FIAP

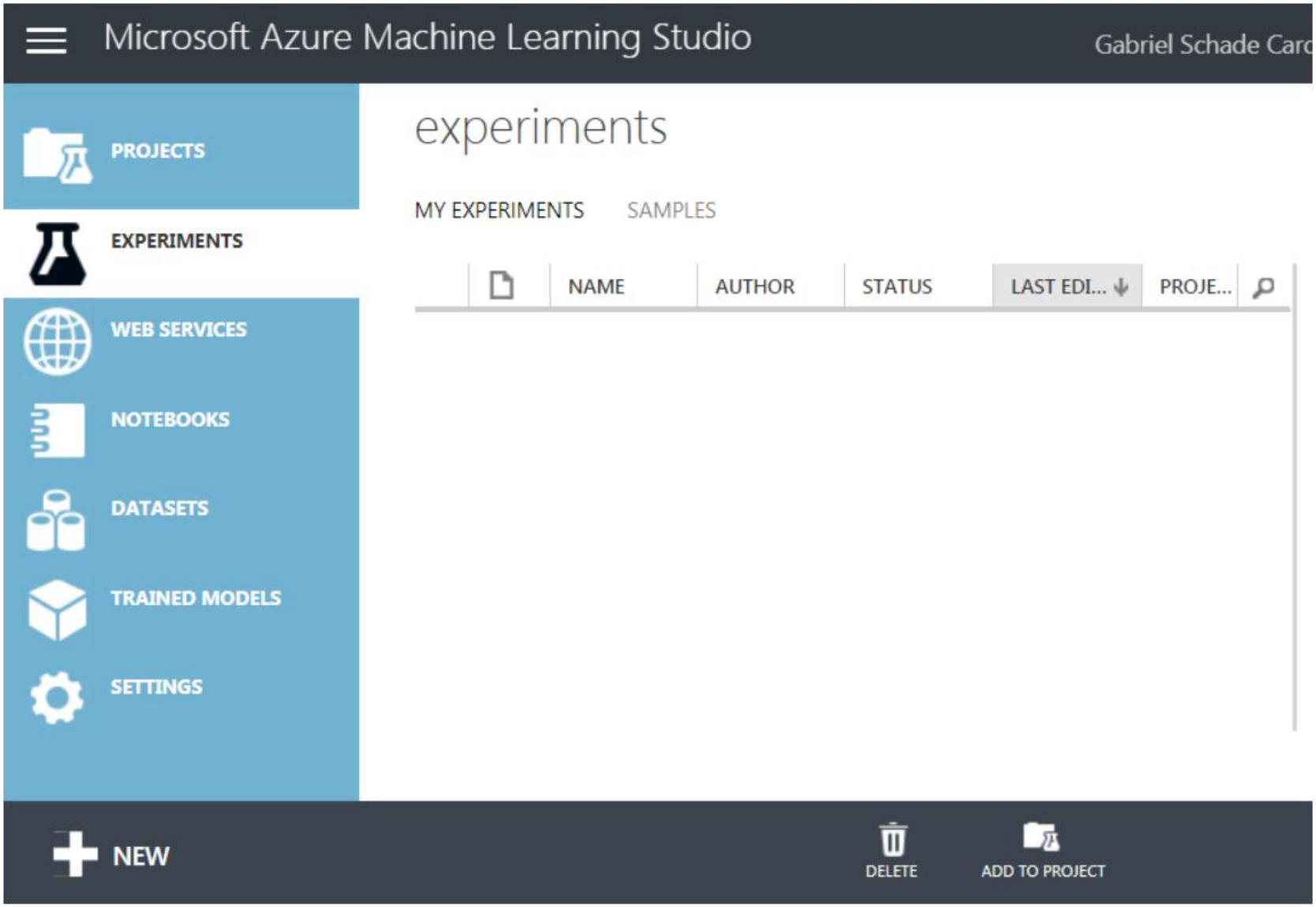
MBA

FIAP

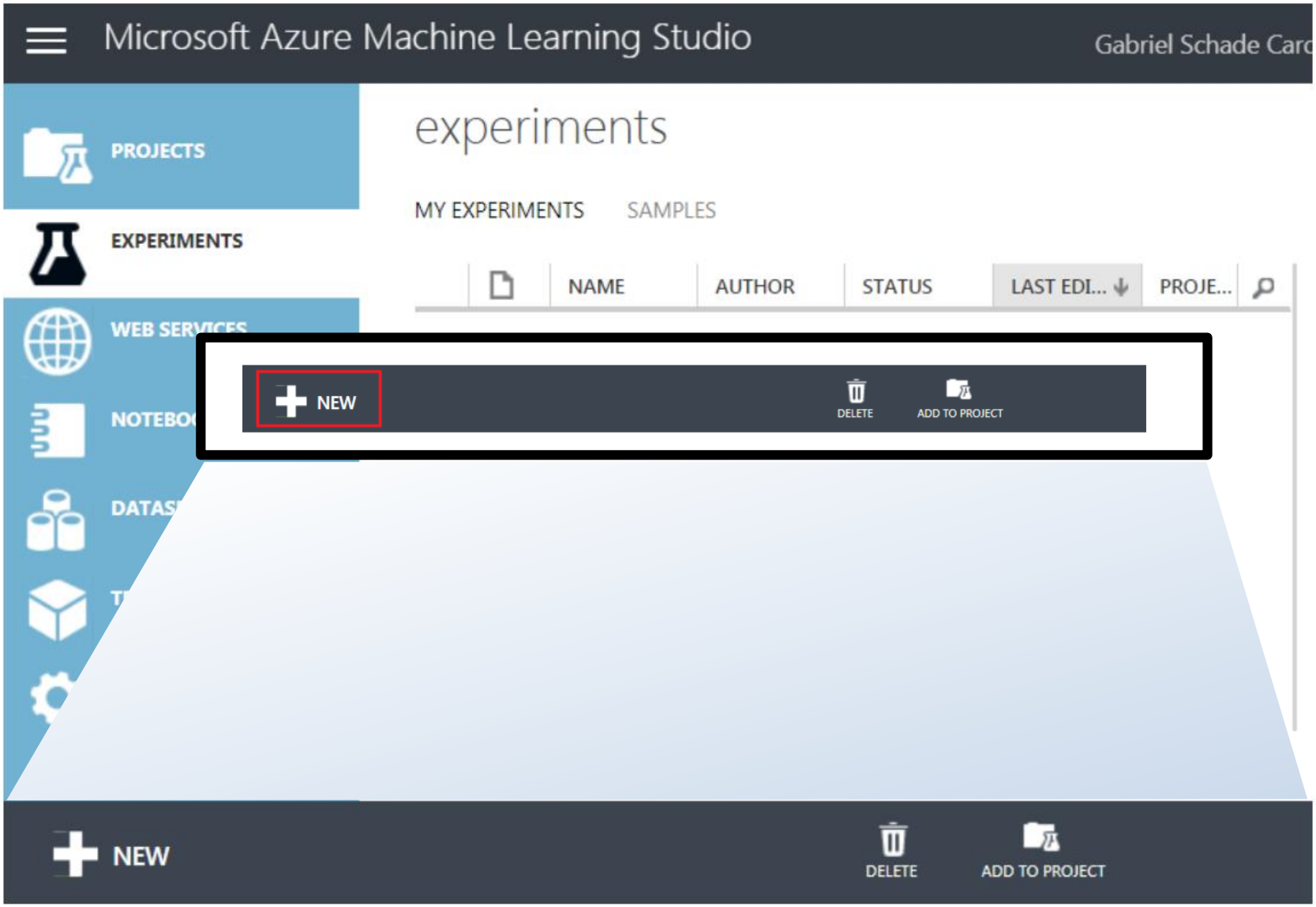
MBA+

Business Intelligence & Analytics

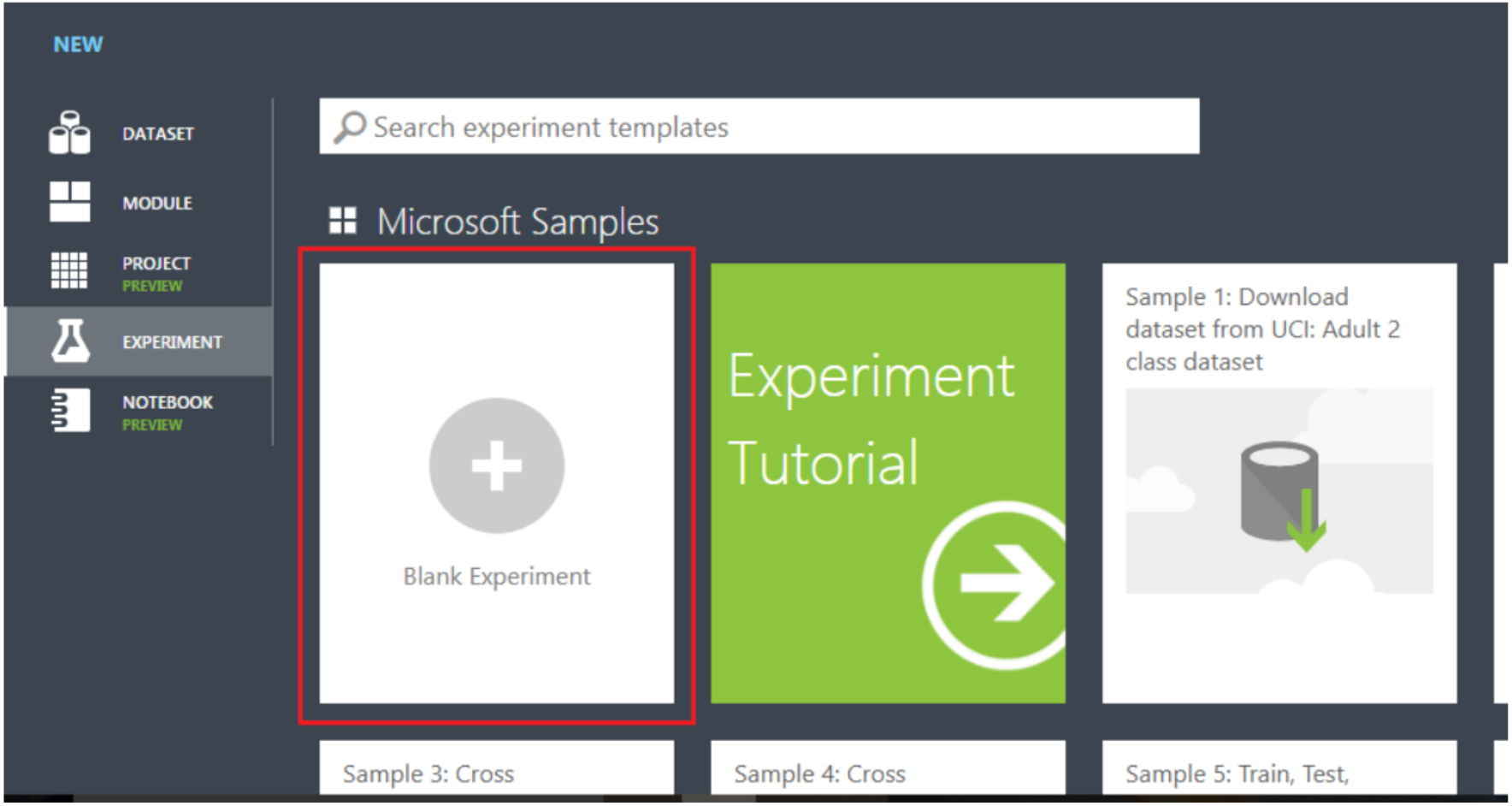
Azure Machine Learning - Desktop



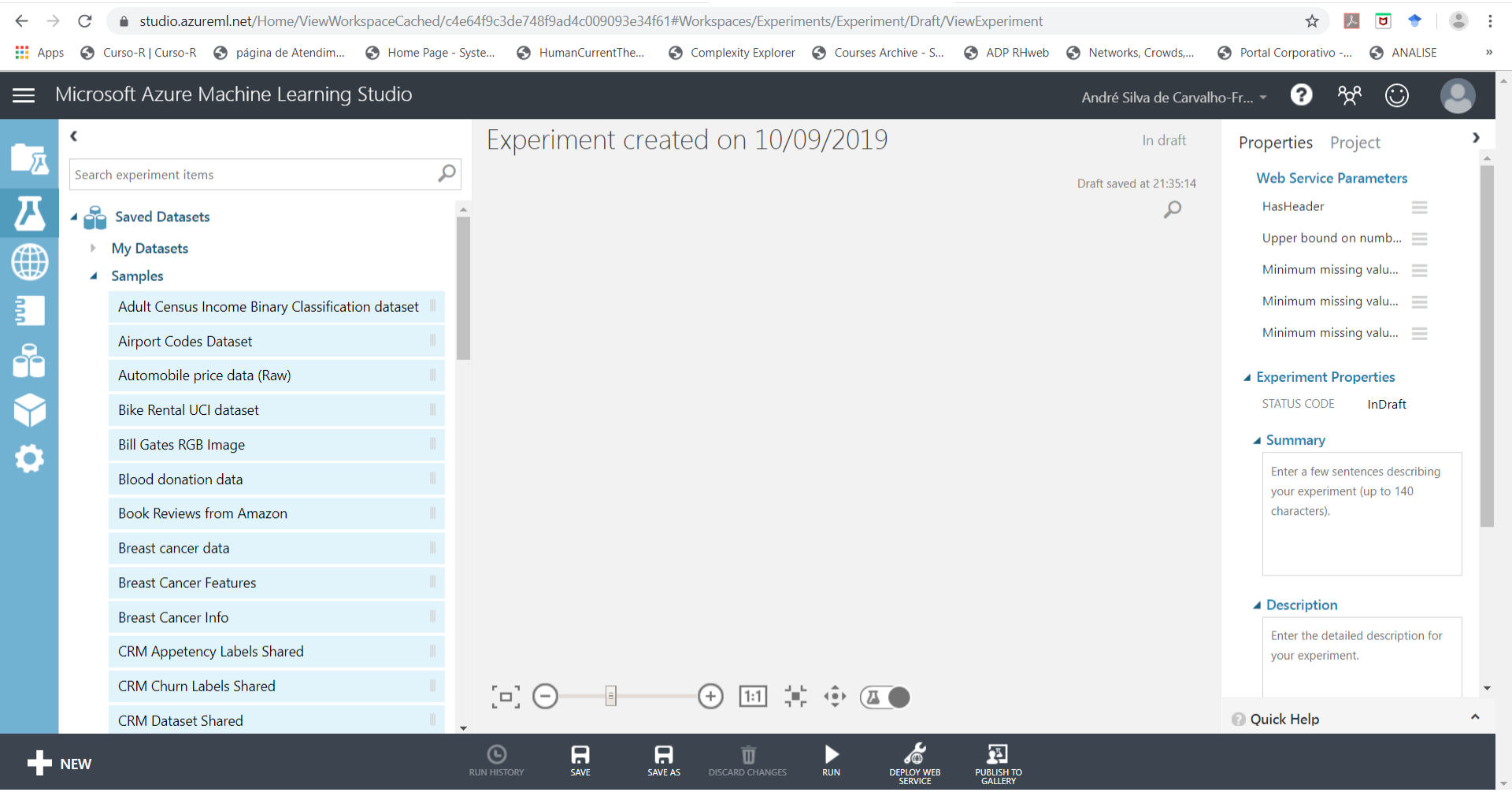
Azure Machine Learning - Desktop



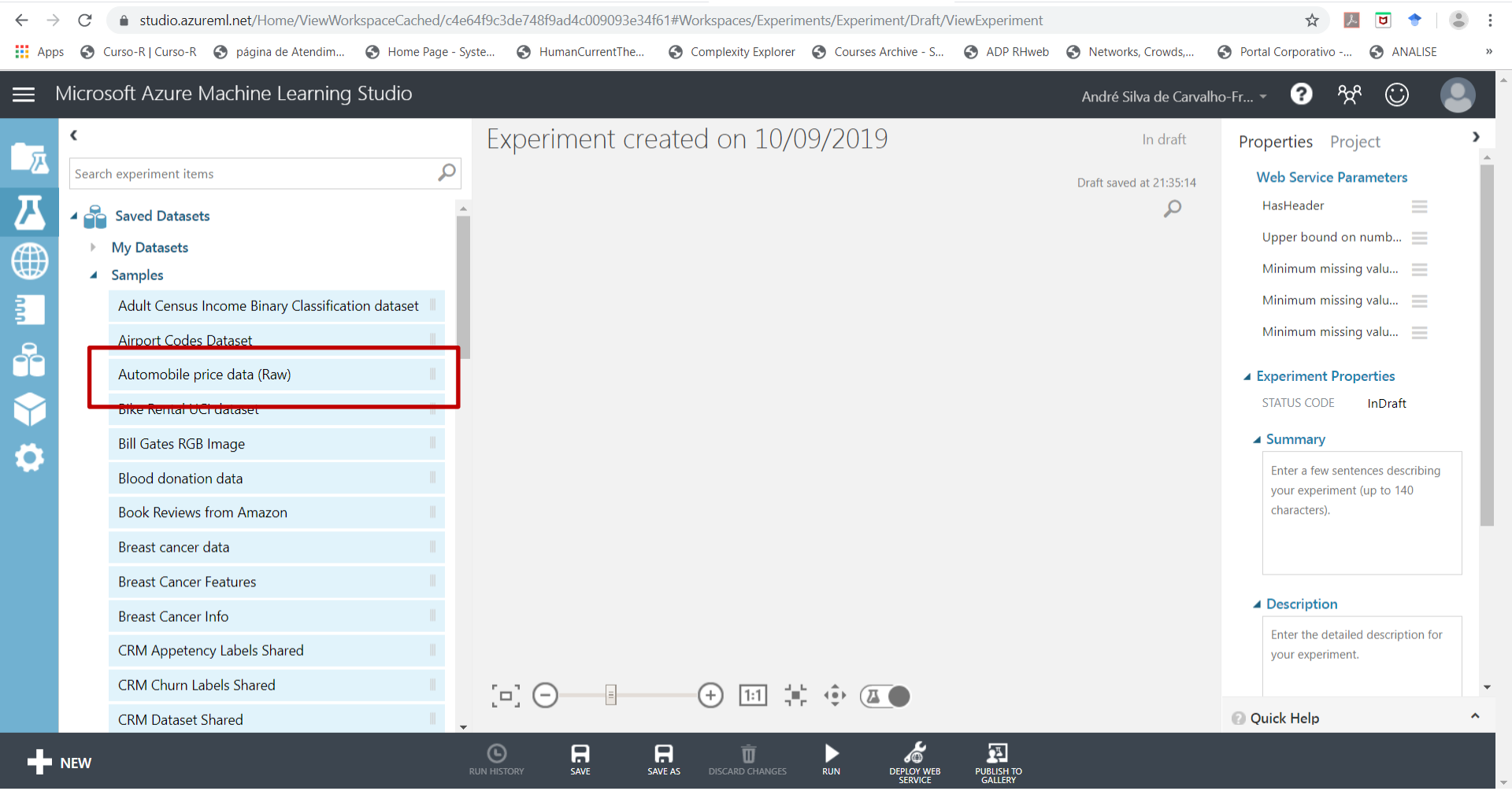
Azure ML – criar um novo experimento



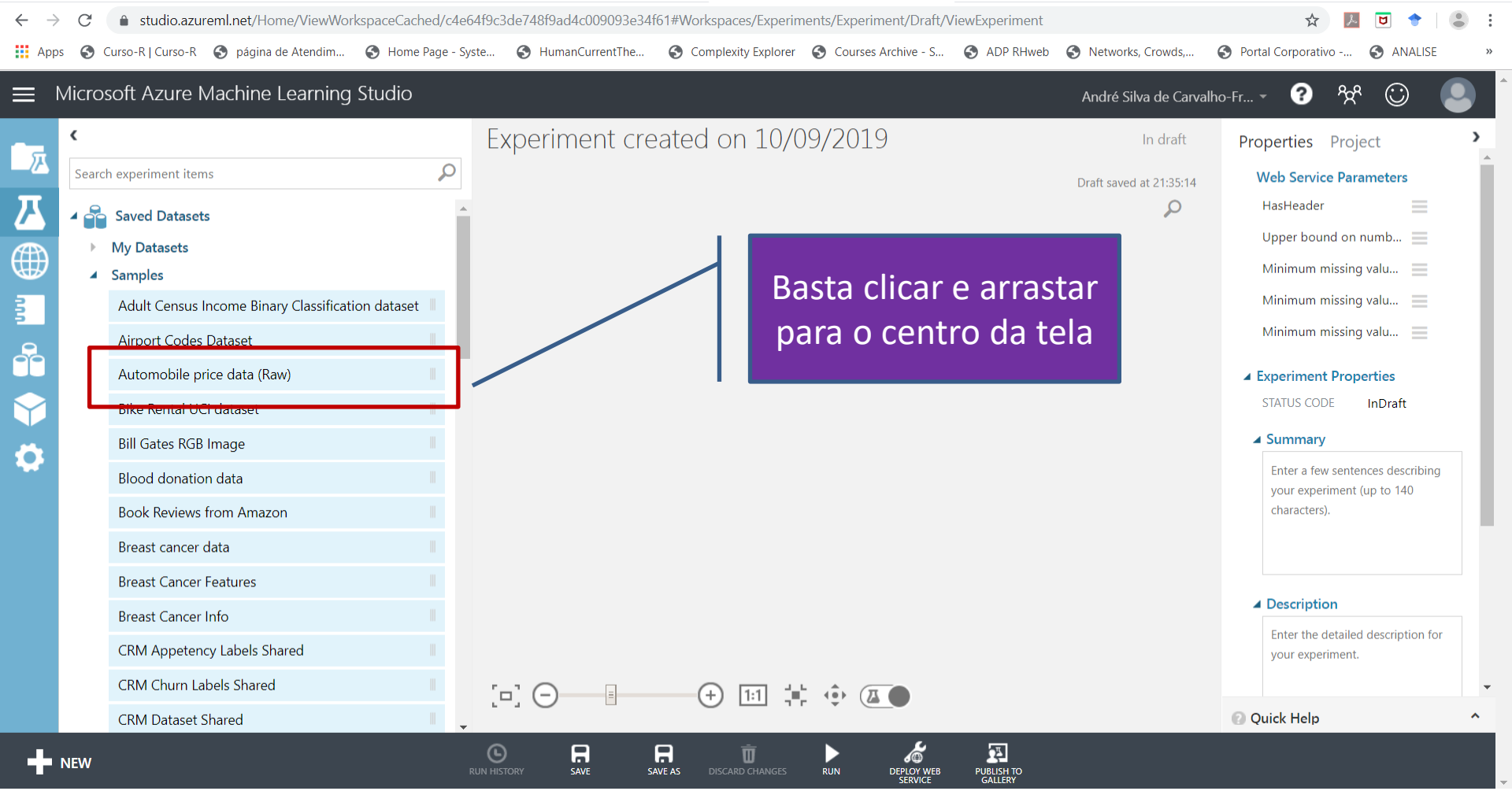
Azure ML – vamos fazer um exemplo



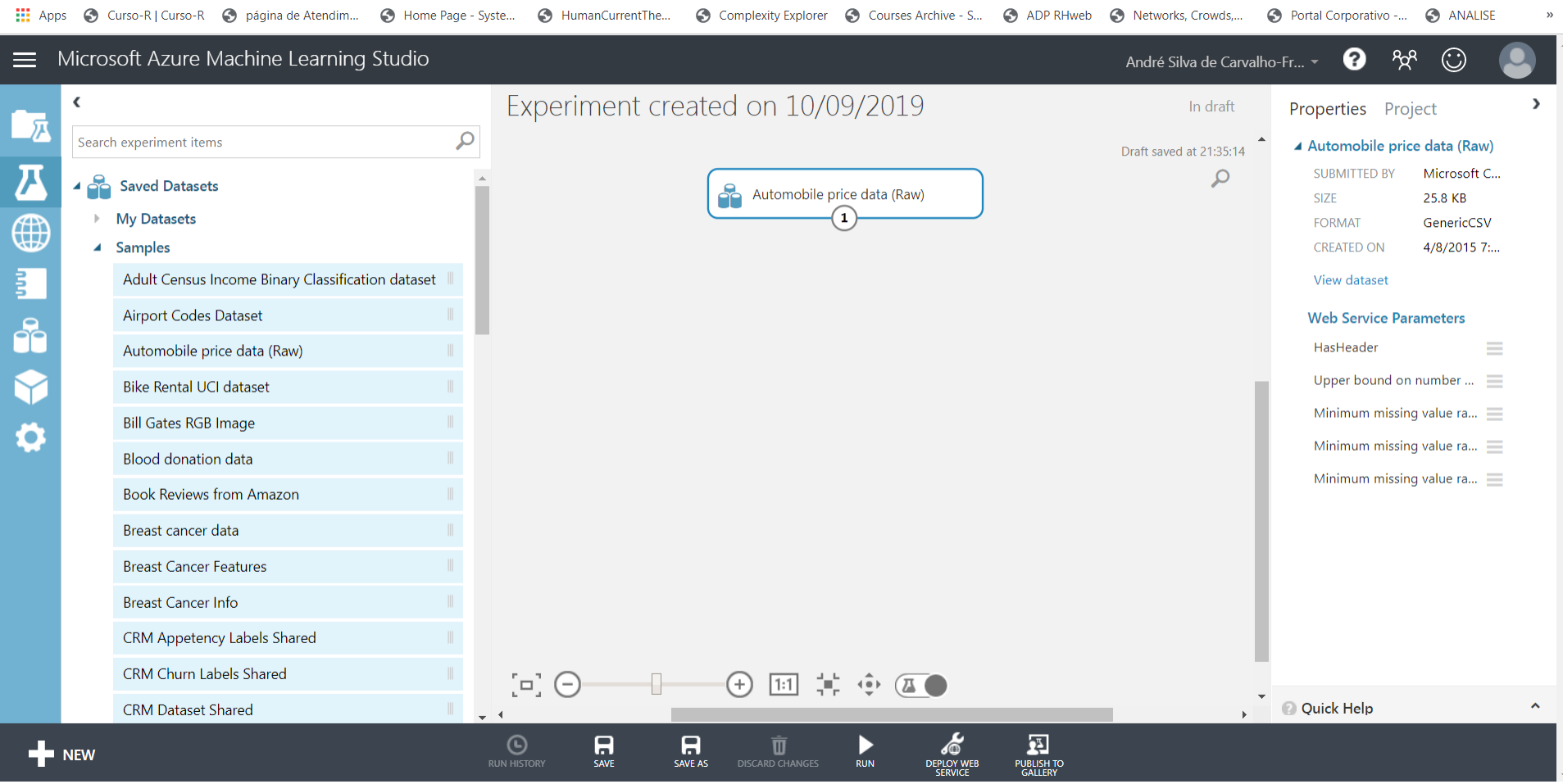
