) ve şablonun ilk hali (alt) arasında ciddi bir doğruluk farkı vardır.

Mean_Absolute_Error	Root_Mean_Squared_Error	Relative_Squared_Error	Relative_Absolute_Error	Coefficient_of_Determination
644.671678 3764.782557	3642.043098 16222.043056	0.0212 0.420596	0.13648 0.797022	0.9788 0.579404

# Aşama 2 -Designer

Tasarımım şu şekildedir:



# AŞAMA 3-AUTO ML

Auto ML ile %98.12 oranında başarılı bir sonuç buldum. Benim tasarladığım model buradaki 2. modelden daha başarılı bir şekilde çalışmaktadır.

Algorithm name	Explained	Spearman correlation ↓	Sampling ⓘ	Created	Duration
MaxAbsScaler, DecisionTree		0.98121	1.23 %	Mar 23, 2021 4:28 AM	1m 0s
SparseNormalizer, XGBoostRegressor		0.97921	1.23 %	Mar 23, 2021 4:46 AM	1m 10s
MaxAbsScaler, DecisionTree		0.97859	1.23 %	Mar 23, 2021 4:23 AM	1m 2s
MaxAbsScaler, DecisionTree		0.97569	1.23 %	Mar 23, 2021 4:43 AM	1m 2s
StandardScalerWrapper, DecisionTree		0.97483	1.23 %	Mar 23, 2021 4:35 AM	1m 11s
VotingEnsemble		0.97256	100.00 %	Mar 23, 2021 5:12 AM	1m 39s
StandardScalerWrapper, RandomForest		0.96290	1.23 %	Mar 23, 2021 4:05 AM	1m 4s
StandardScalerWrapper, XGBoostRegressor		0.95914	15.00 %	Mar 23, 2021 3:13 AM	59s
MaxAbsScaler, DecisionTree		0.95679	1.23 %	Mar 23, 2021 4:54 AM	17m 0s
MaxAbsScaler, RandomForest		0.95421	5.00 %	Mar 23, 2021 3:08 AM	40s
StandardScalerWrapper, XGBoostRegressor		0.95385	50.00 %	Mar 23, 2021 3:31 AM	1m 6s
StandardScalerWrapper, XGBoostRegressor		0.95385	100.00 %	Mar 23, 2021 3:39 AM	1m 13s
StandardScalerWrapper, RandomForest		0.95229	1.23 %	Mar 23, 2021 4:44 AM	1m 16s
MaxAbsScaler, DecisionTree		0.95195	1.23 %	Mar 23, 2021 4:51 AM	1m 0s
MaxAbsScaler, DecisionTree		0.95103	1.23 %	Mar 23, 2021 4:15 AM	59s
StandardScalerWrapper, DecisionTree		0.94892	1.23 %	Mar 23, 2021 4:16 AM	1m 5s
StandardScalerWrapper, XGBoostRegressor		0.94833	5.00 %	Mar 23, 2021 3:07 AM	1m 0s
StandardScalerWrapper, XGBoostRegressor		0.94689	1.23 %	Mar 23, 2021 4:03 AM	1m 5s
StandardScalerWrapper, DecisionTree		0.94584	1.23 %	Mar 23, 2021 4:26 AM	1m 26s
MaxAbsScaler, RandomForest		0.94562	15.00 %	Mar 23, 2021 3:14 AM	1m 4s



# Hazırlayan

- Ferhat Ali Tokuç