Azure ML – Samples



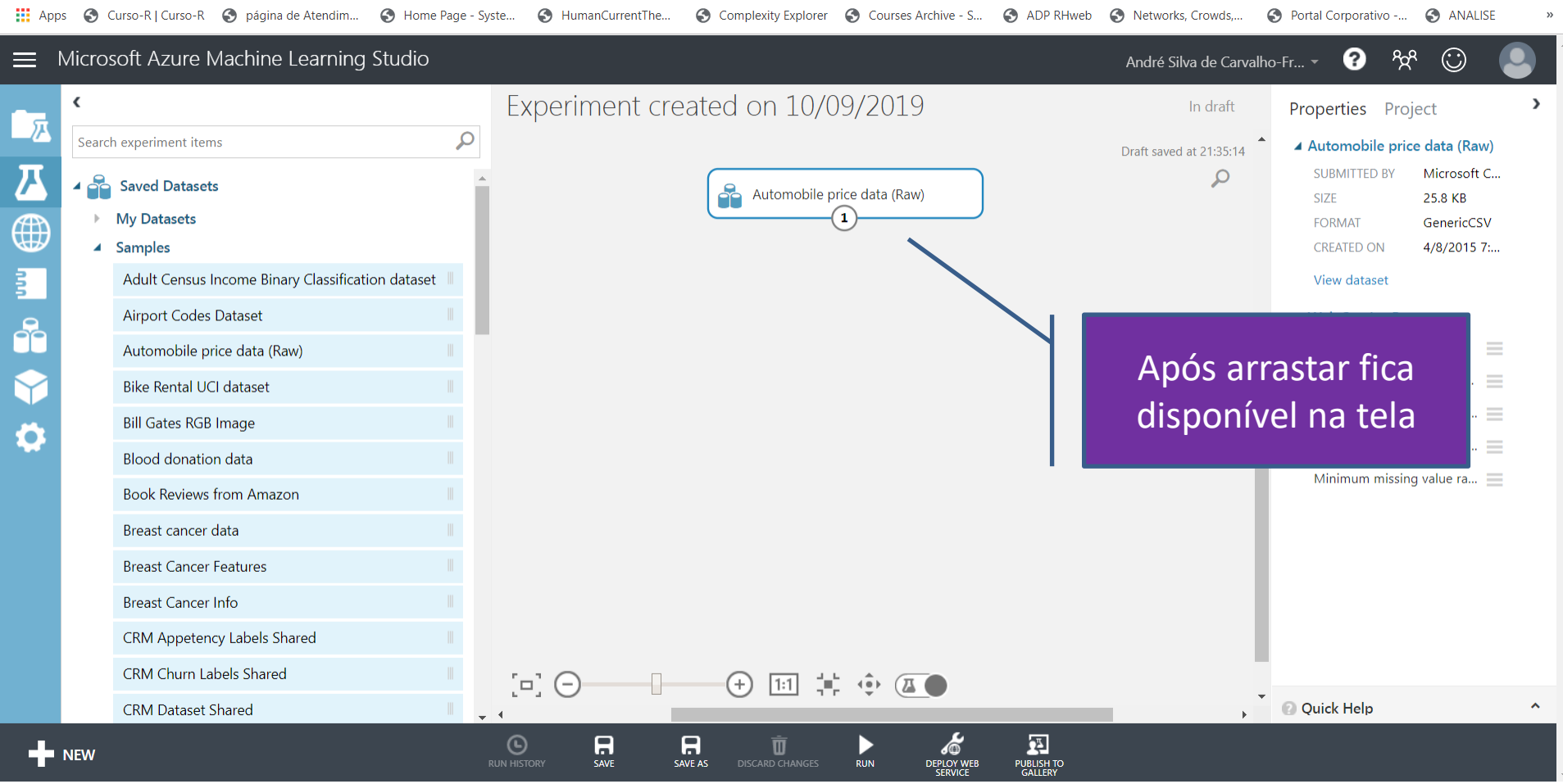
Azure ML – escolha um exemplo



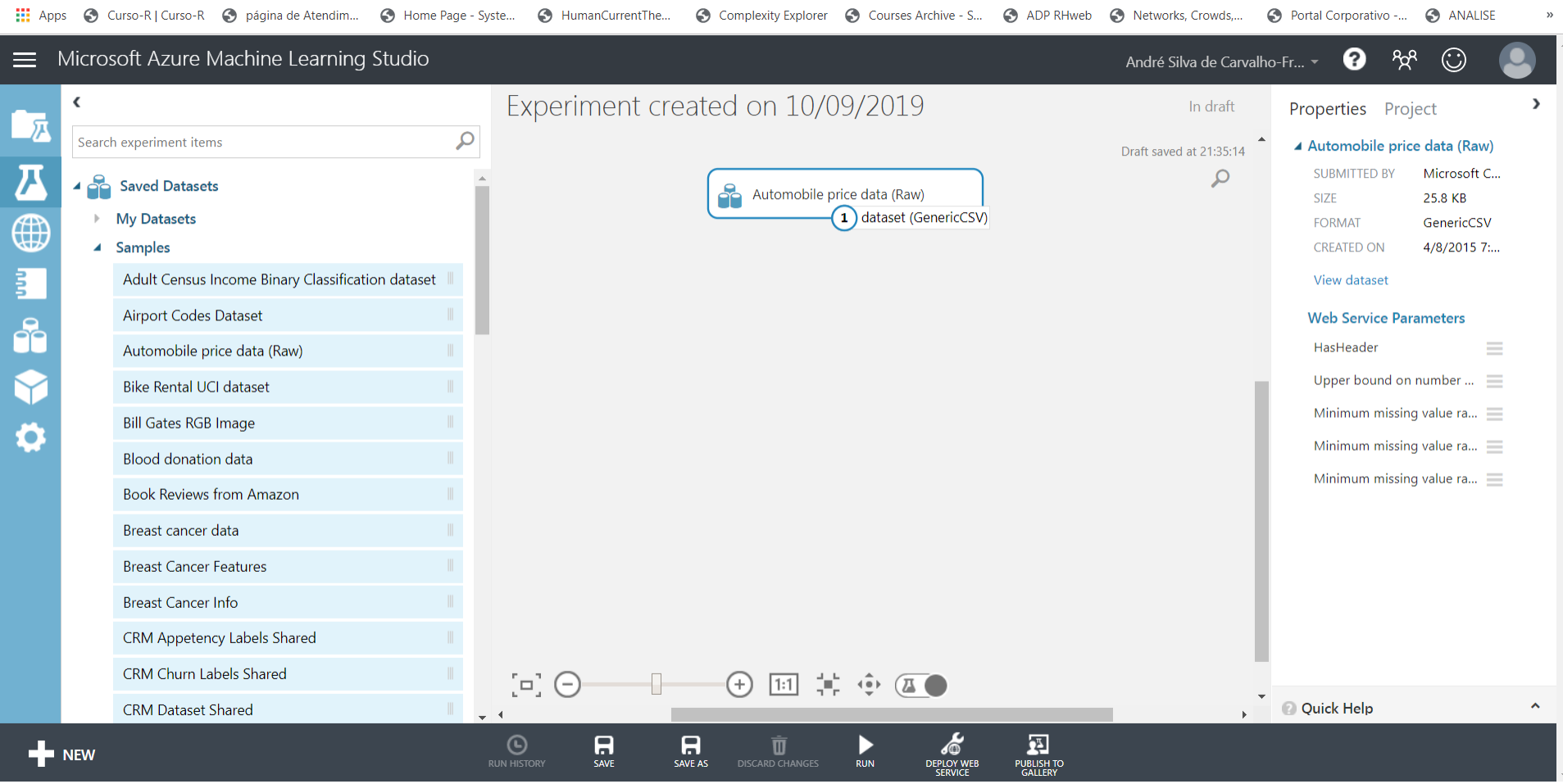
Azure ML - escolha um exemplo



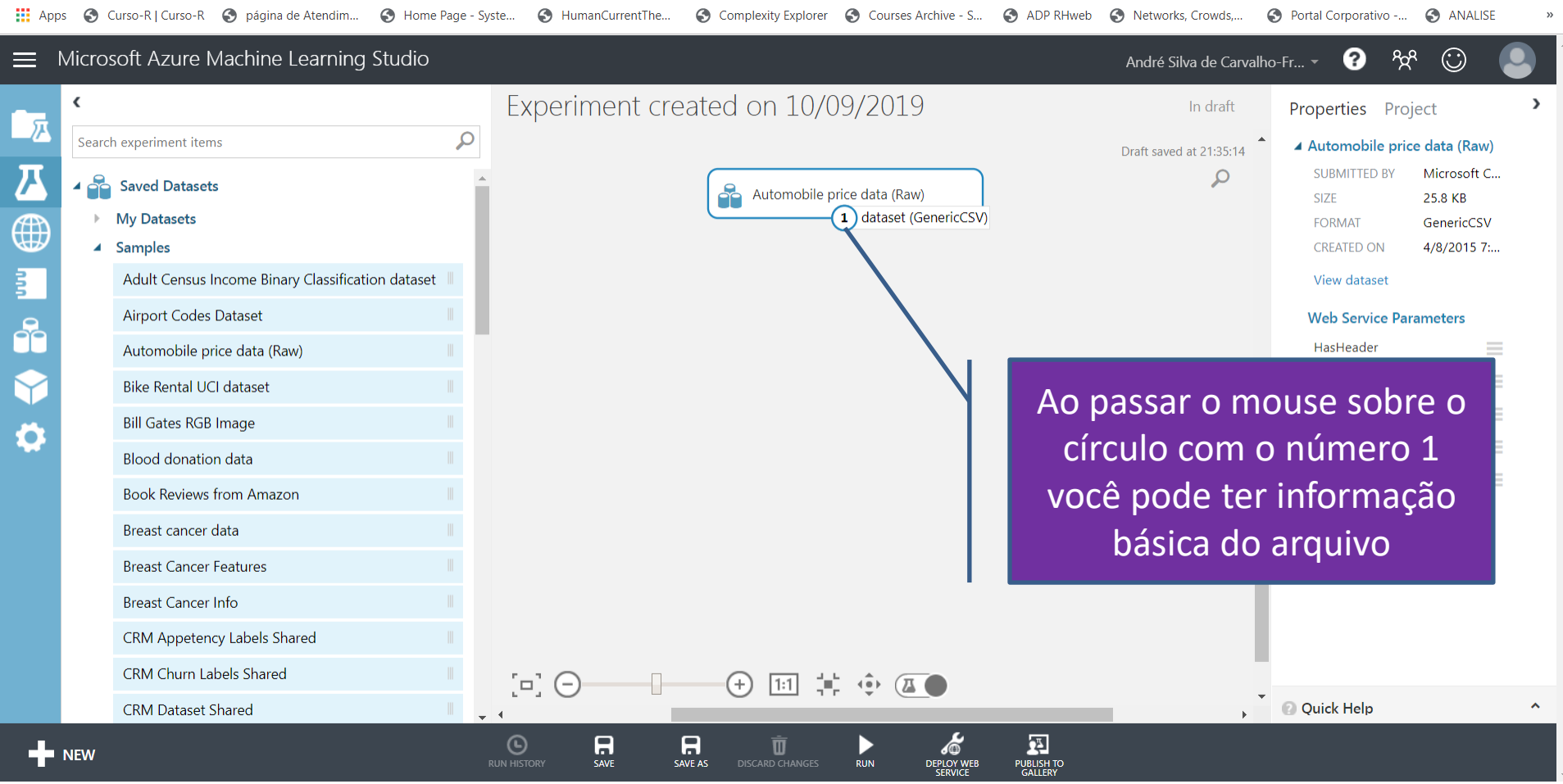
Azure ML – informação inicial



Azure ML - informação inicial

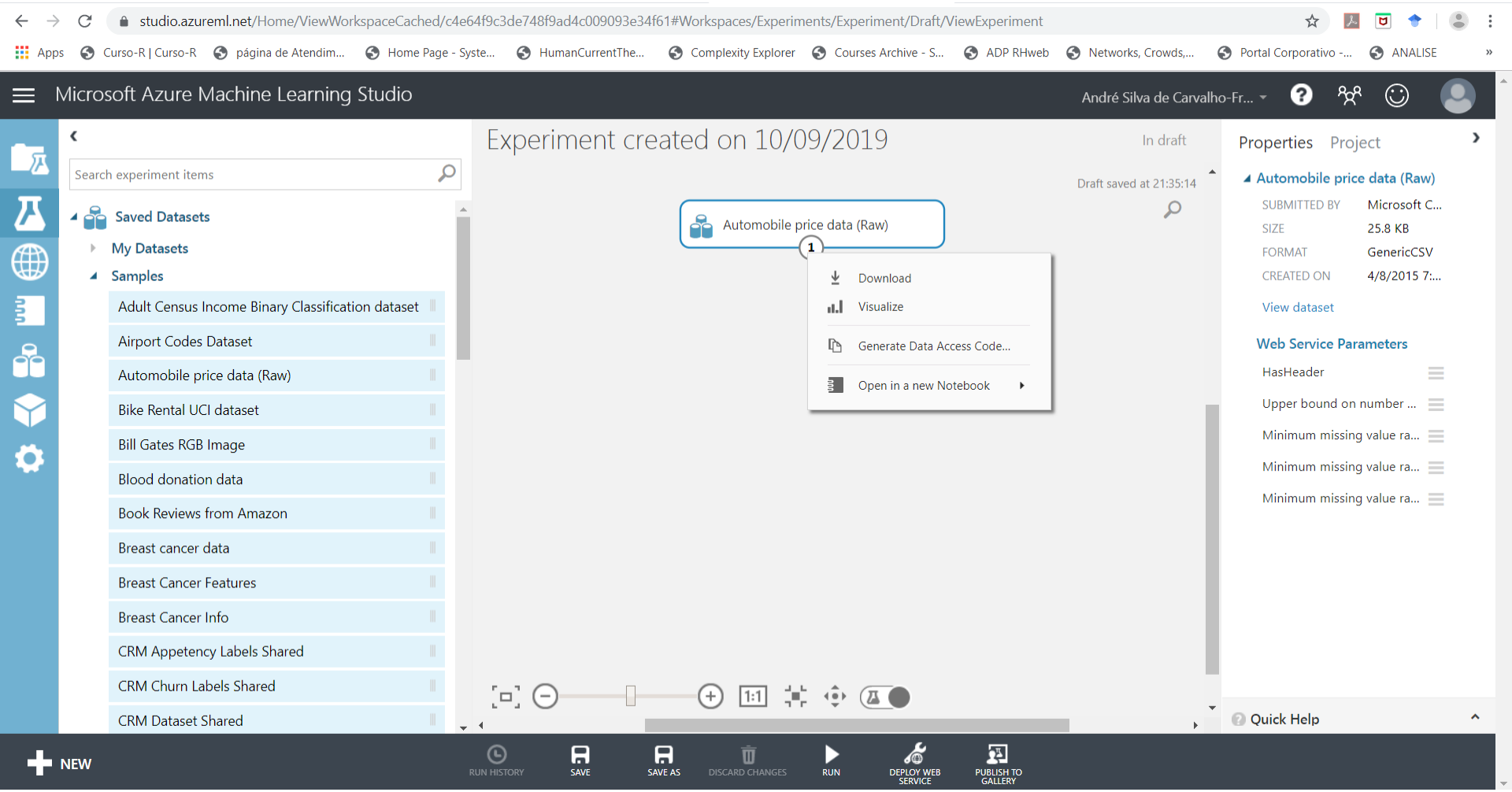


Azure ML - informação inicial

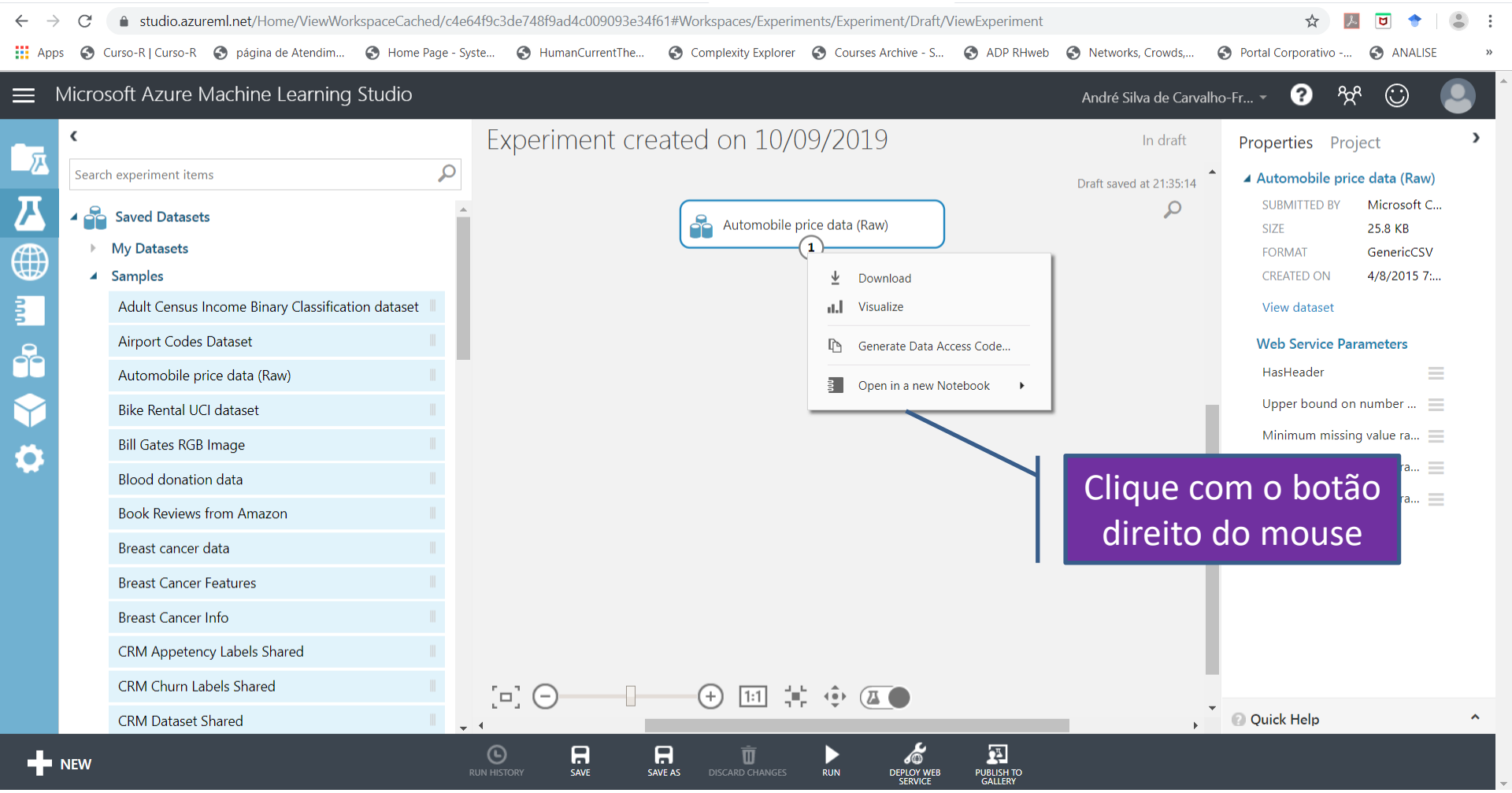


Ao passar o mouse sobre o círculo com o número 1 você pode ter informação básica do arquivo

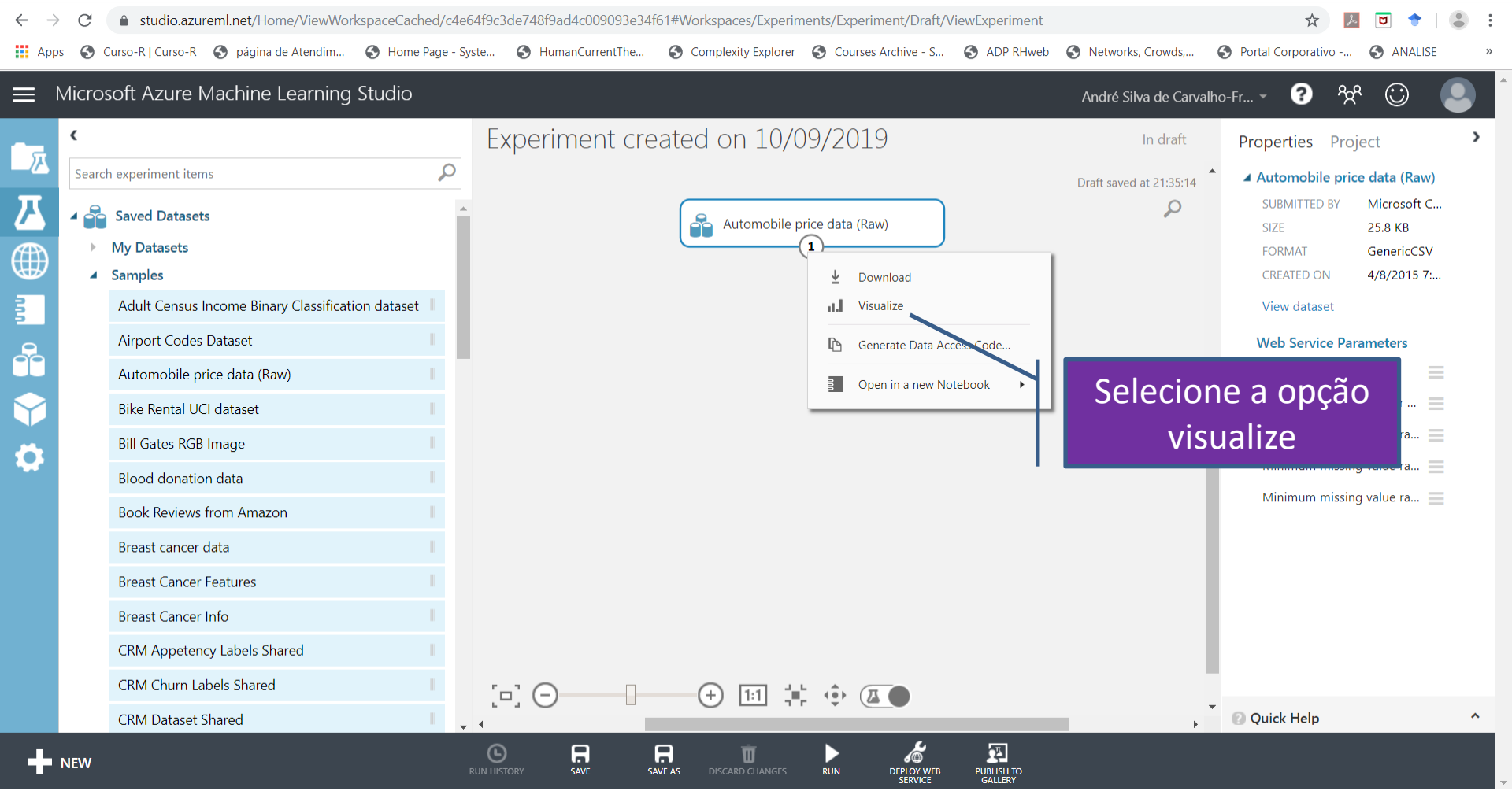
Azure ML – informação sobre o arquivo



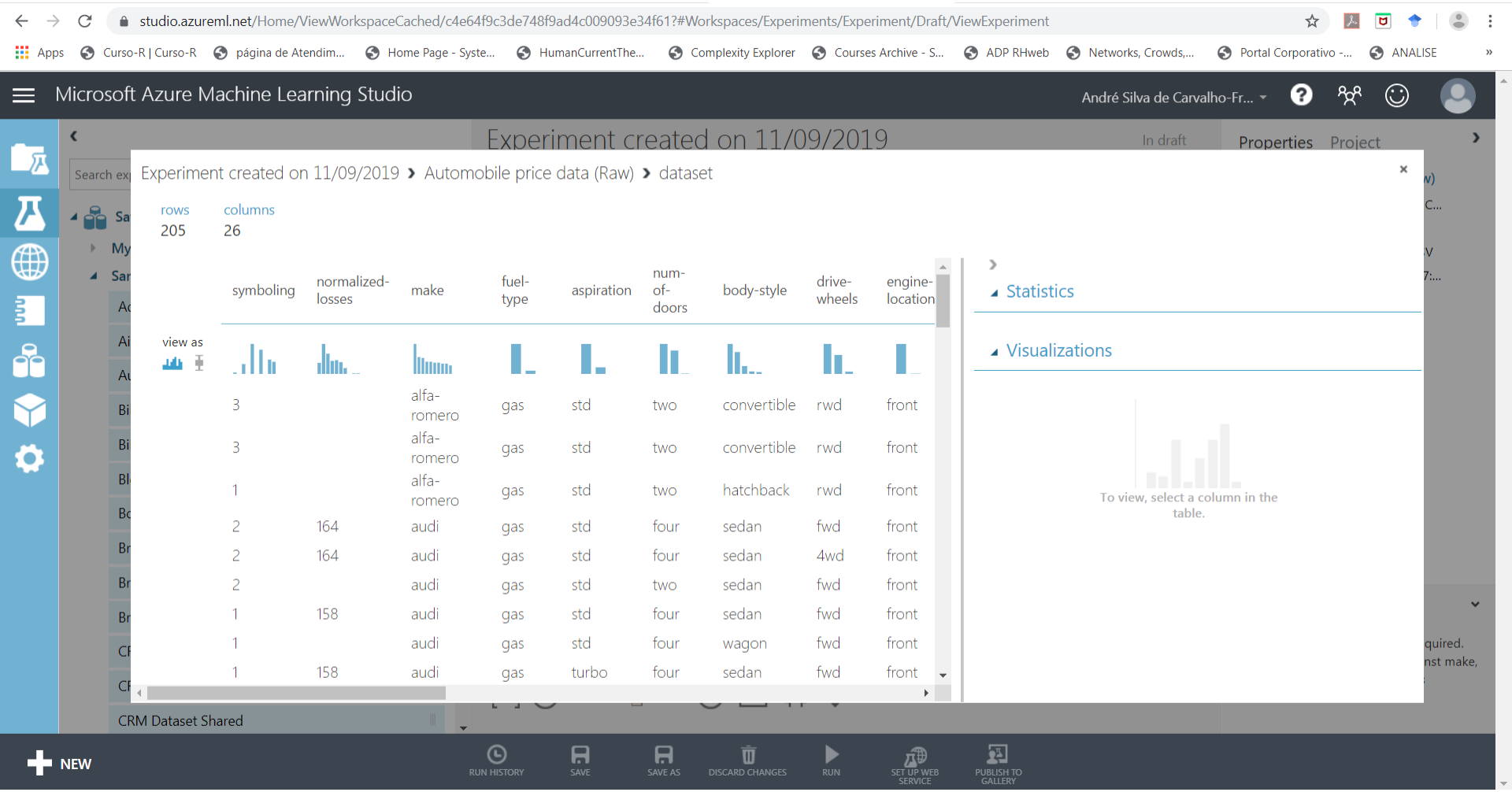
Azure ML – informação sobre o arquivo



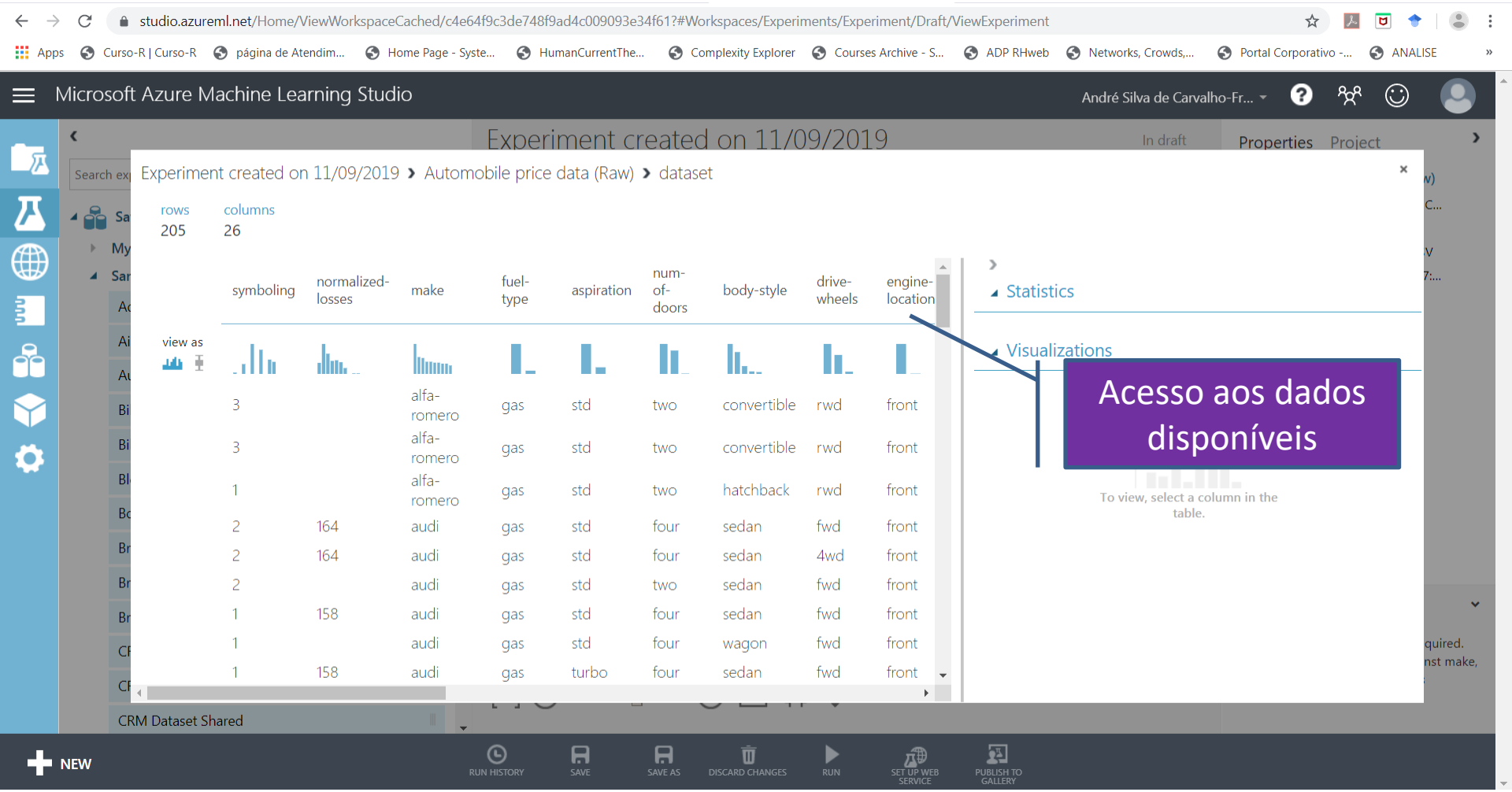
Azure ML – informação sobre o arquivo



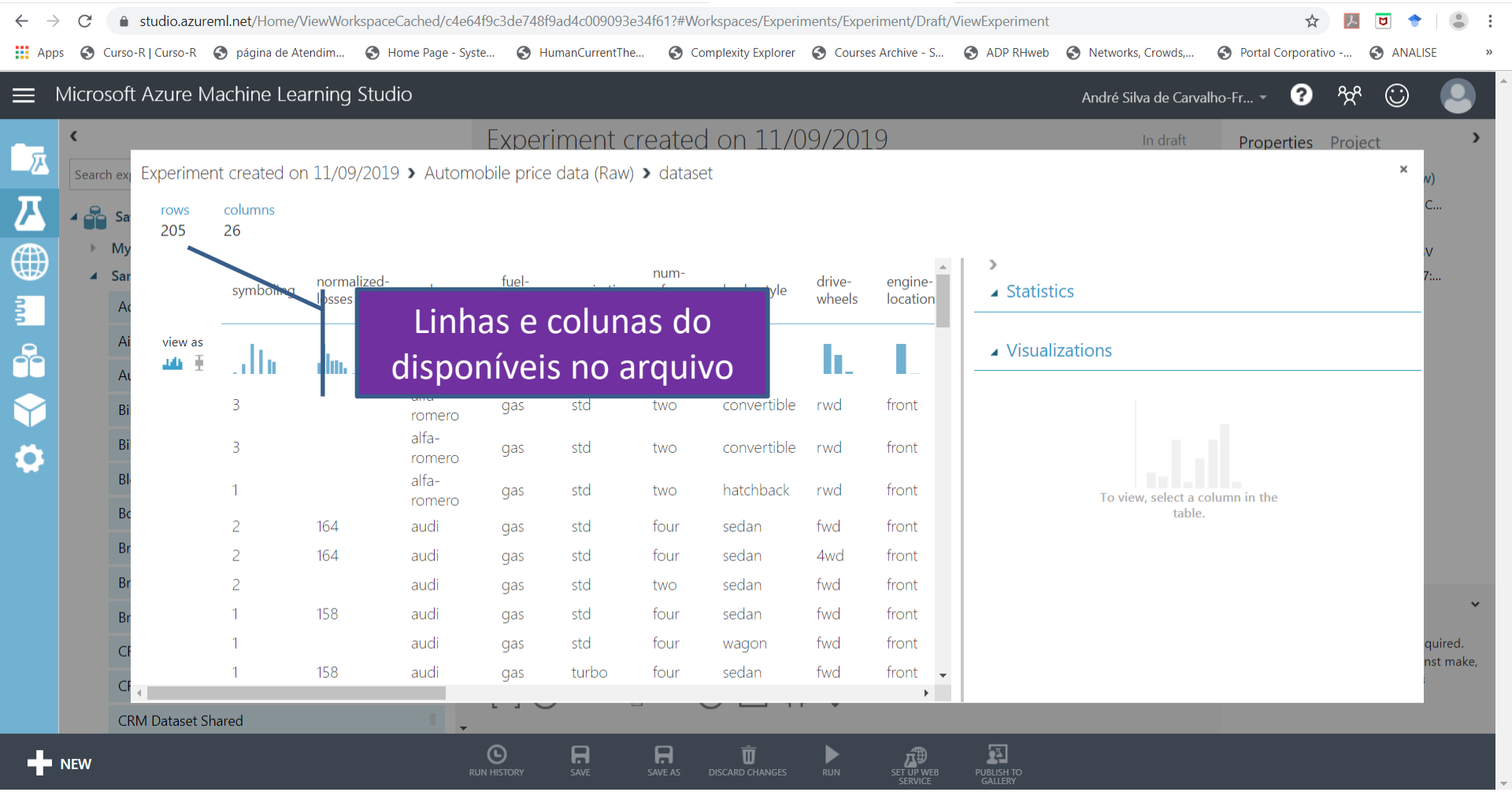
Azure ML – estatística descritiva



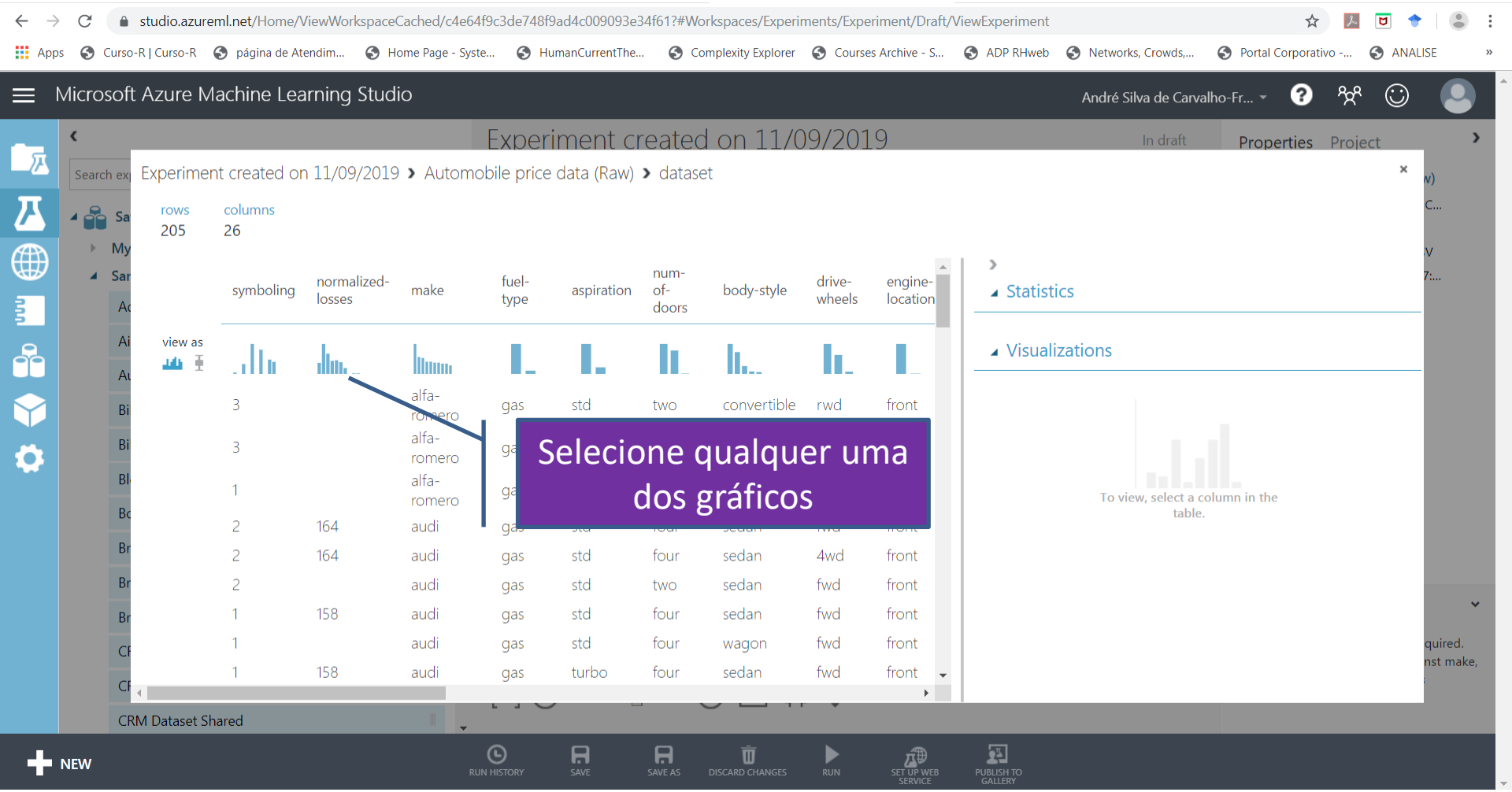
Azure ML – estatística descritiva



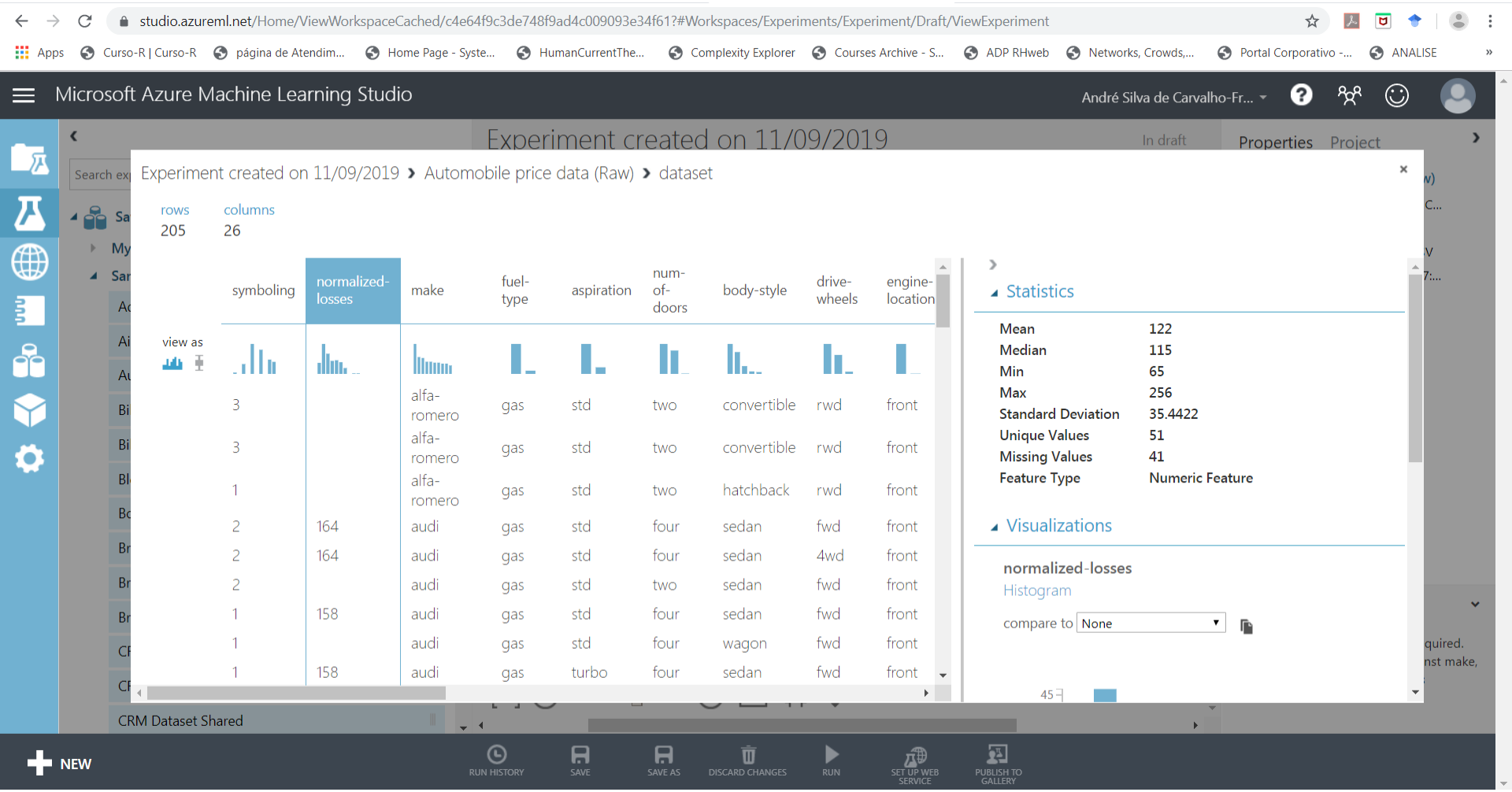
Azure ML – estatística descritiva



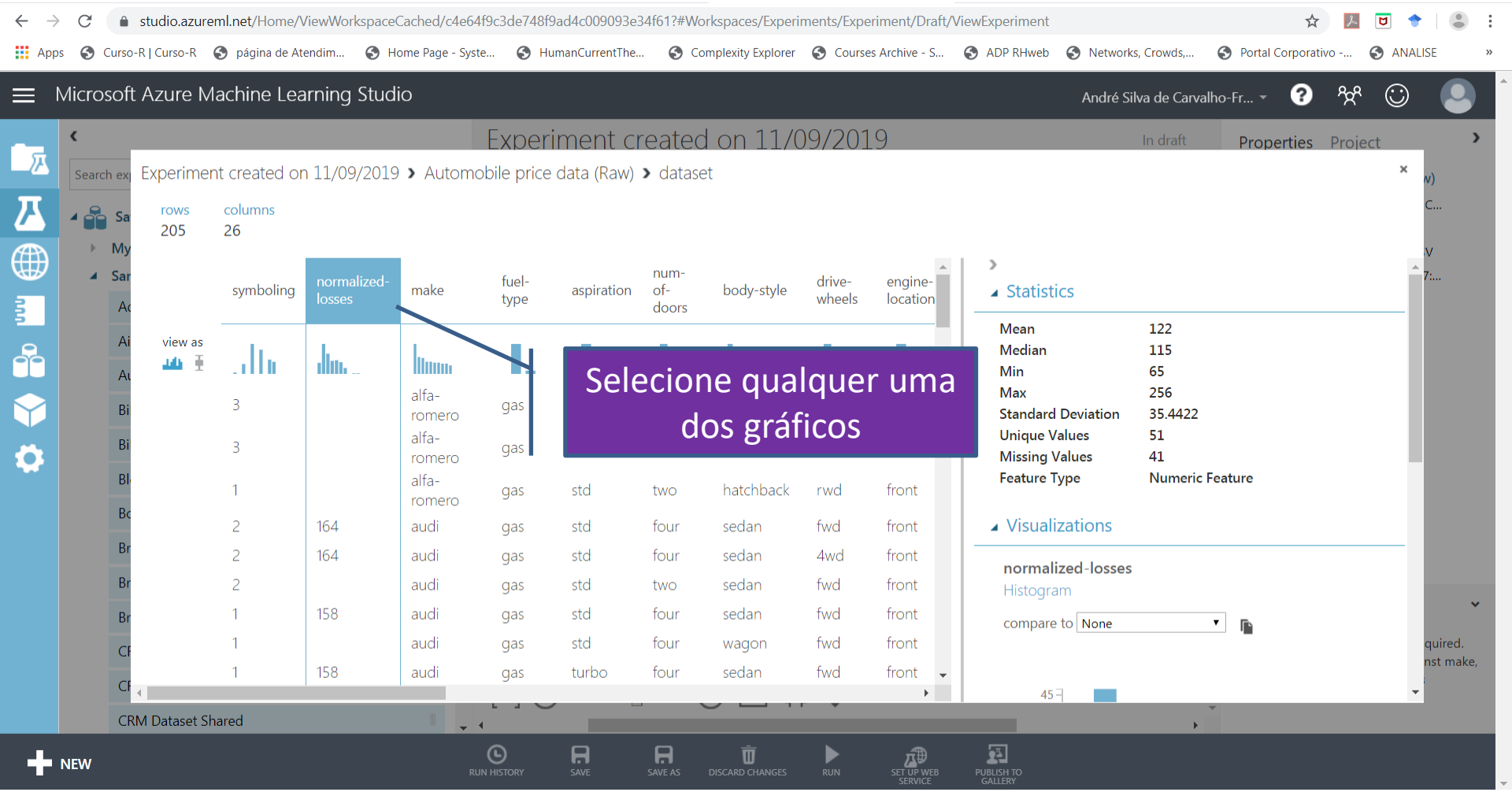
Azure ML – estatística descritiva



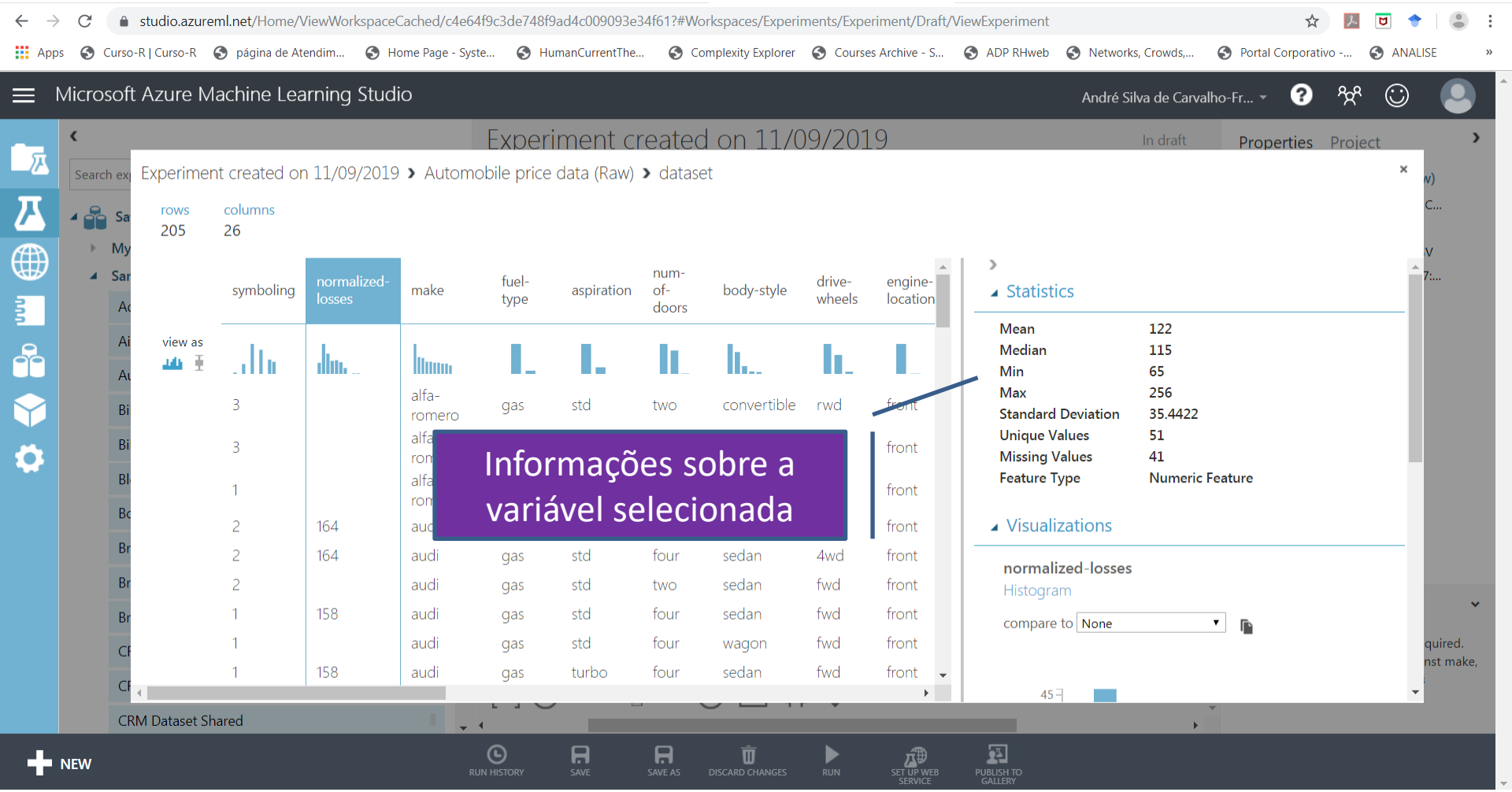
Azure ML – Descritiva da variável



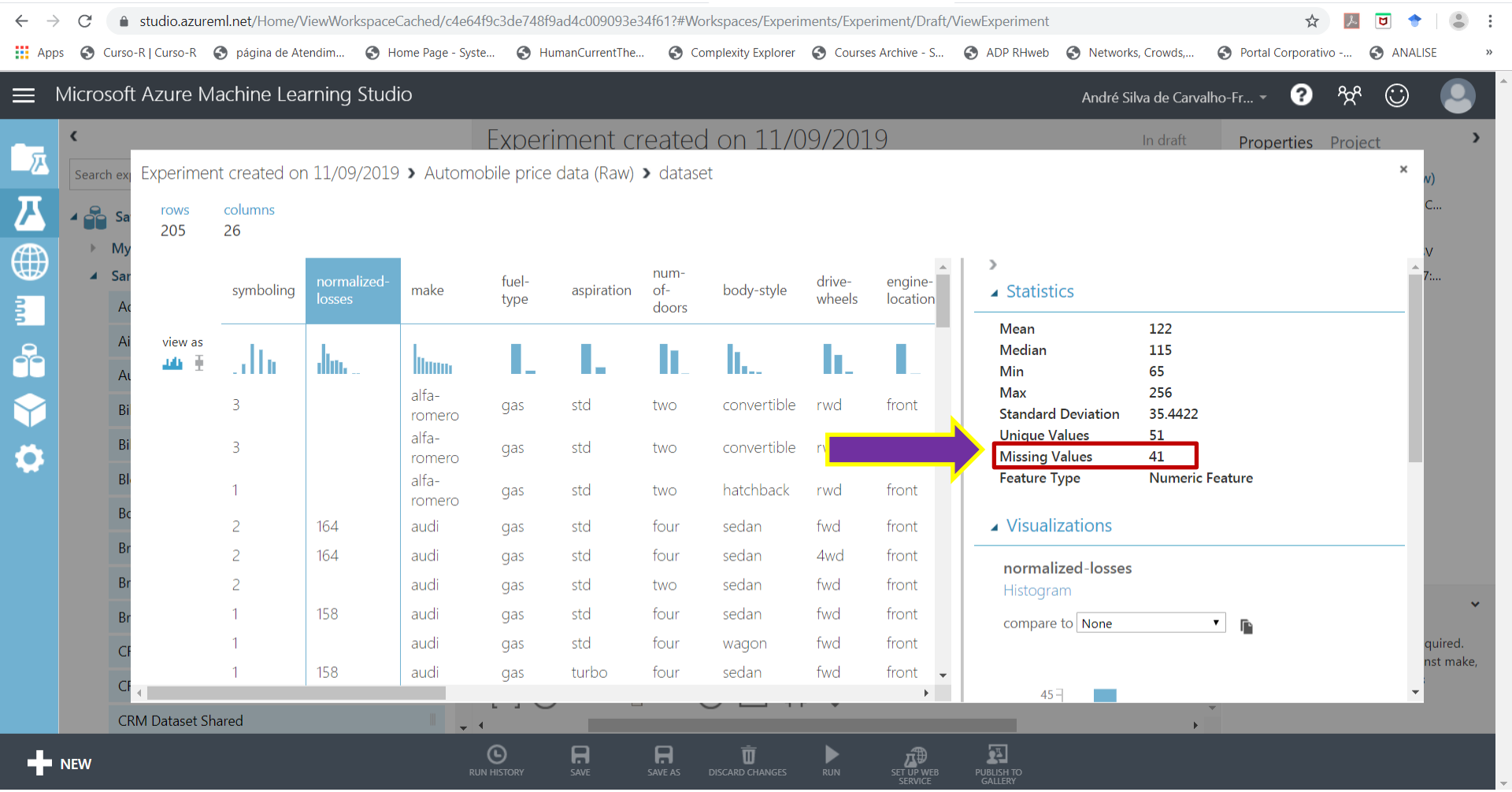
Azure ML - Descritiva da variável



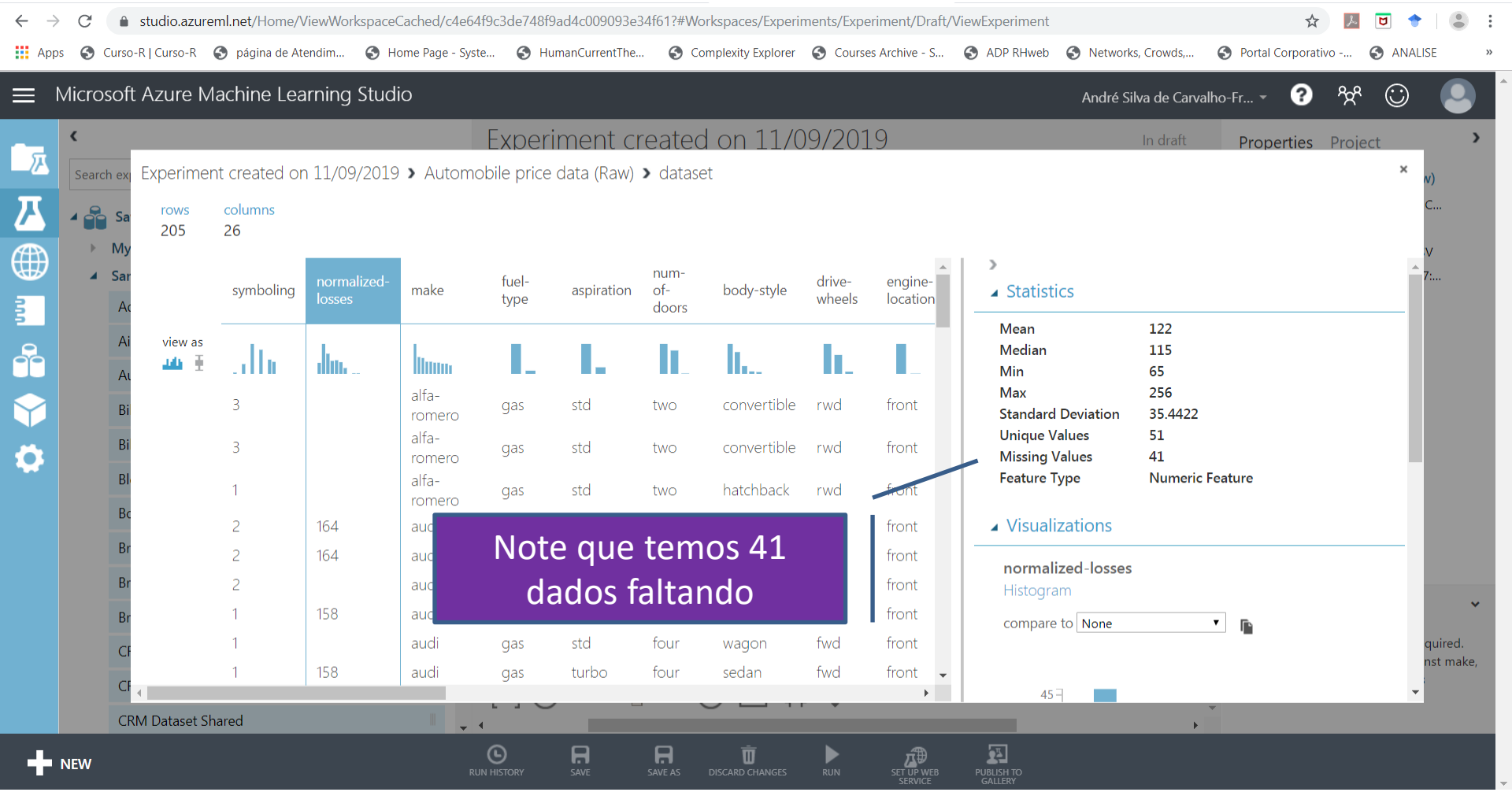
Azure ML - Descritiva da variável



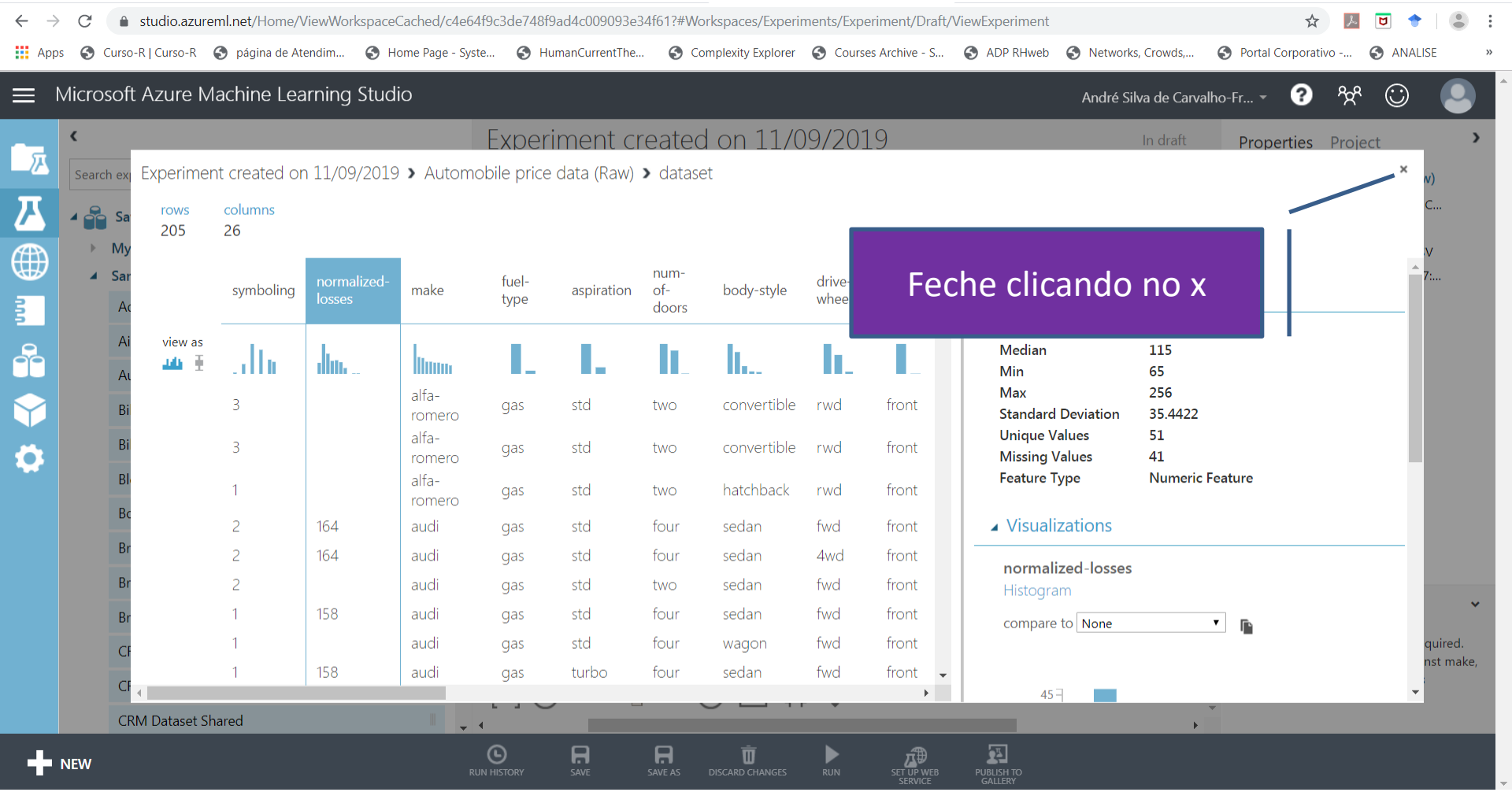
Azure ML - Descritiva da variável



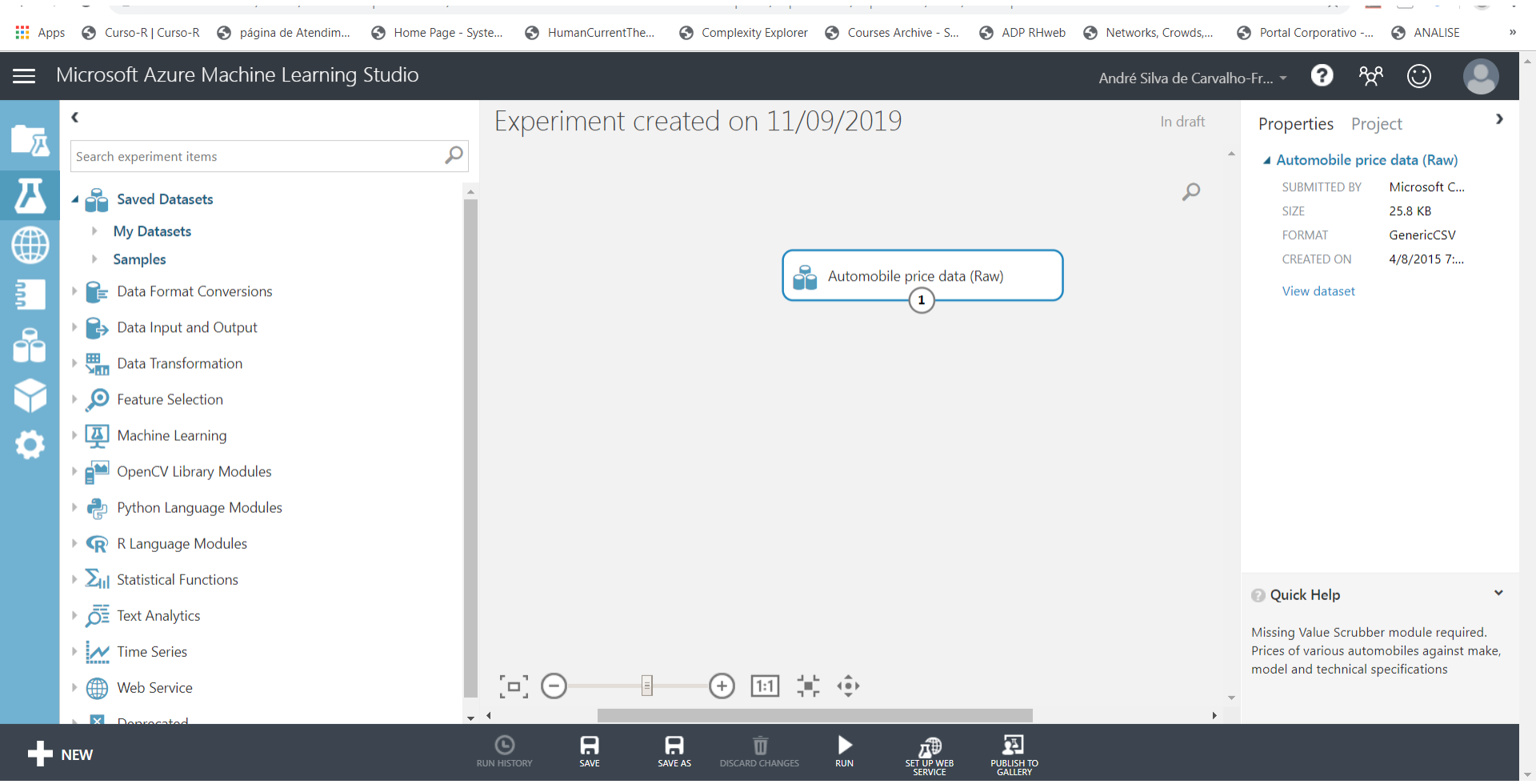
Azure ML - Descritiva da variável



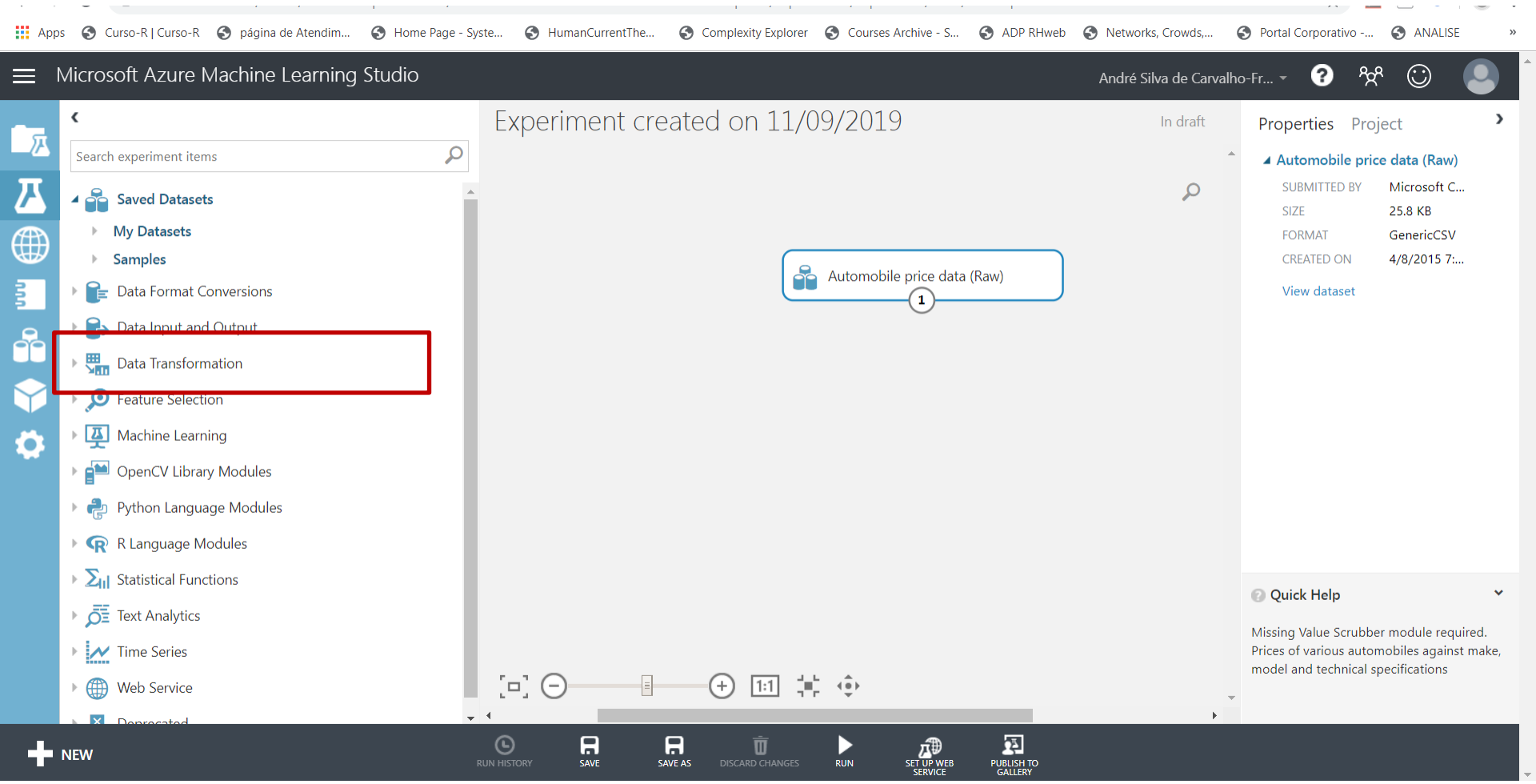
Azure ML - Descritiva da variável



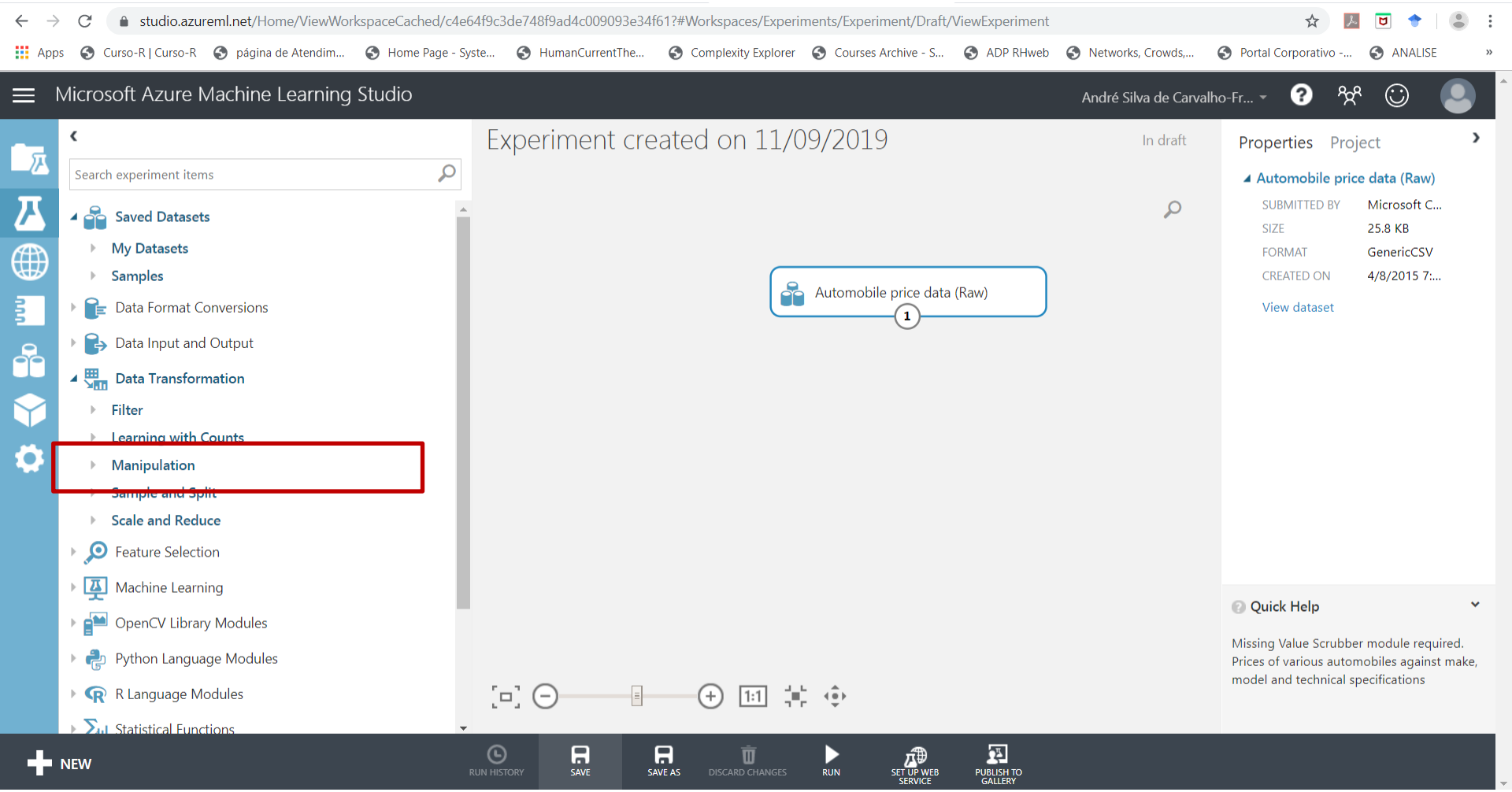
Azure ML – Preparar os dados



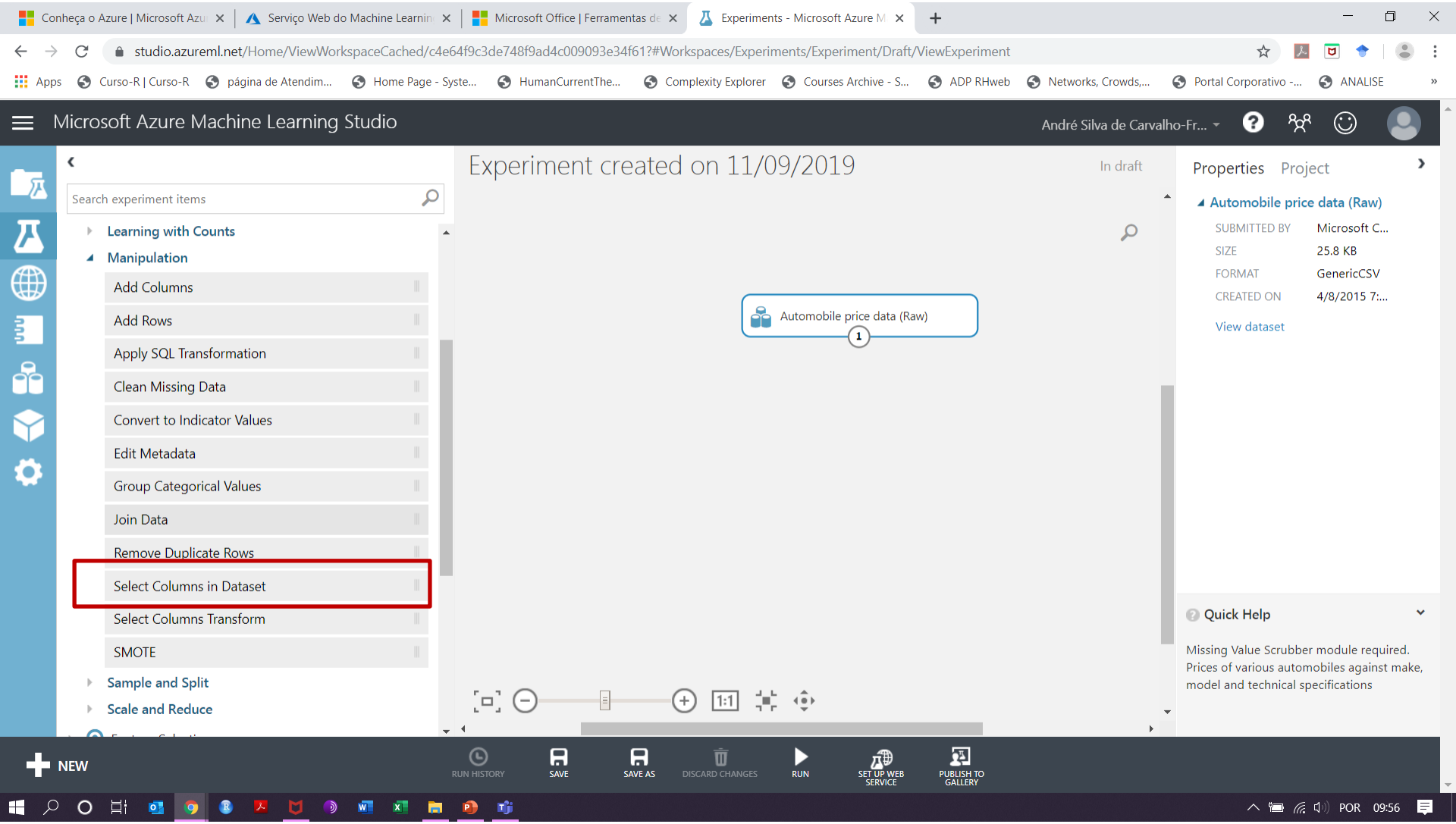
Azure ML – Preparar os dados



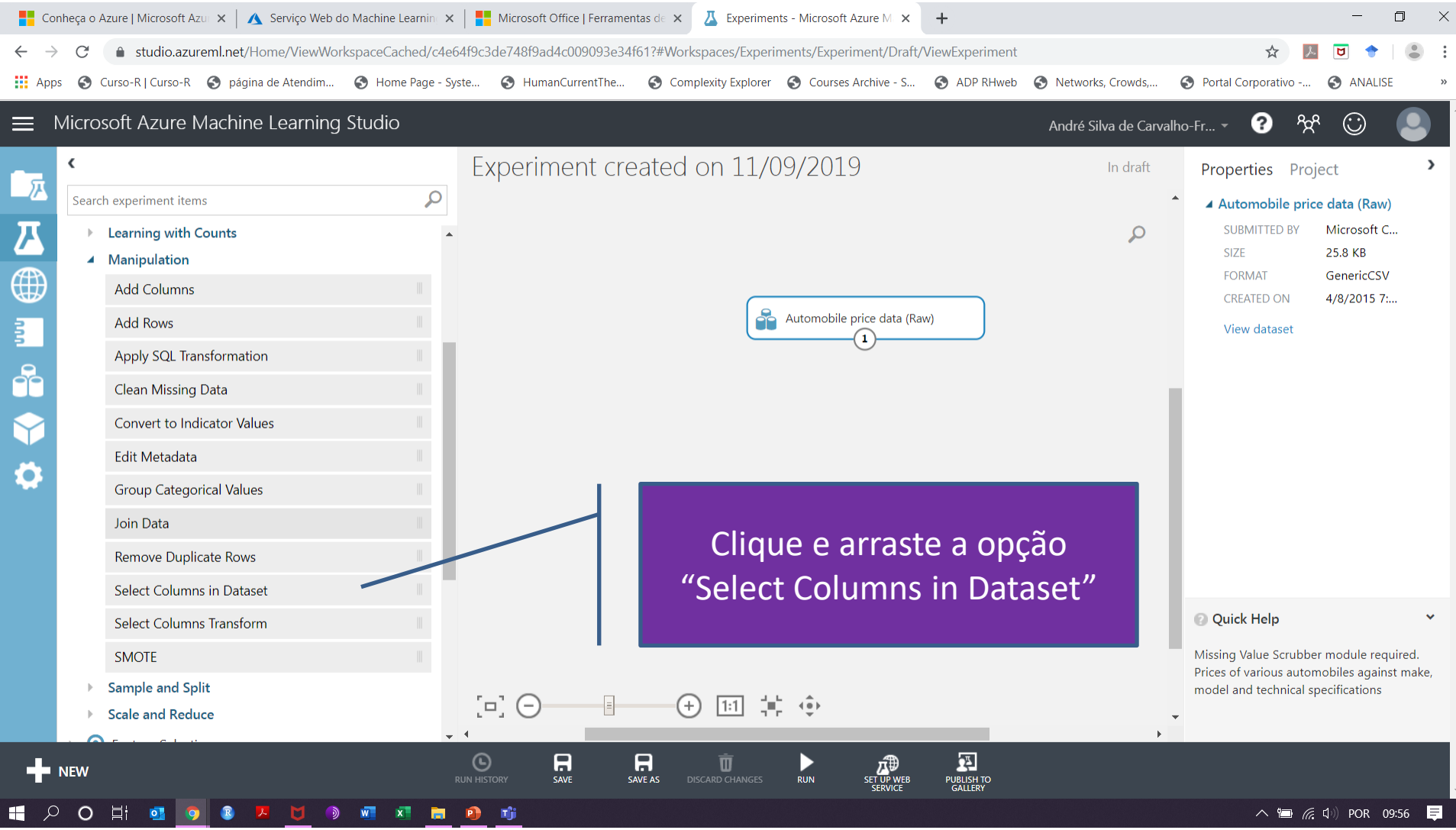
Azure ML - Preparar os dados



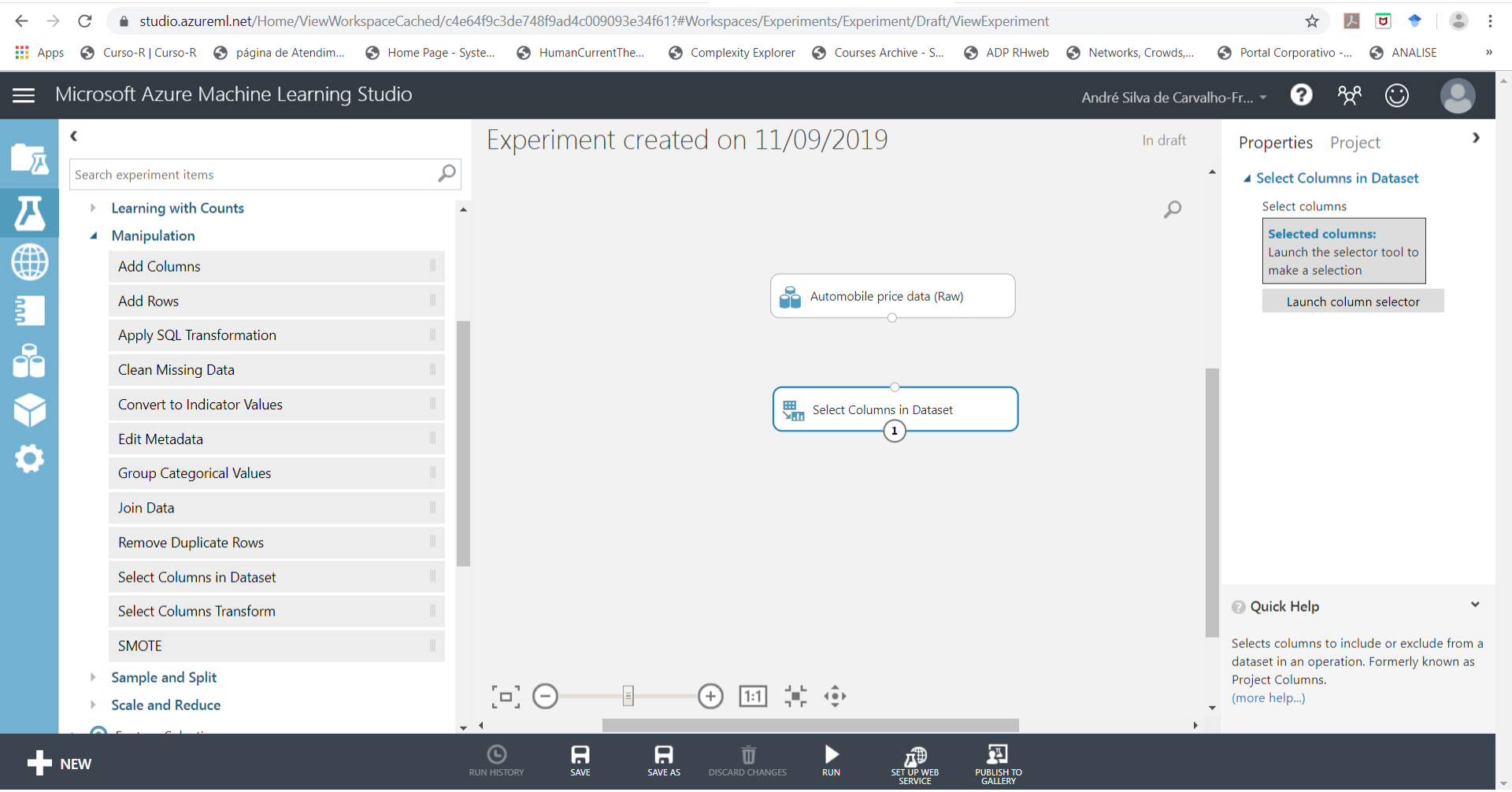
Azure ML - Preparar os dados



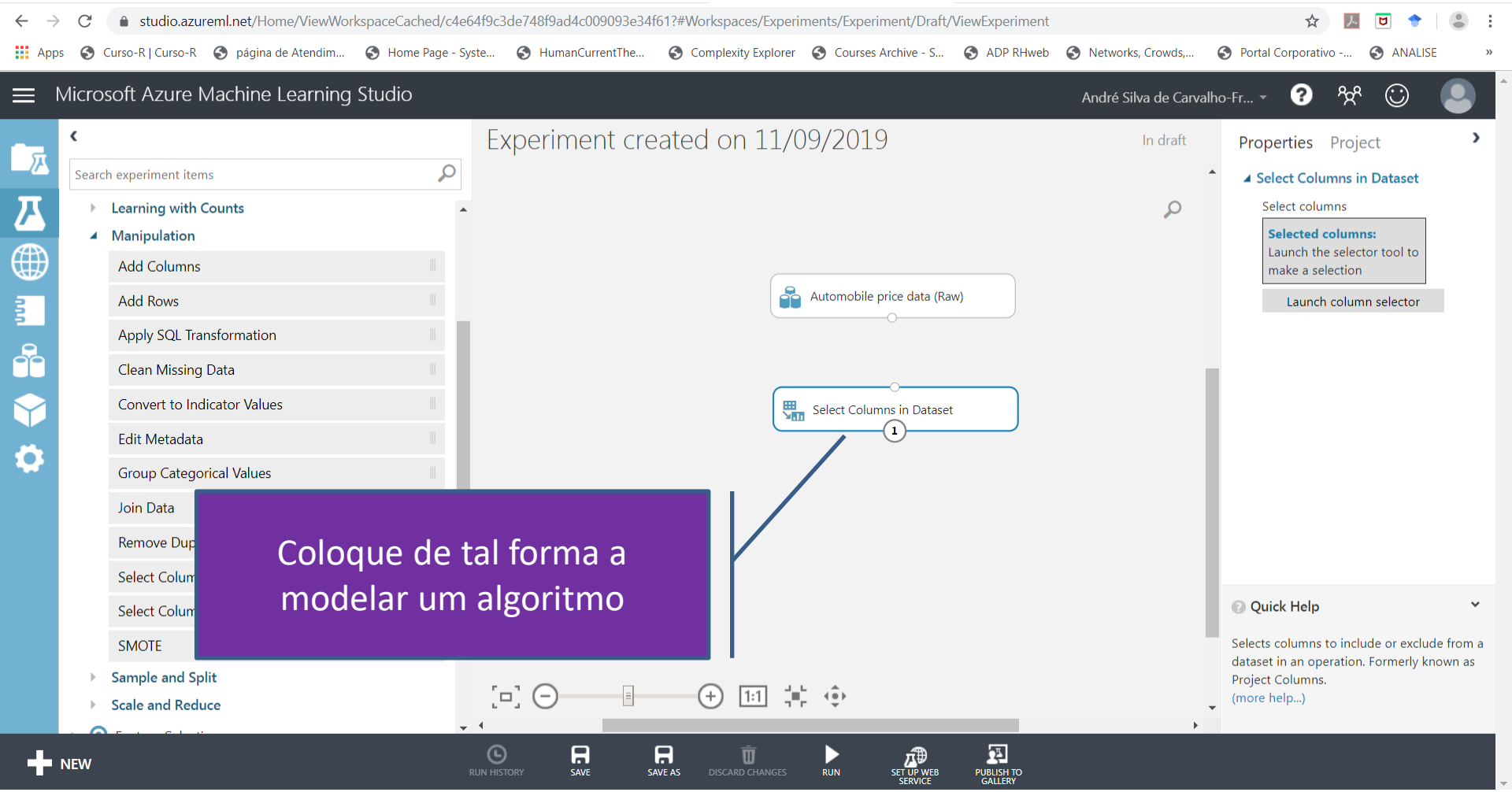
Azure ML - Preparar os dados



Azure ML - Preparar os dados

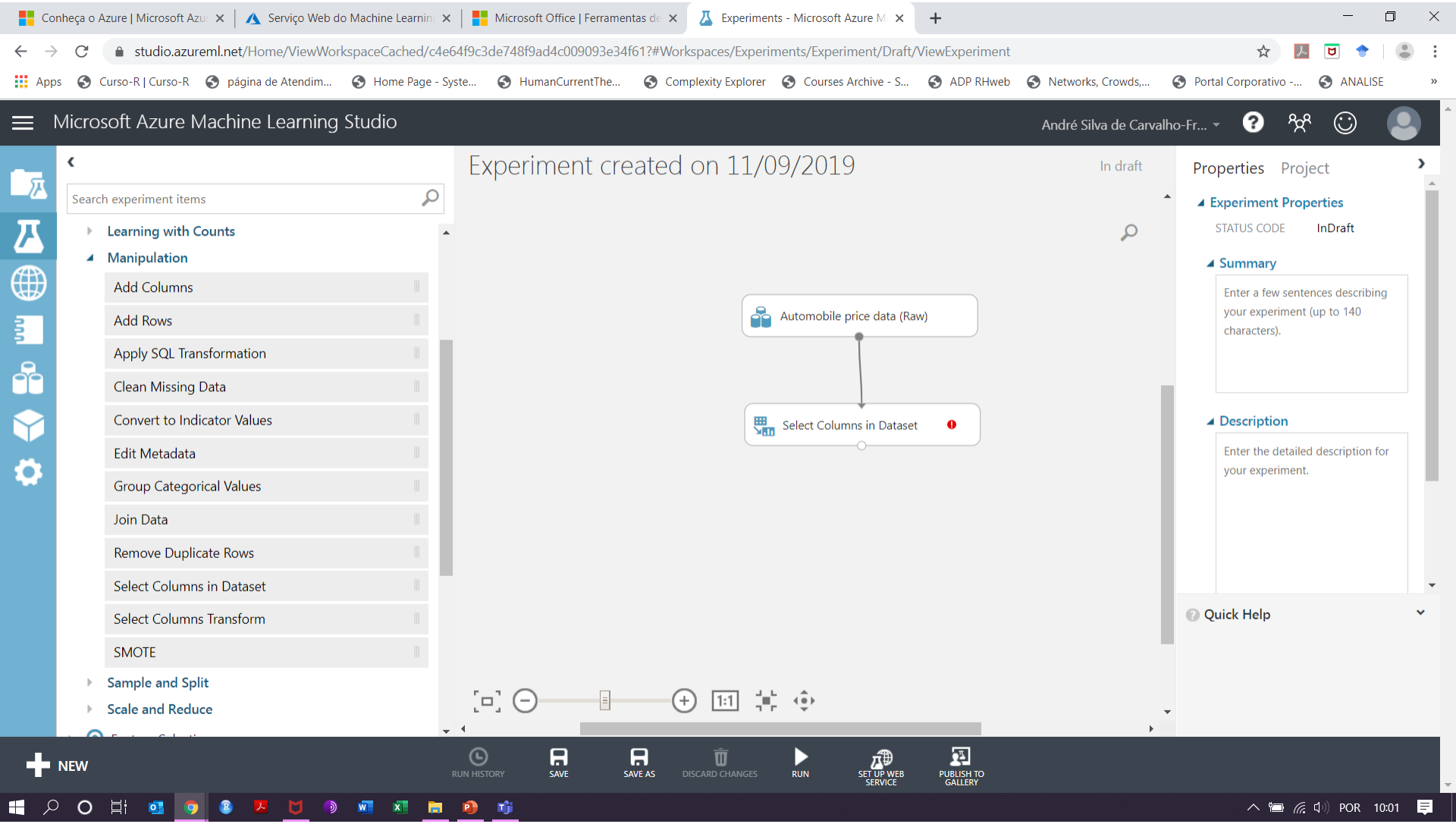


Azure ML - Preparar os dados

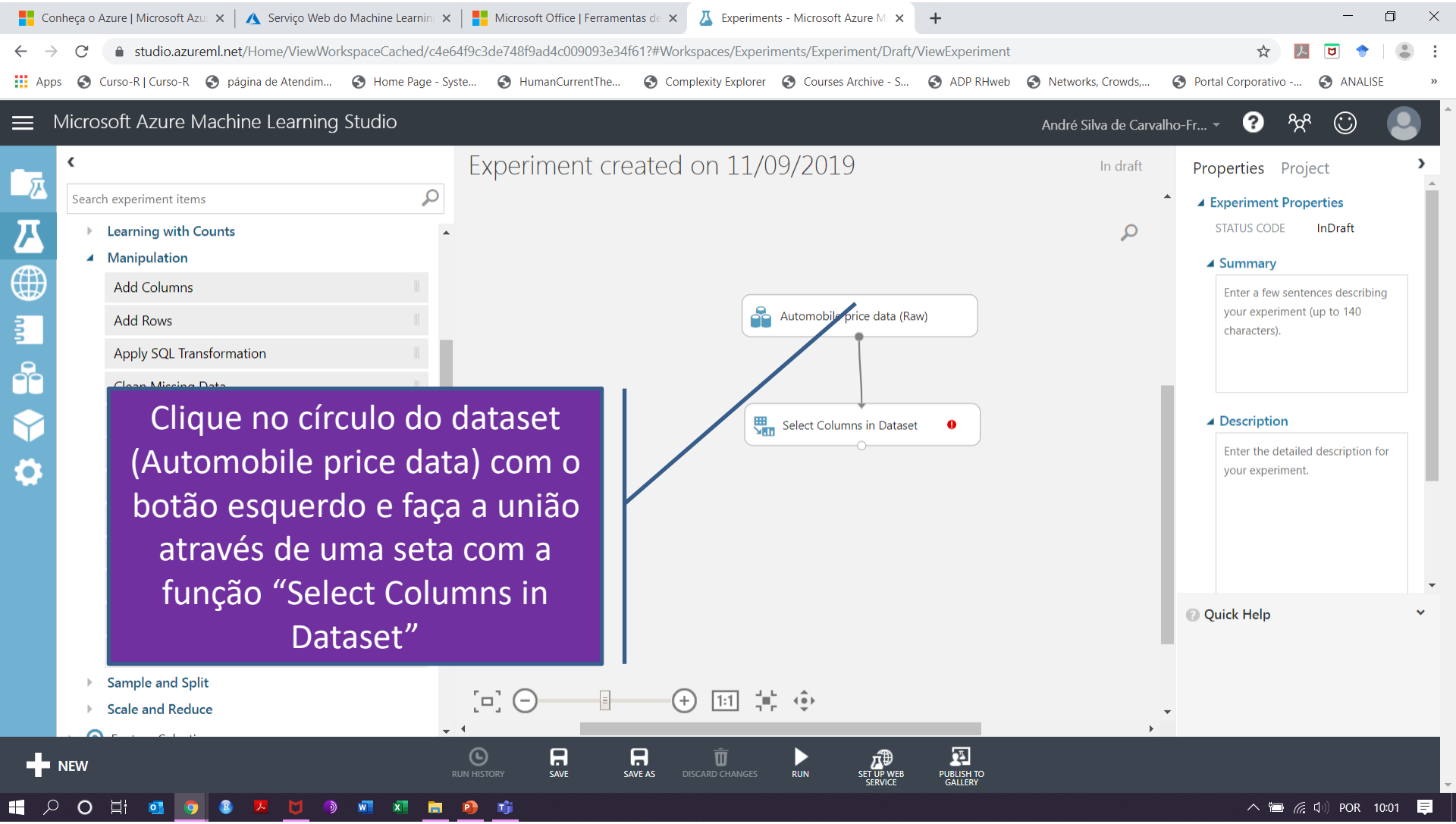


Coloque de tal forma a modelar um algoritmo

Azure ML - Preparar os dados

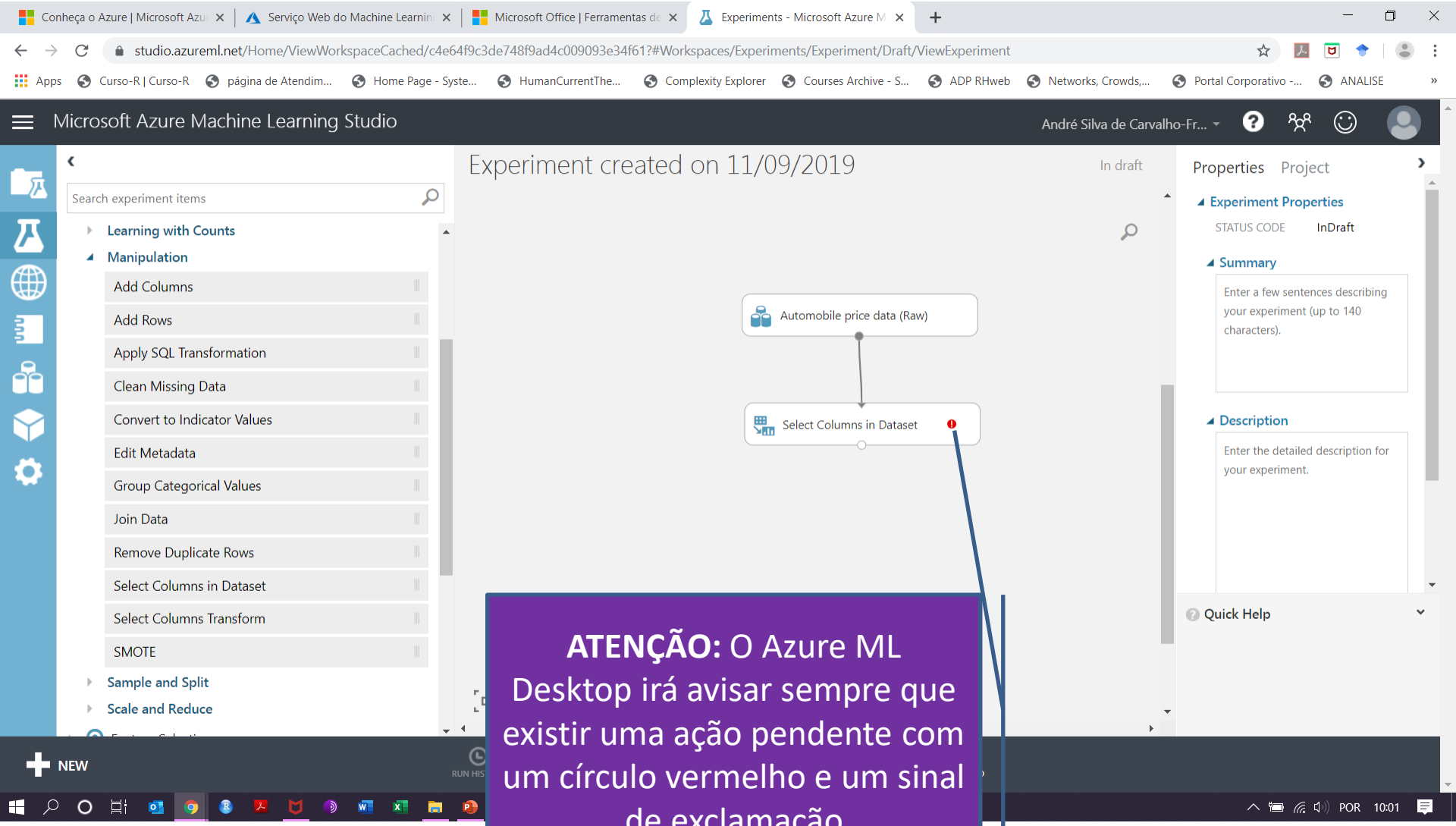


Azure ML - Preparar os dados



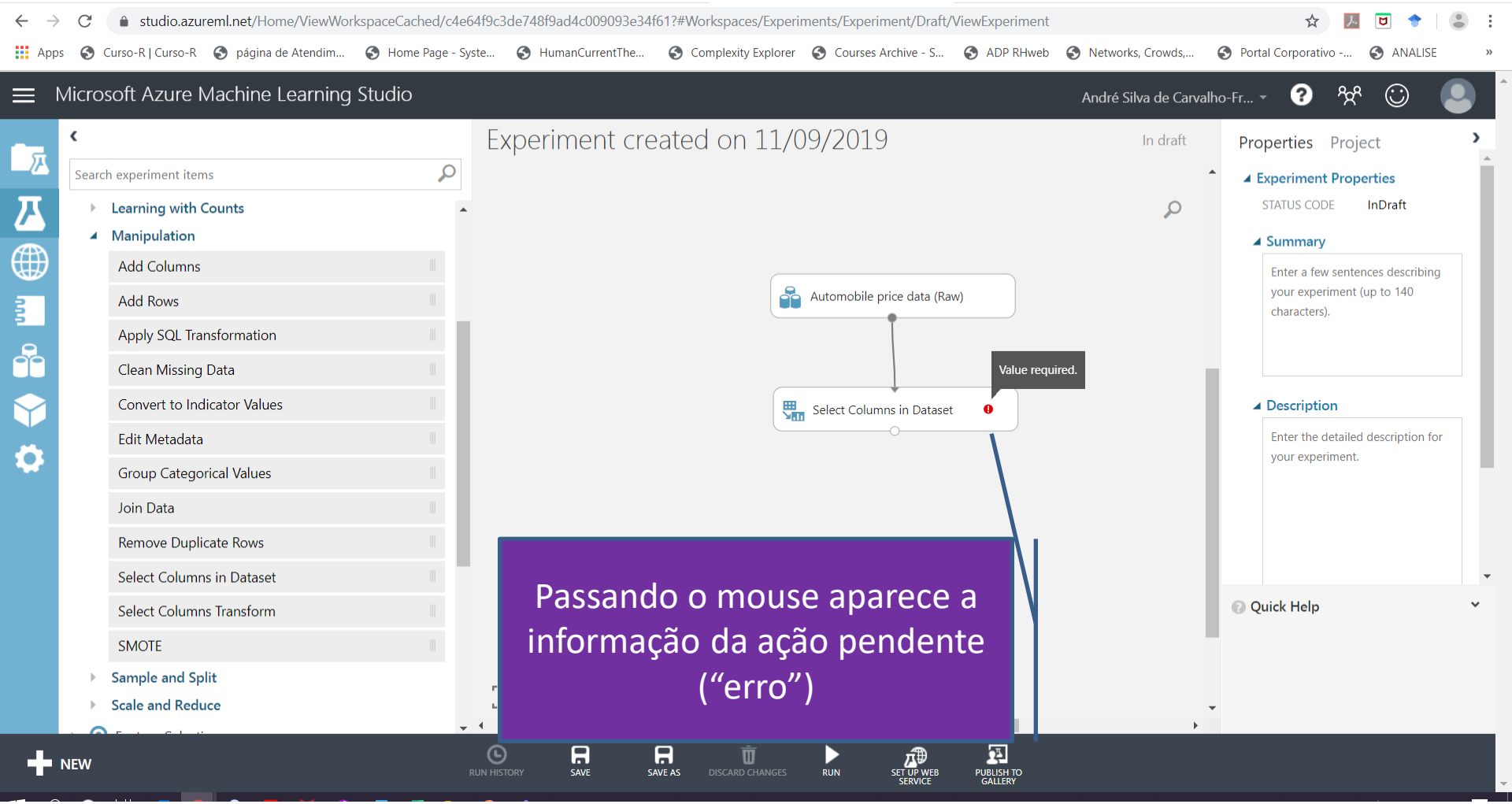
Clique no círculo do dataset (Automobile price data) com o botão esquerdo e faça a união através de uma seta com a função “Select Columns in Dataset”

Azure ML - Preparar os dados



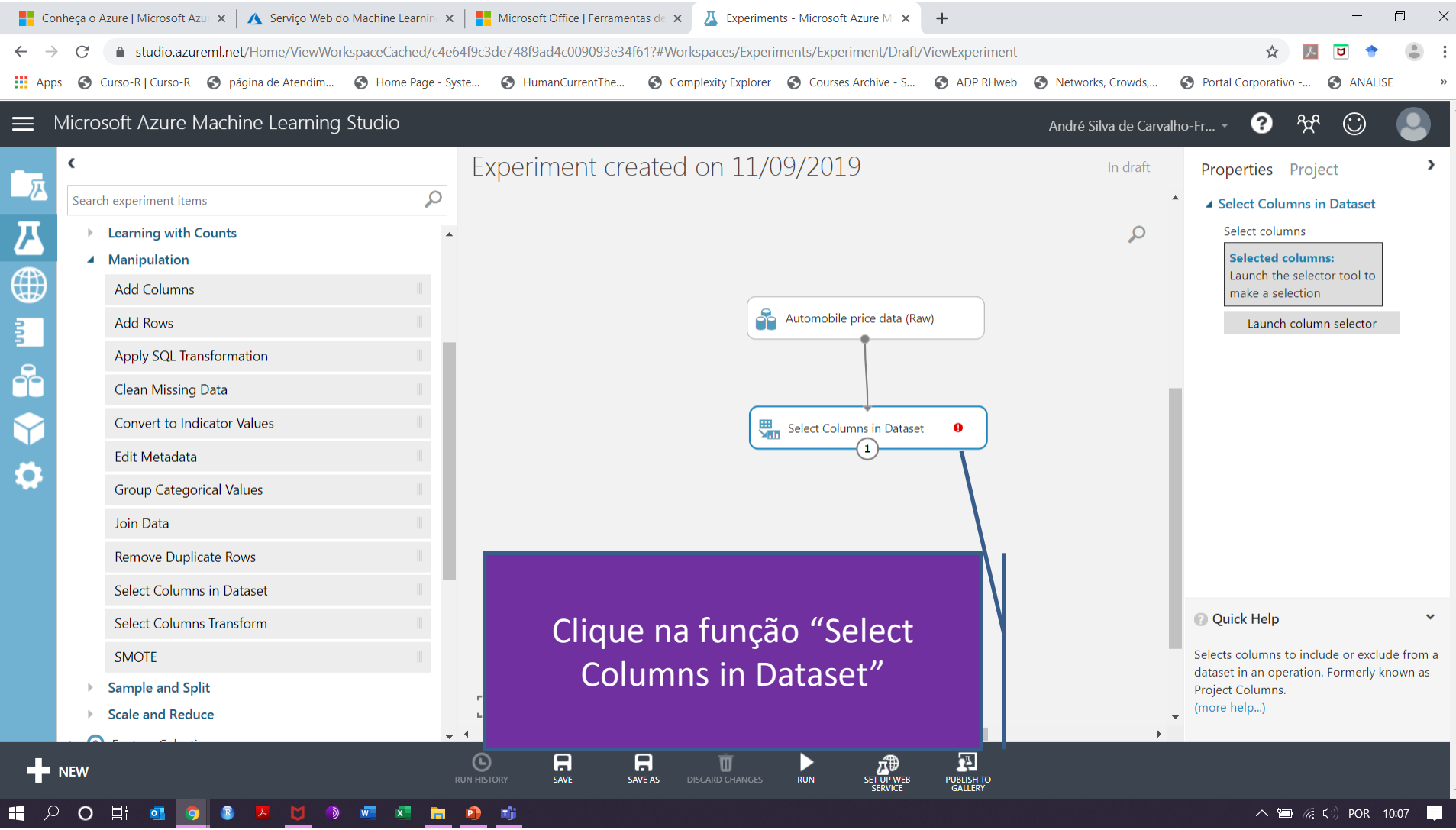
ATENÇÃO: O Azure ML Desktop irá avisar sempre que existir uma ação pendente com um círculo vermelho e um sinal de exclamação

Azure ML - Preparar os dados

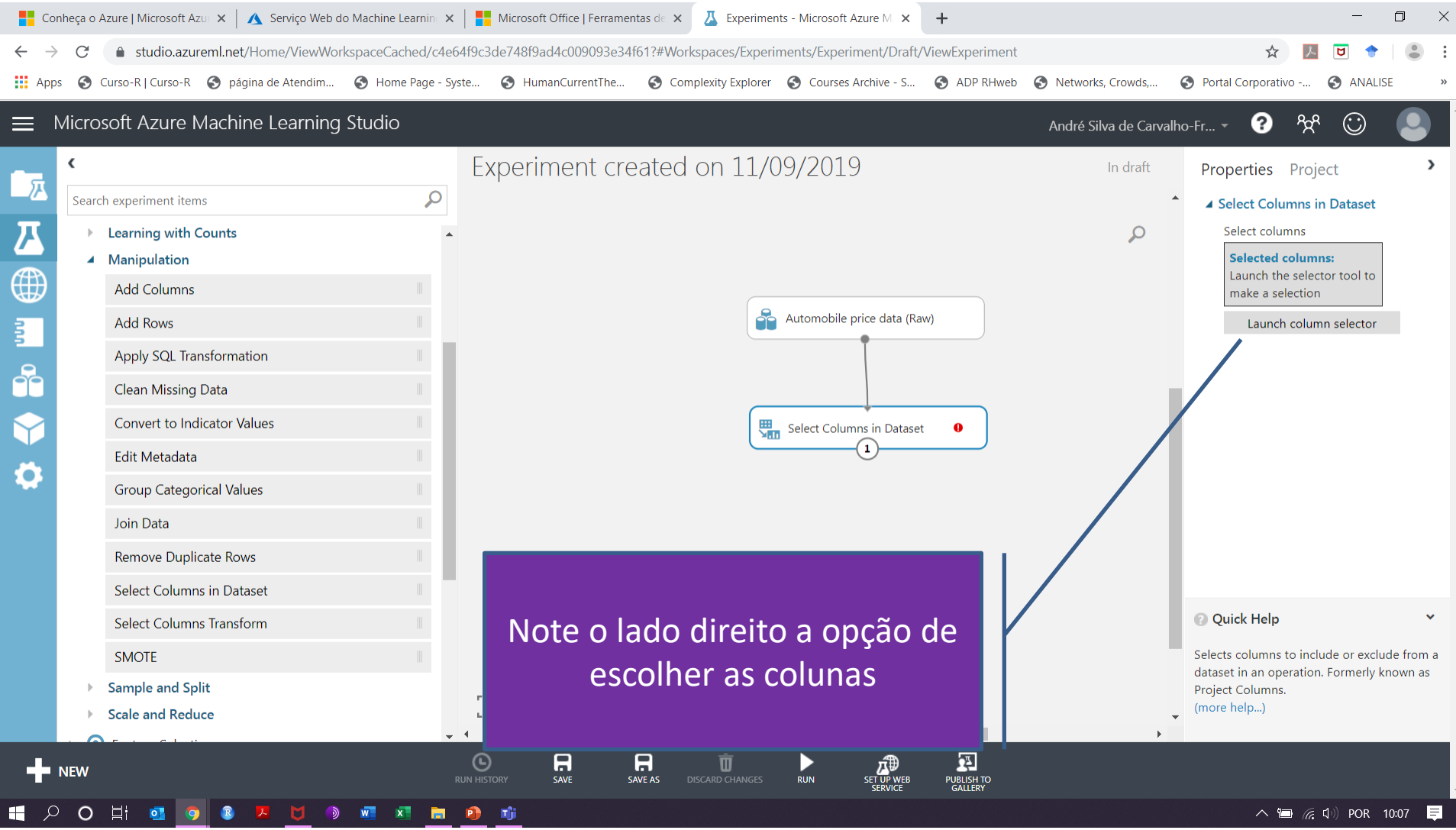


Passando o mouse aparece a informação da ação pendente (“erro”)

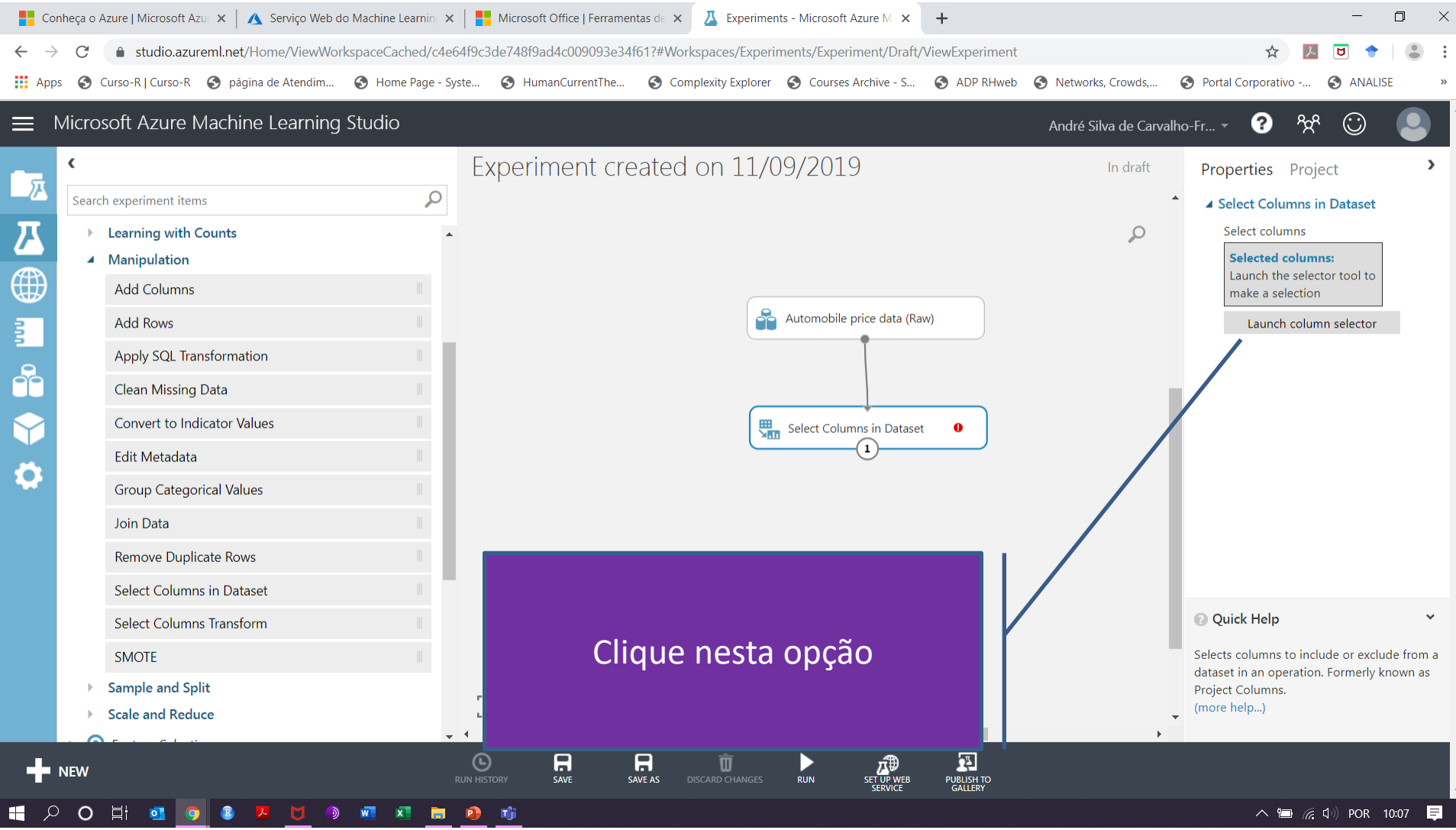
Azure ML - Preparar os dados



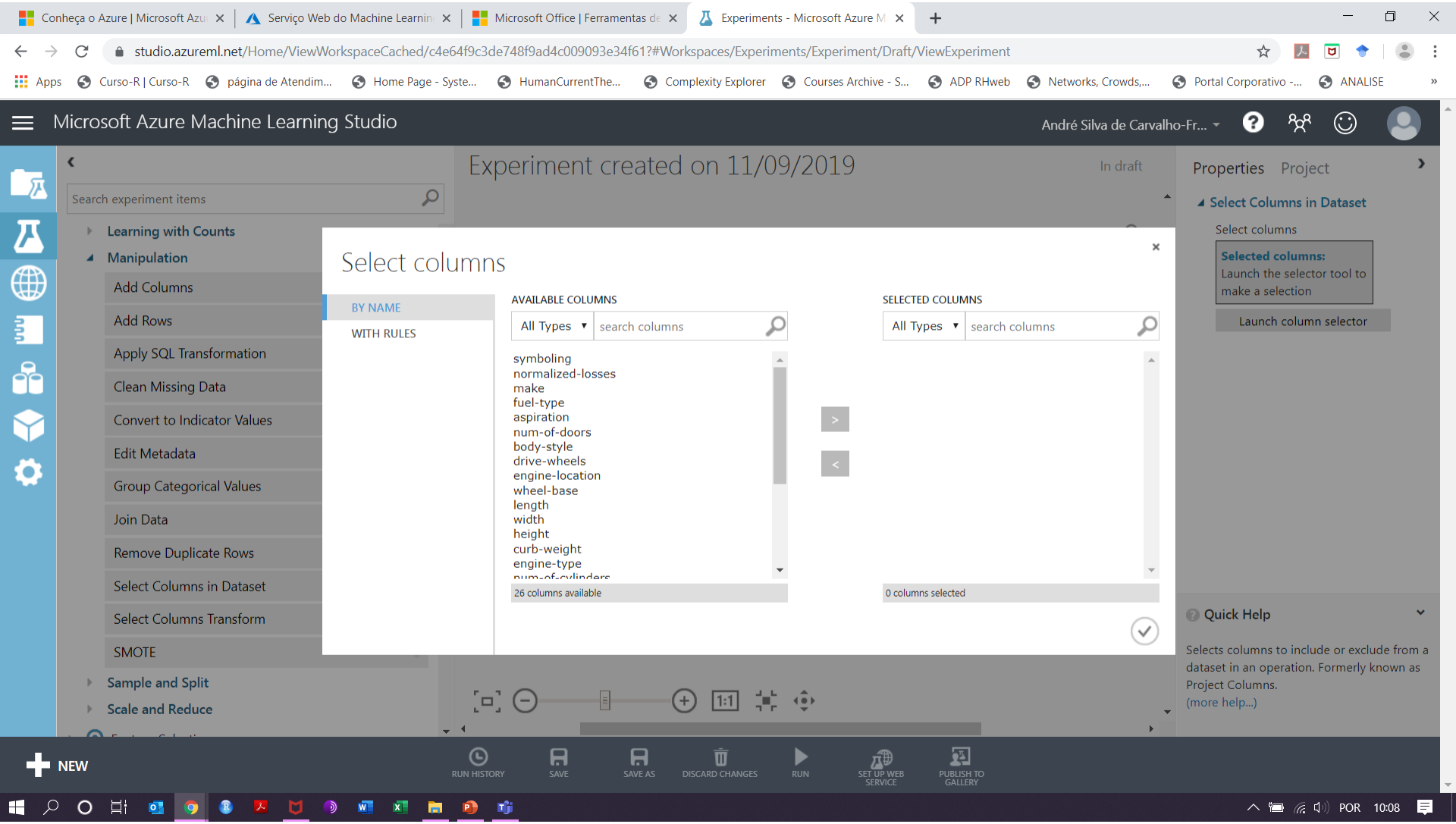
Azure ML - Preparar os dados



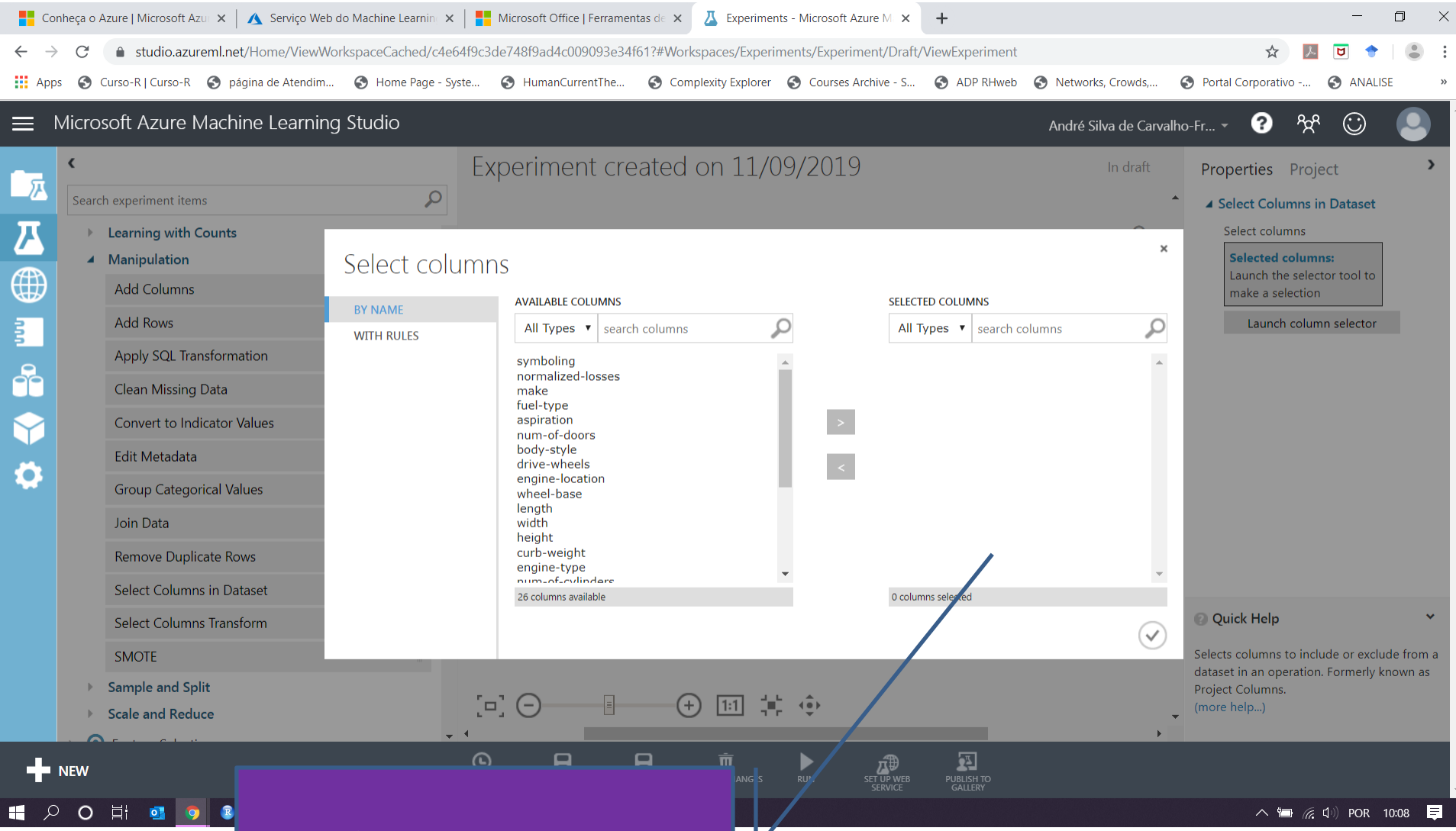
Azure ML - Preparar os dados



Azure ML - Preparar os dados

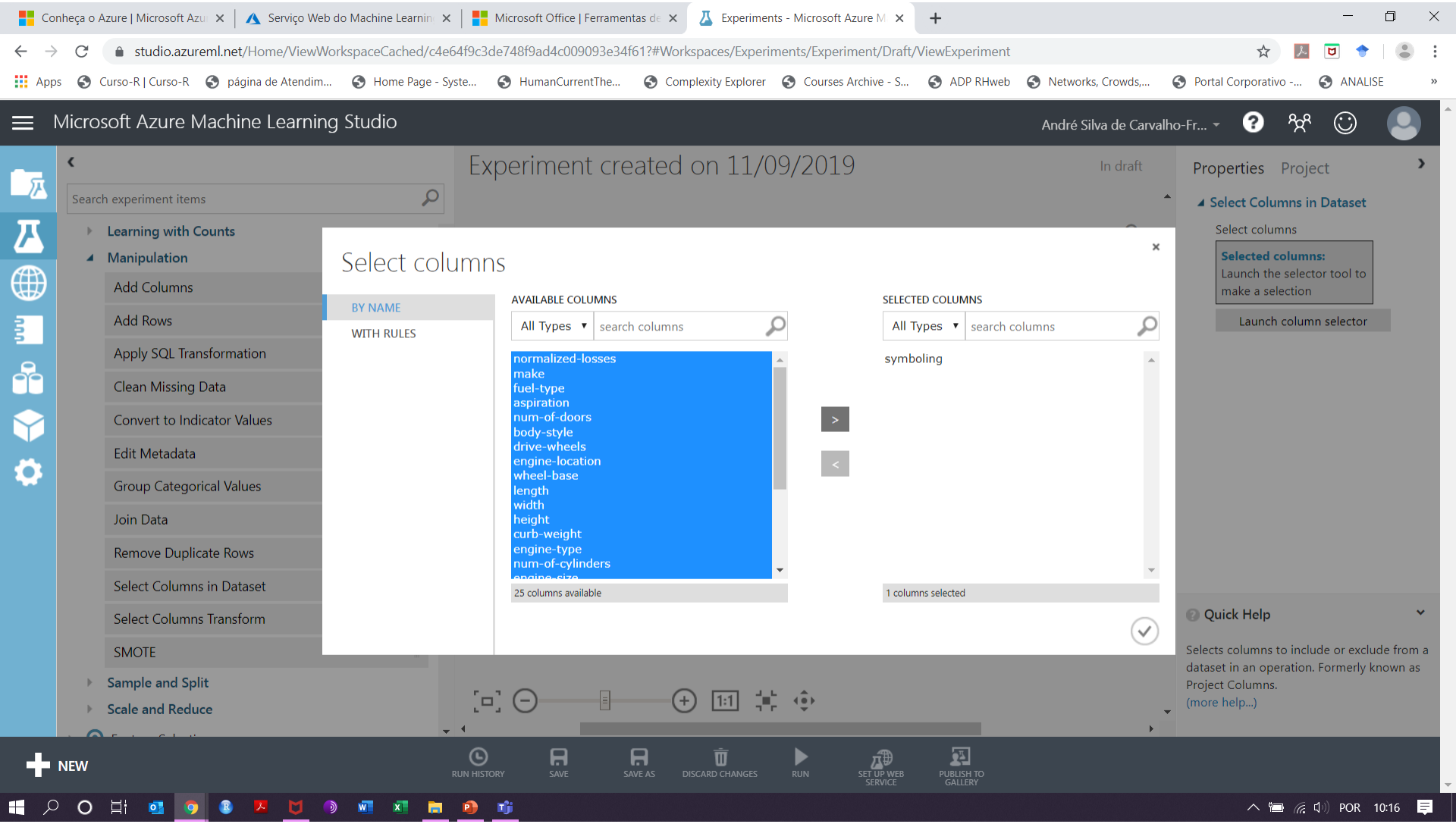


Azure ML - Preparar os dados

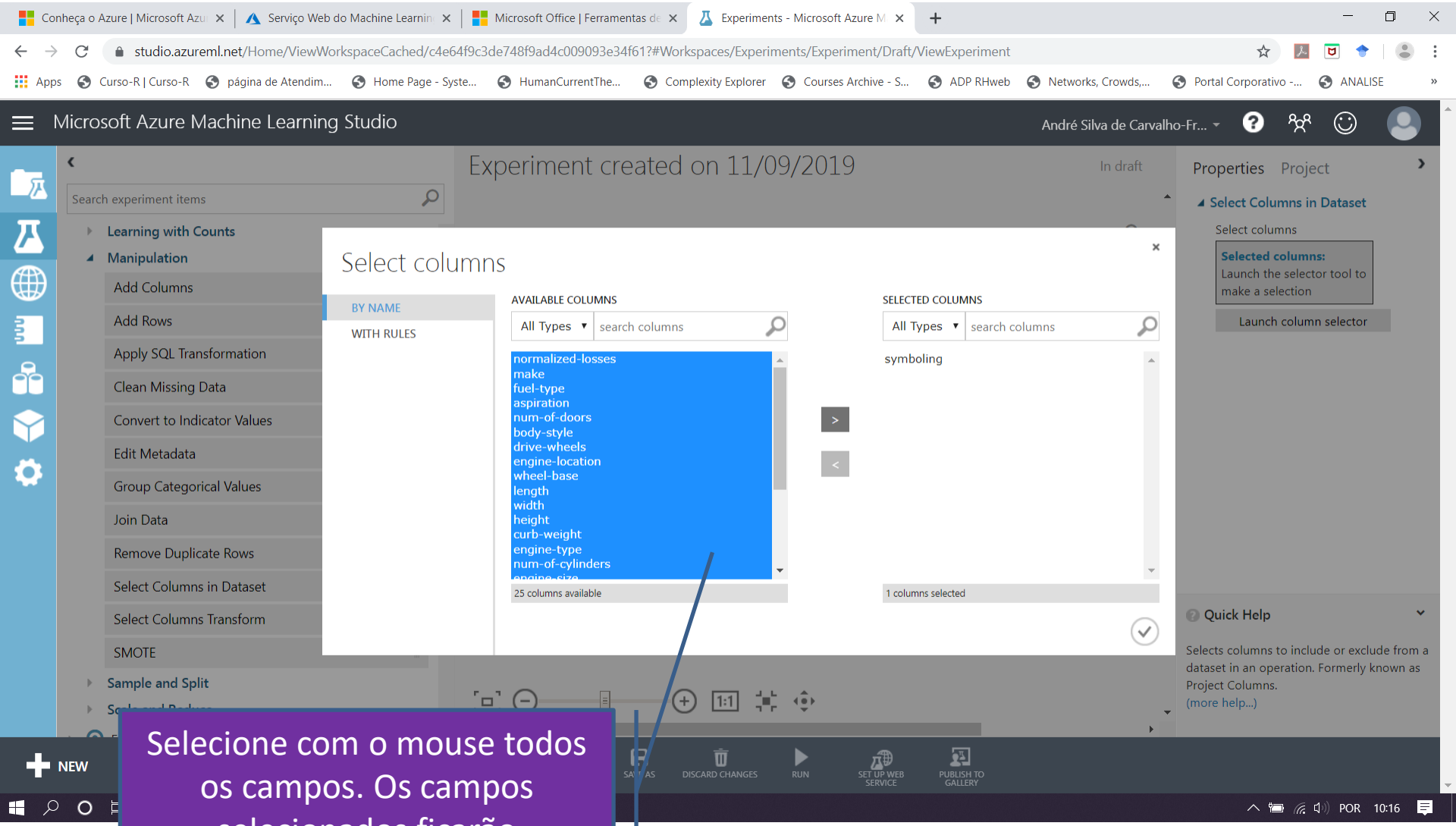


Abrirá um campo de seleção de dados

Azure ML - Preparar os dados

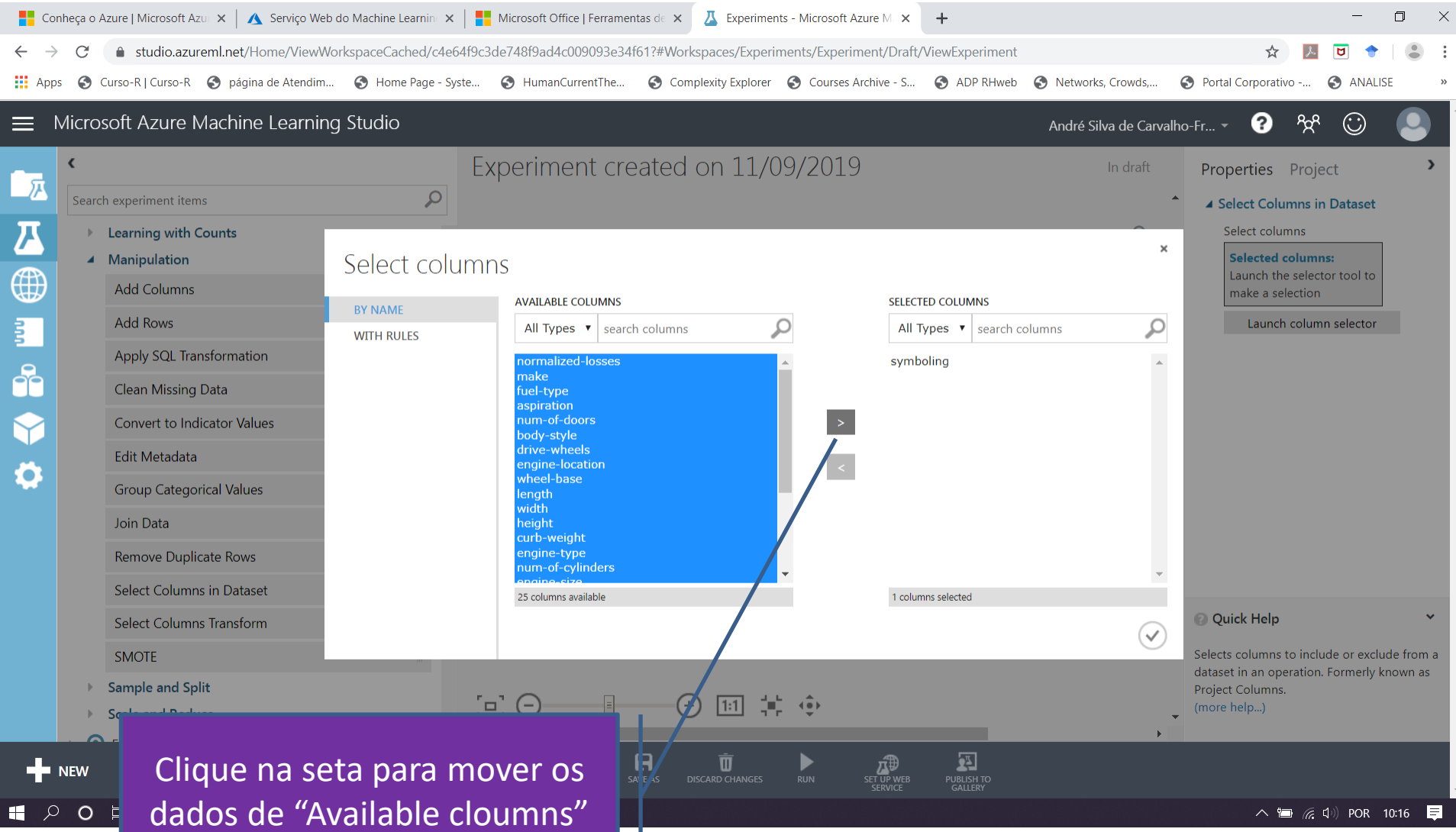


Azure ML - Preparar os dados



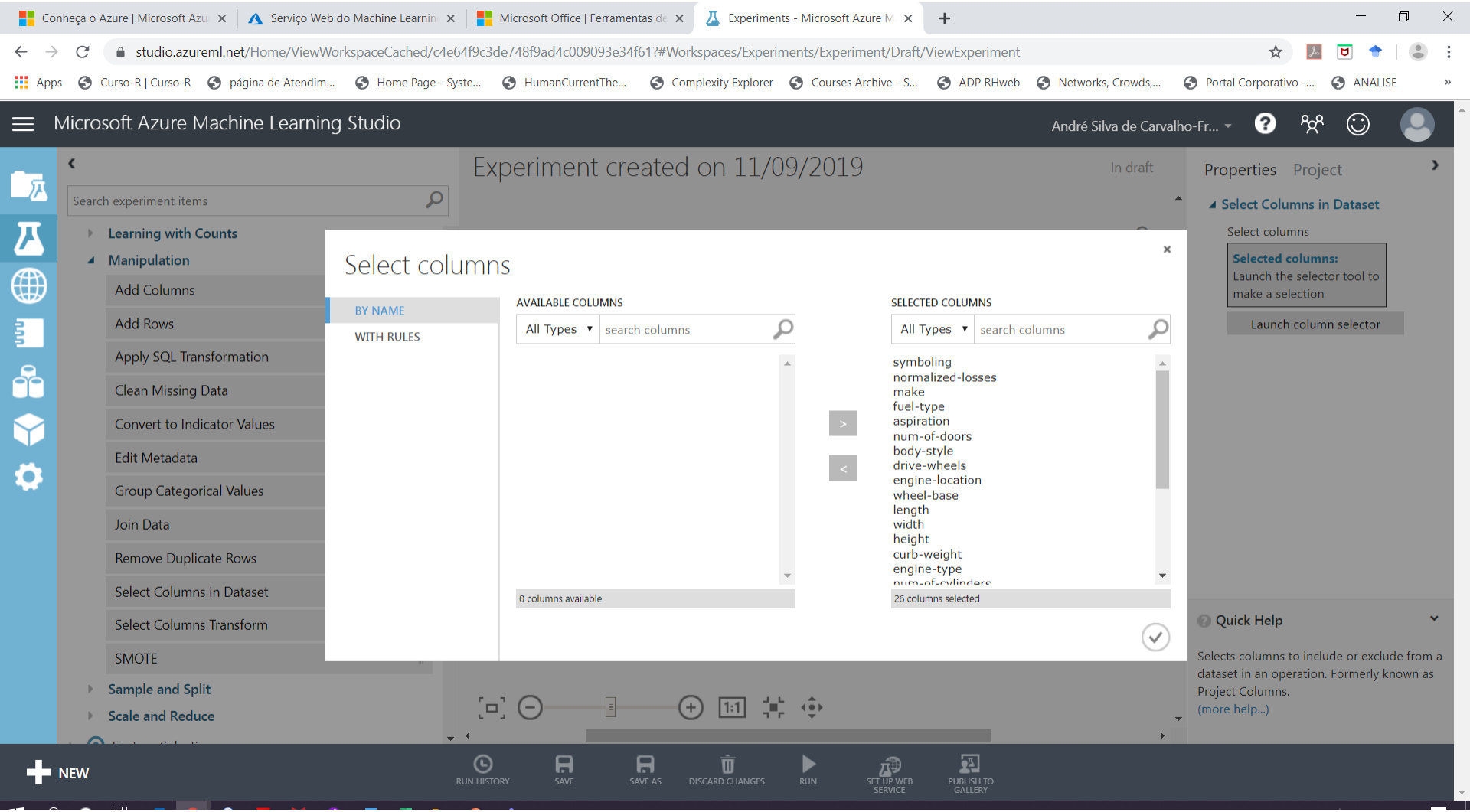
Selecione com o mouse todos os campos. Os campos selecionados ficarão destacados em azul

Azure ML - Preparar os dados

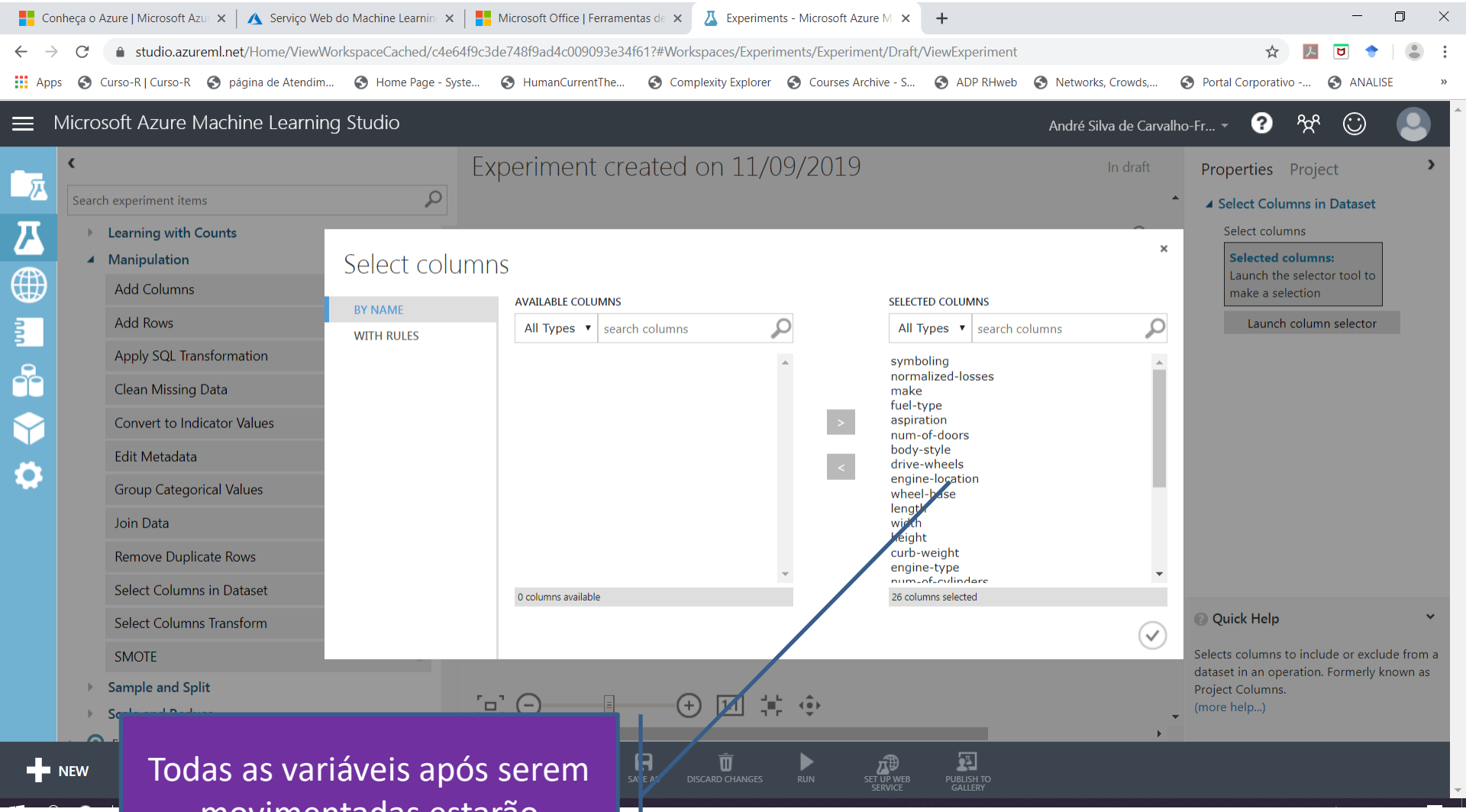


Clique na seta para mover os dados de “Available cloumns” para “Selected Columns”

Azure ML - Preparar os dados

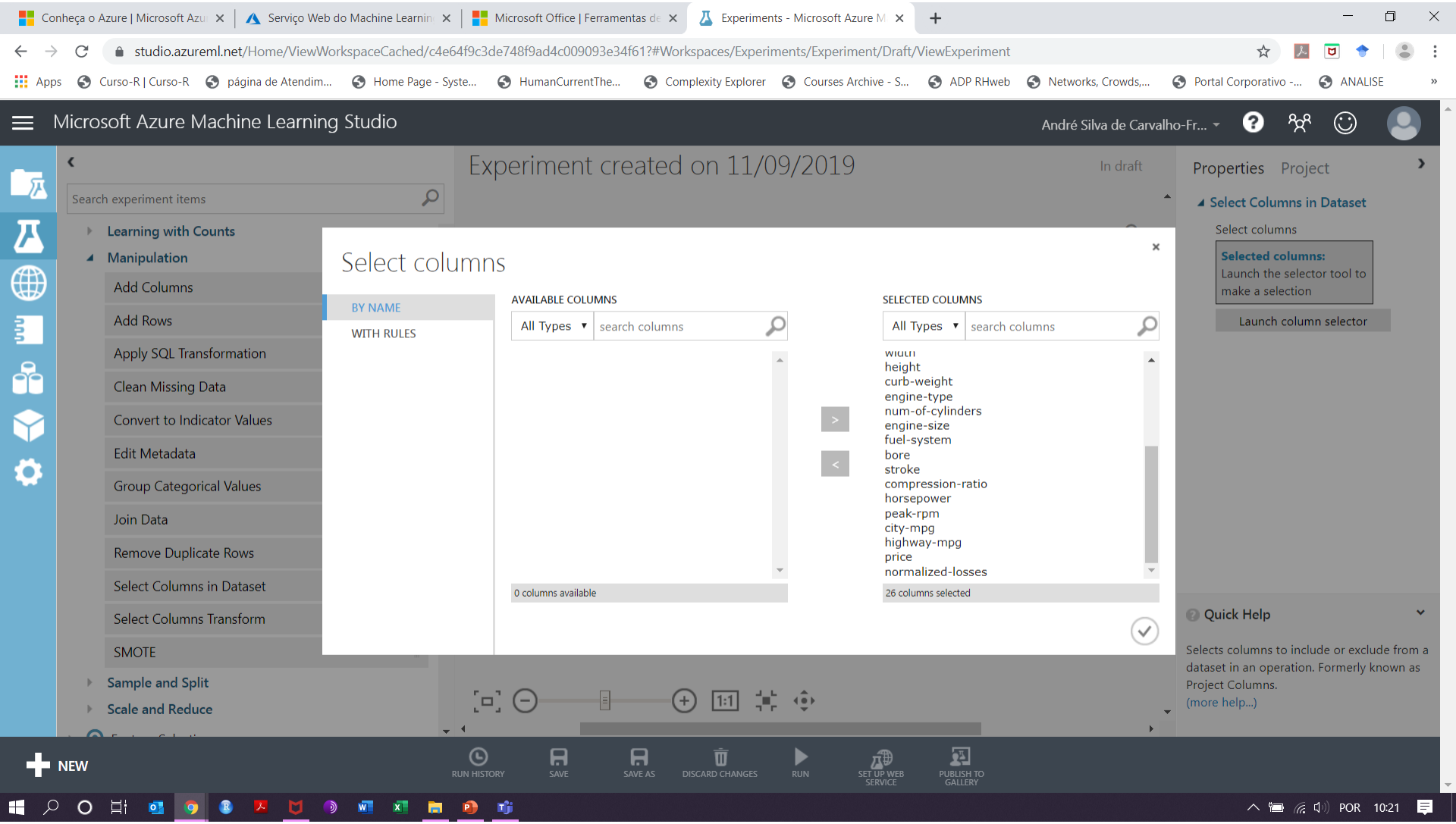


Azure ML - Preparar os dados

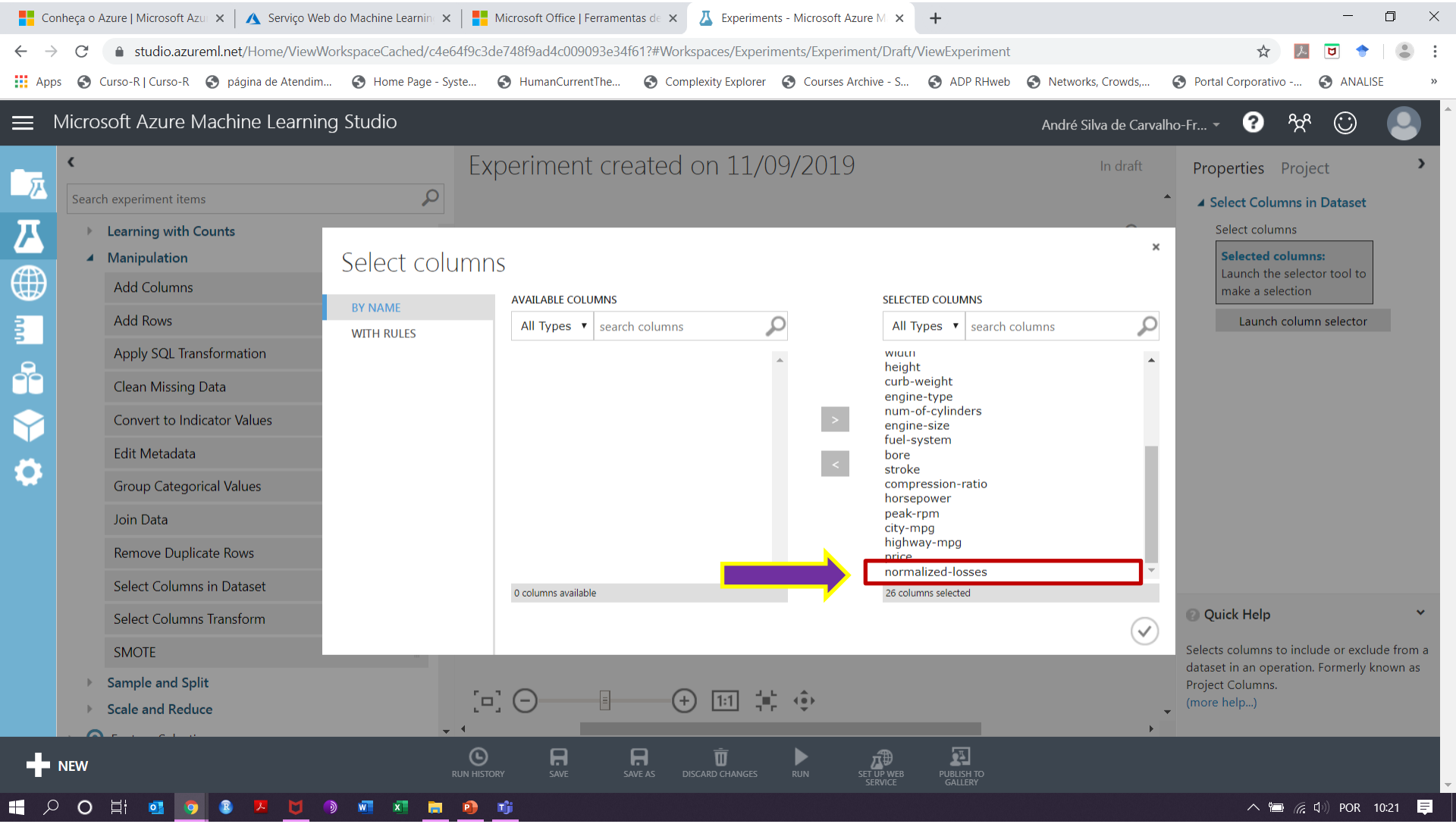


Todas as variáveis após serem movimentadas estarão disponíveis

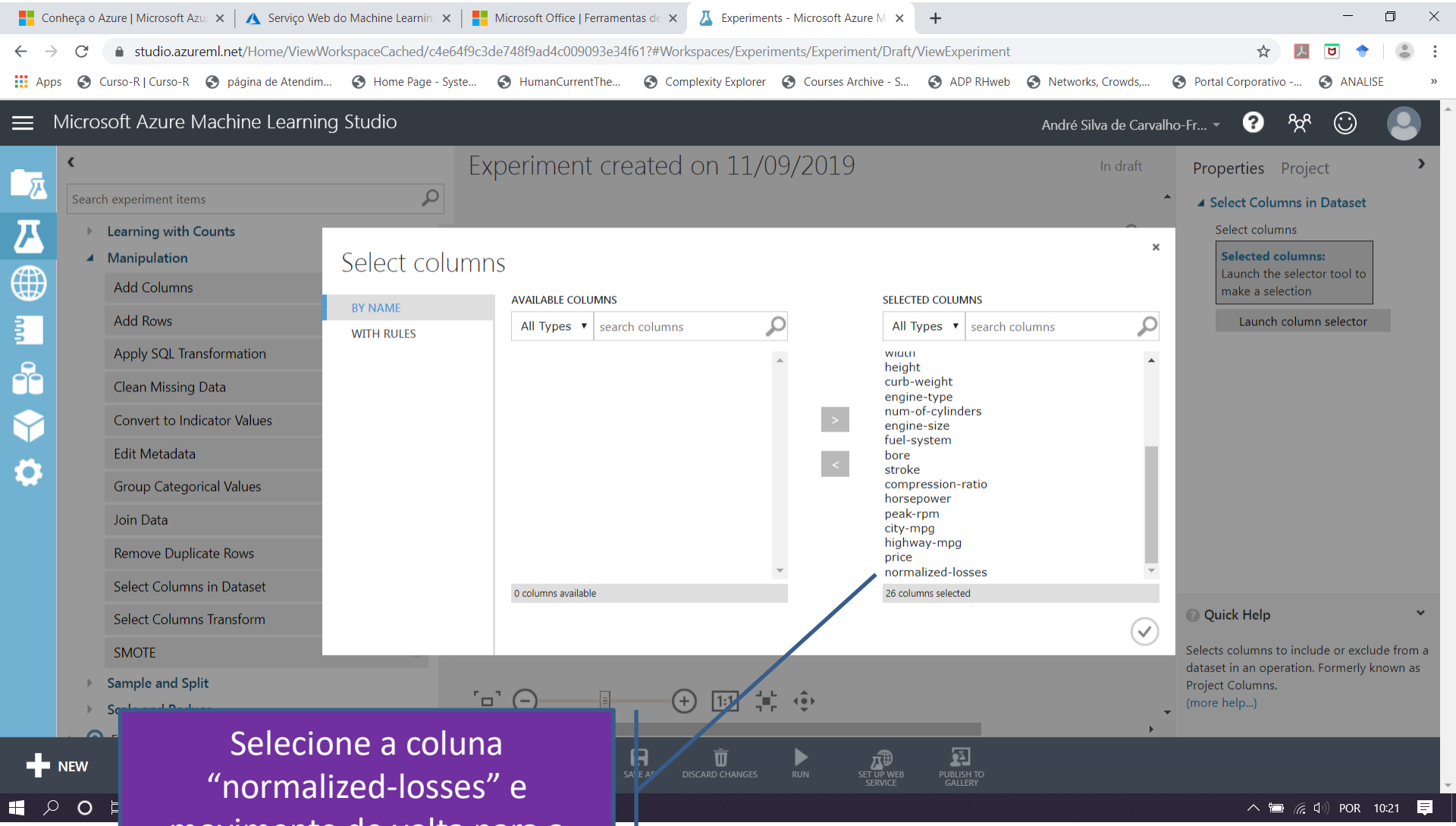
Azure ML - Preparar os dados



Azure ML - Preparar os dados

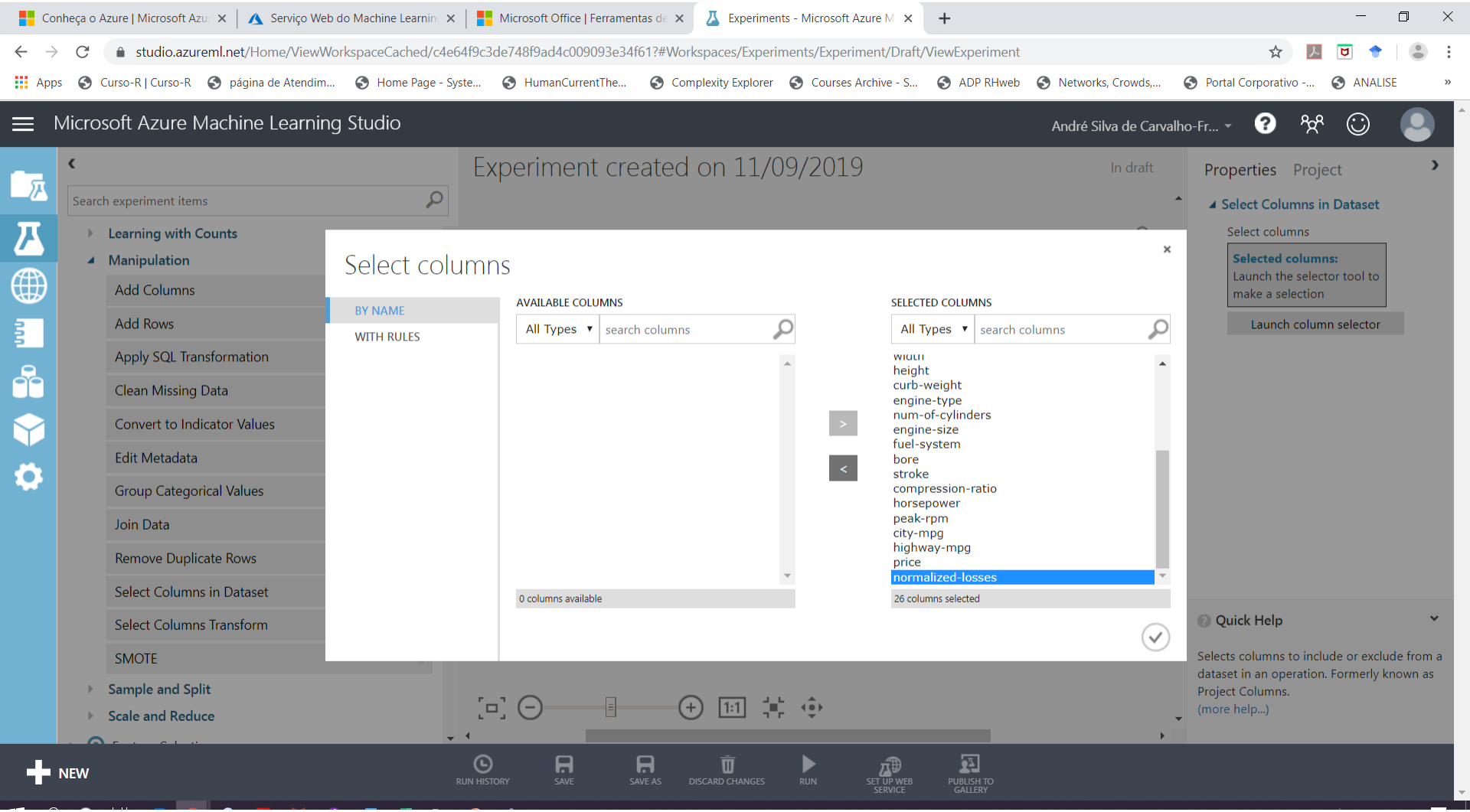


Azure ML - Preparar os dados

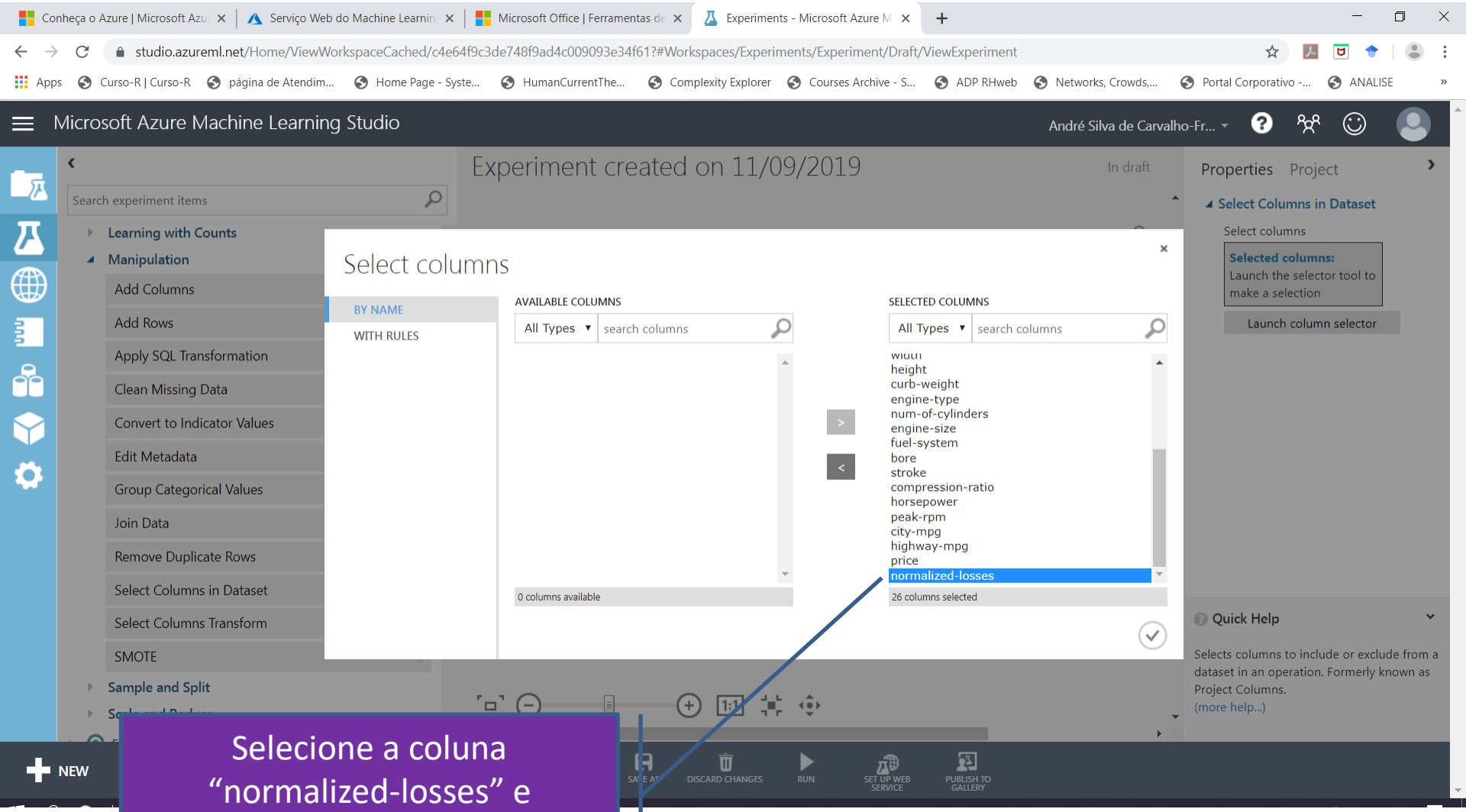


Selecione a coluna “normalized-losses” e movimente de volta para a opção “Available columns”

Azure ML - Preparar os dados

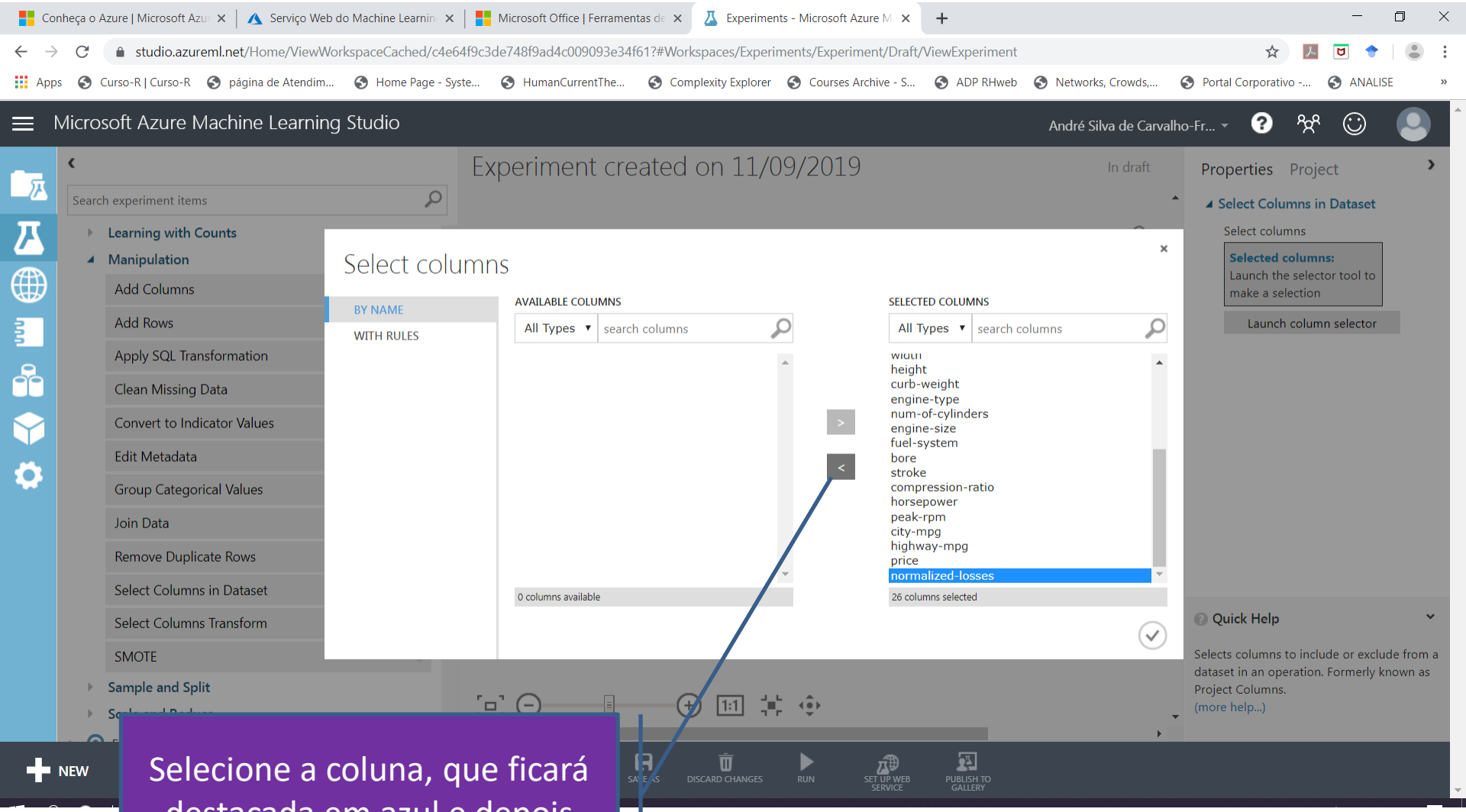


Azure ML - Preparar os dados



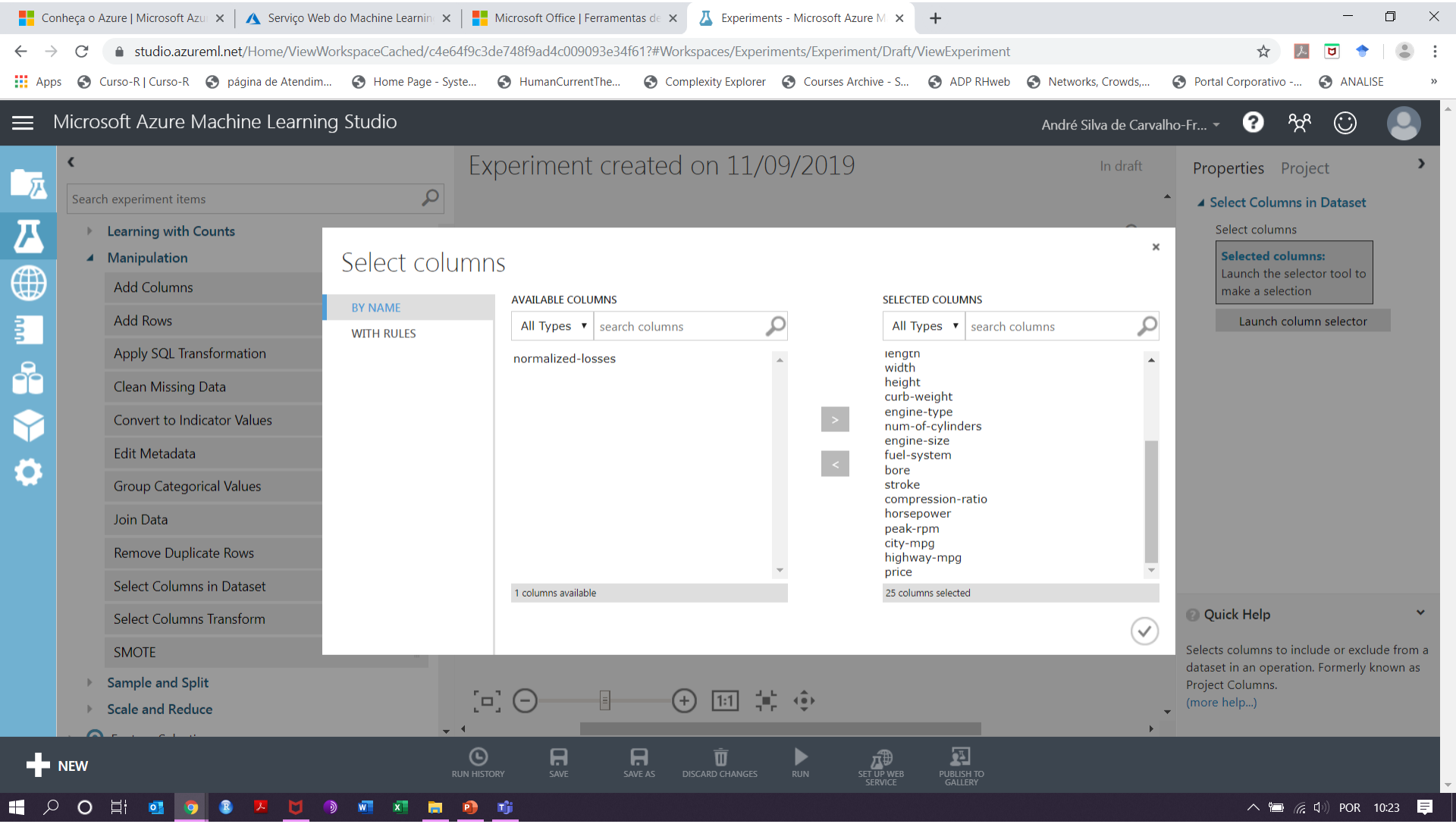
Selecione a coluna “normalized-losses” e movimente de volta para a opção “Available columns”

Azure ML - Preparar os dados

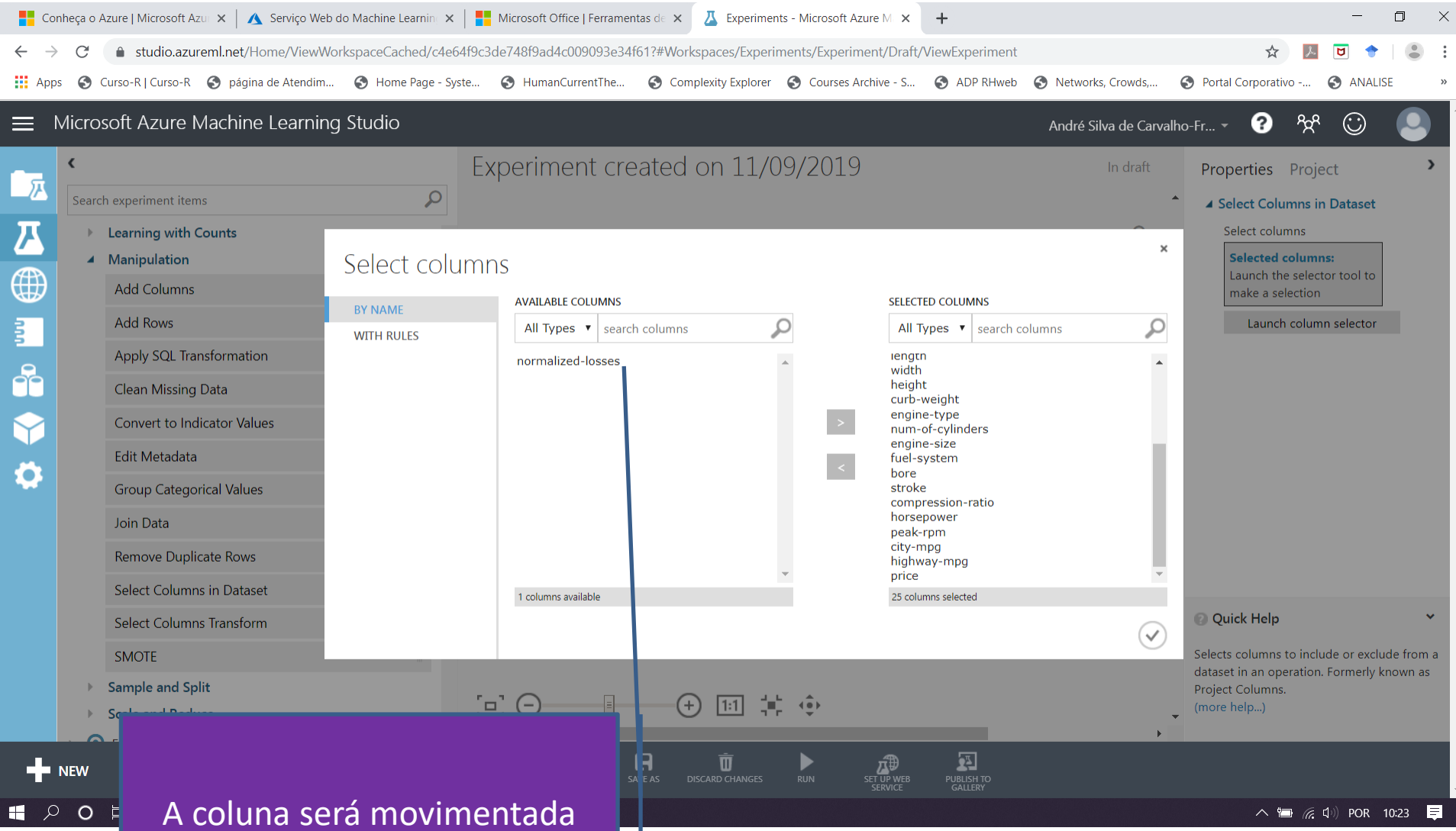


Selecione a coluna, que ficará destacada em azul e depois clique na seta

Azure ML - Preparar os dados

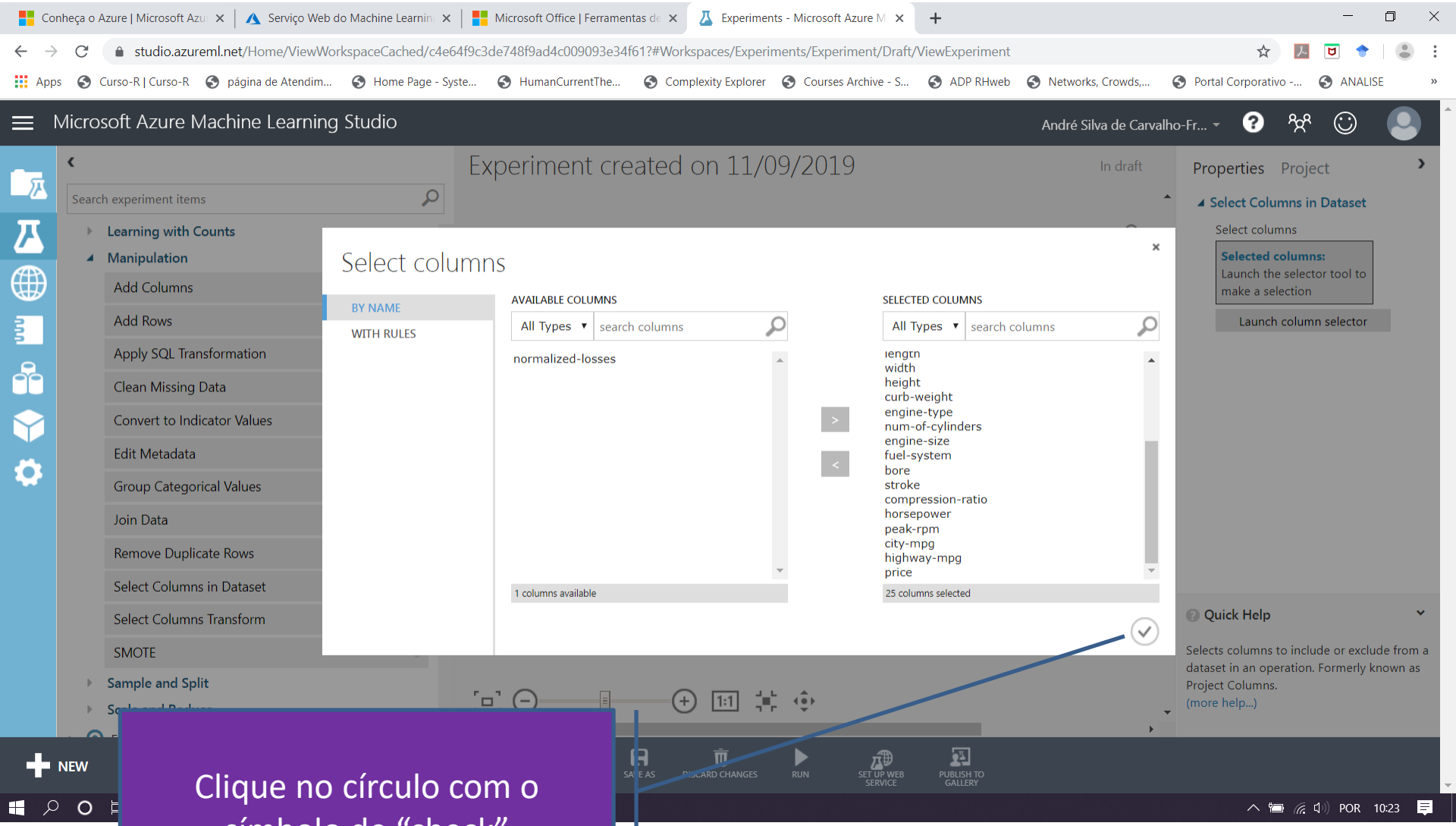


Azure ML - Preparar os dados



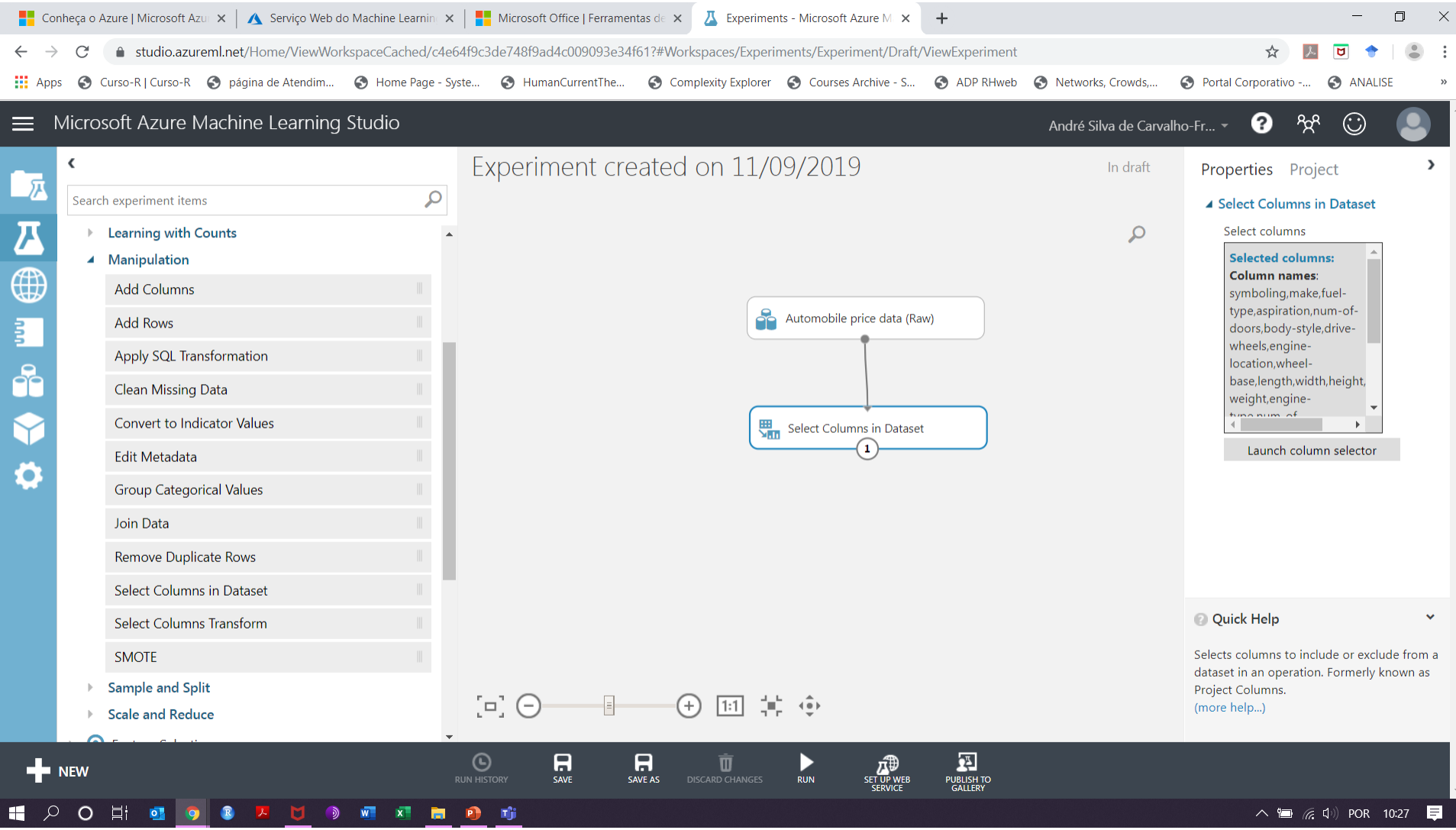
A coluna será movimentada

Azure ML - Preparar os dados

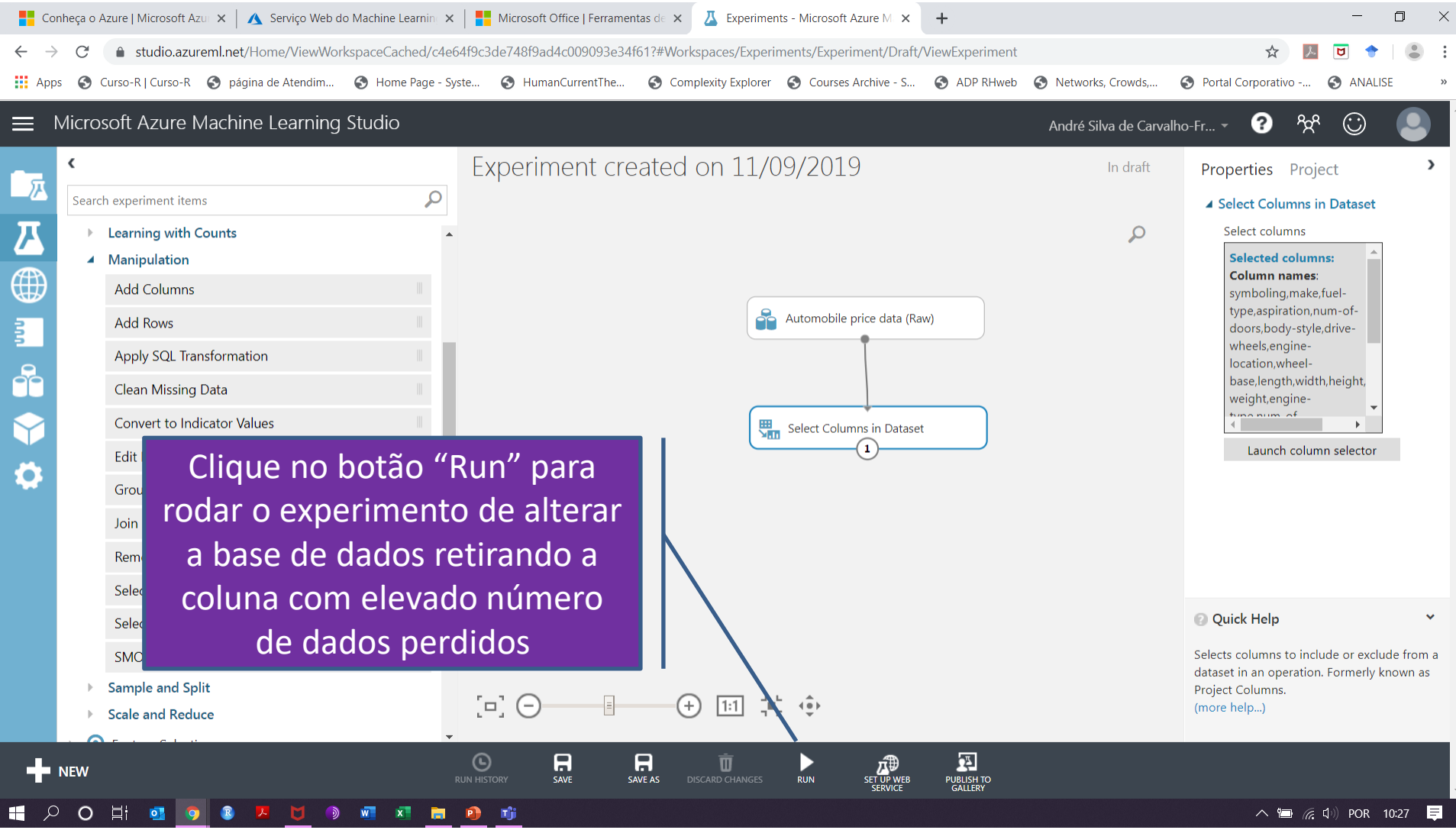


Clique no círculo com o símbolo de “check”

Azure ML – Dados disponbilizados

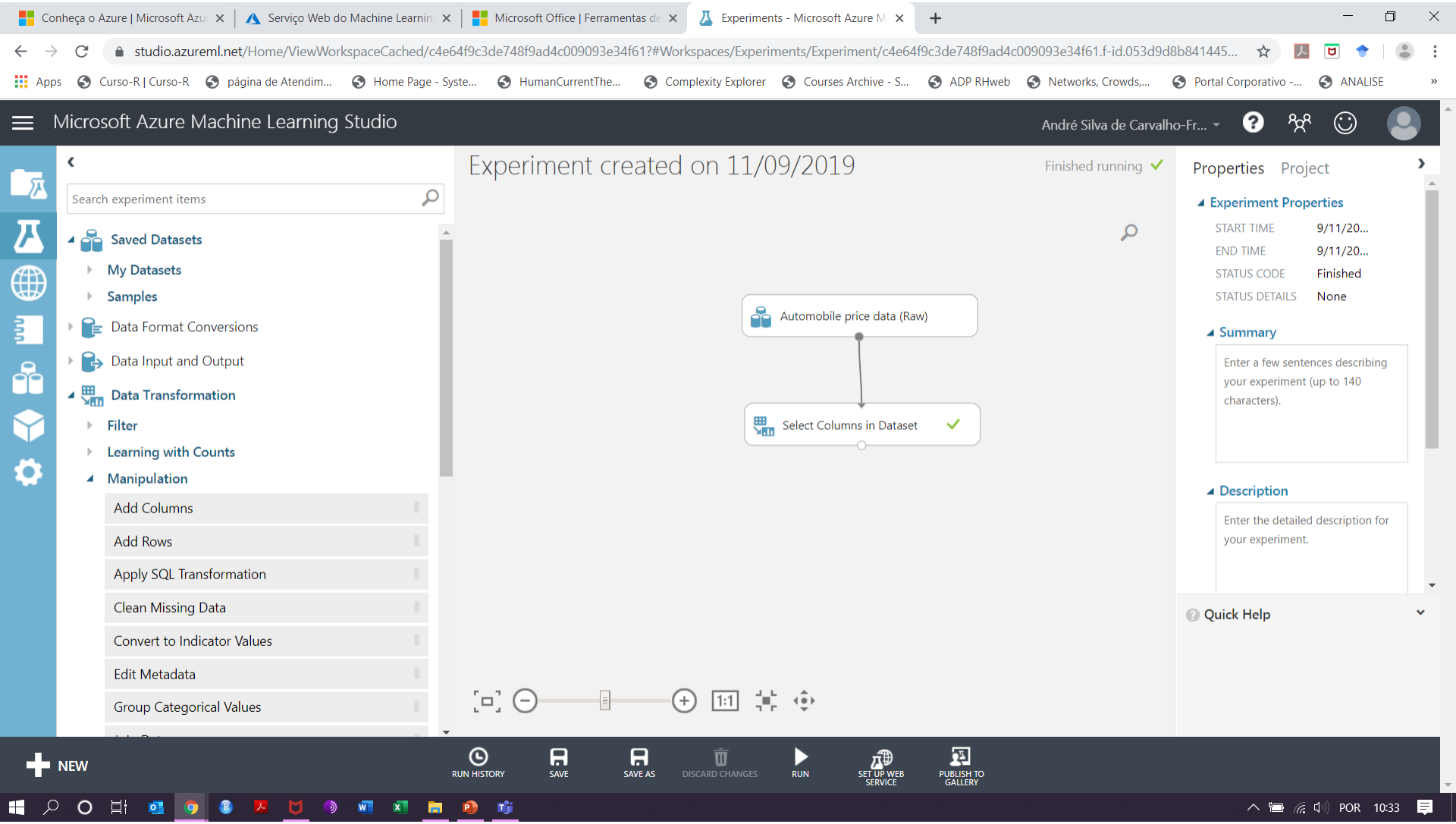


Azure ML – Dados disponbilizados

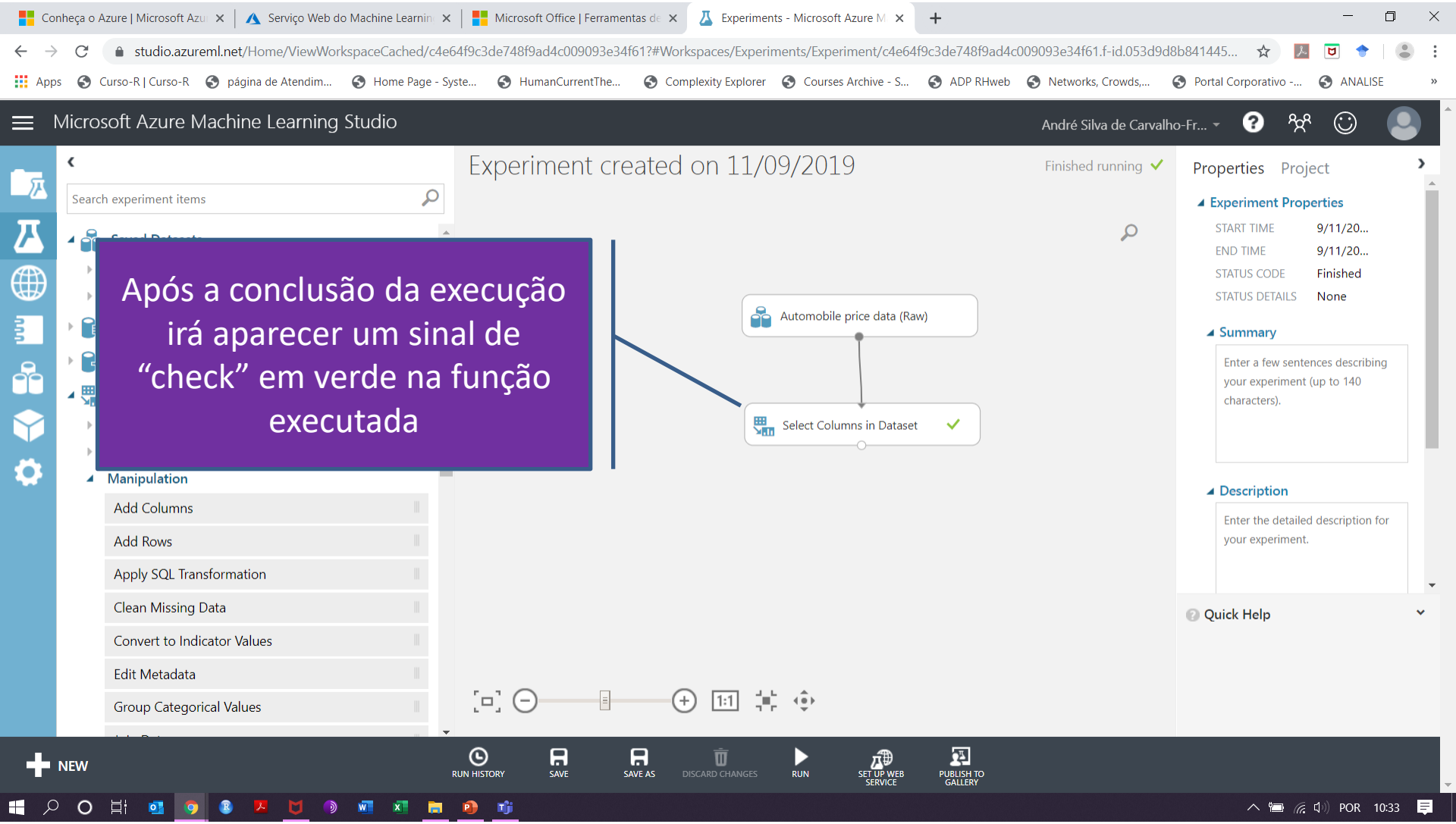


Clique no botão “Run” para rodar o experimento de alterar a base de dados retirando a coluna com elevado número de dados perdidos

Azure ML – Executando

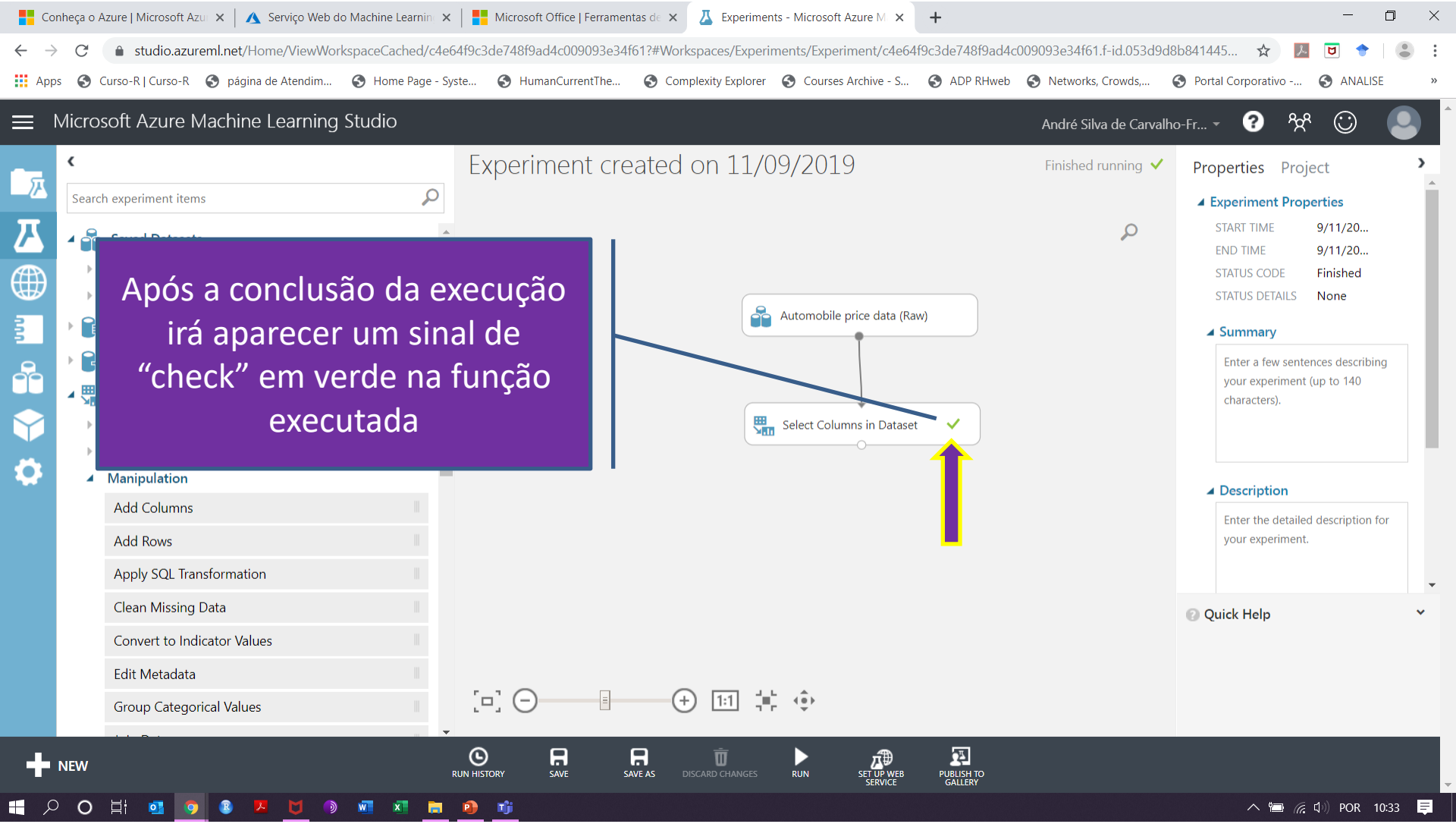


Azure ML – Executando



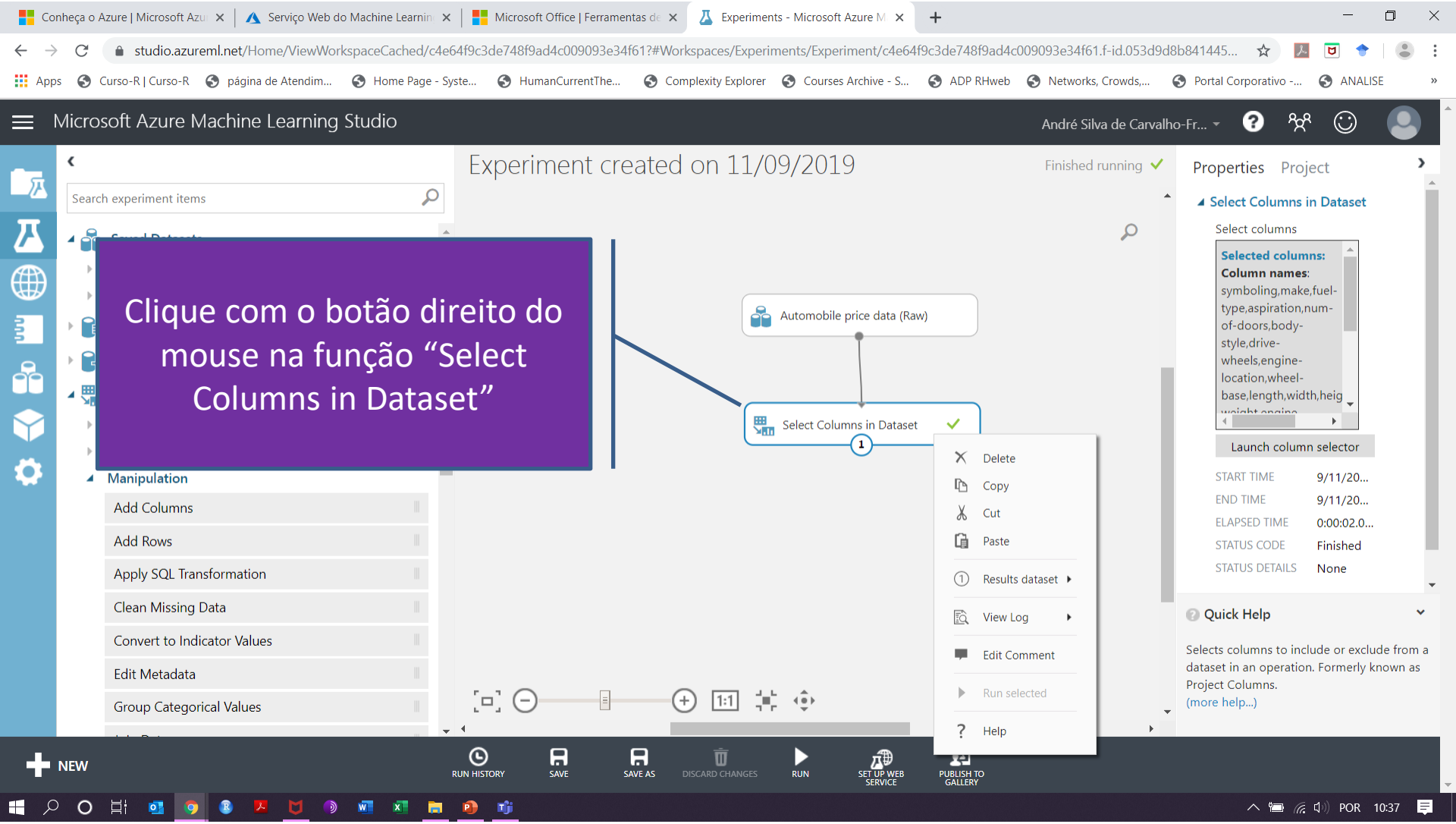
Após a conclusão da execução irá aparecer um sinal de "check" em verde na função executada

Azure ML – Executando



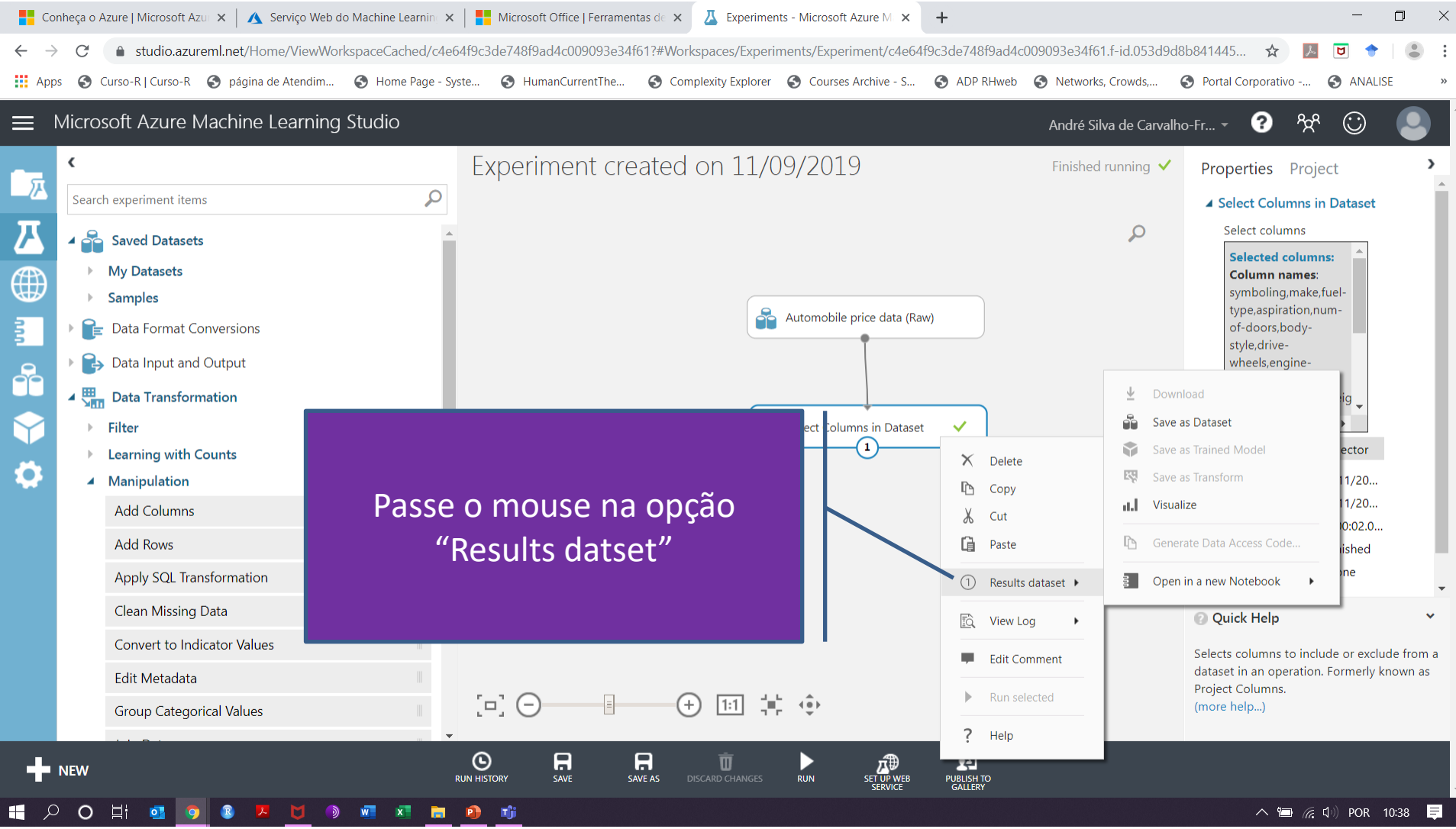
Após a conclusão da execução irá aparecer um sinal de "check" em verde na função executada

Azure ML – Executando

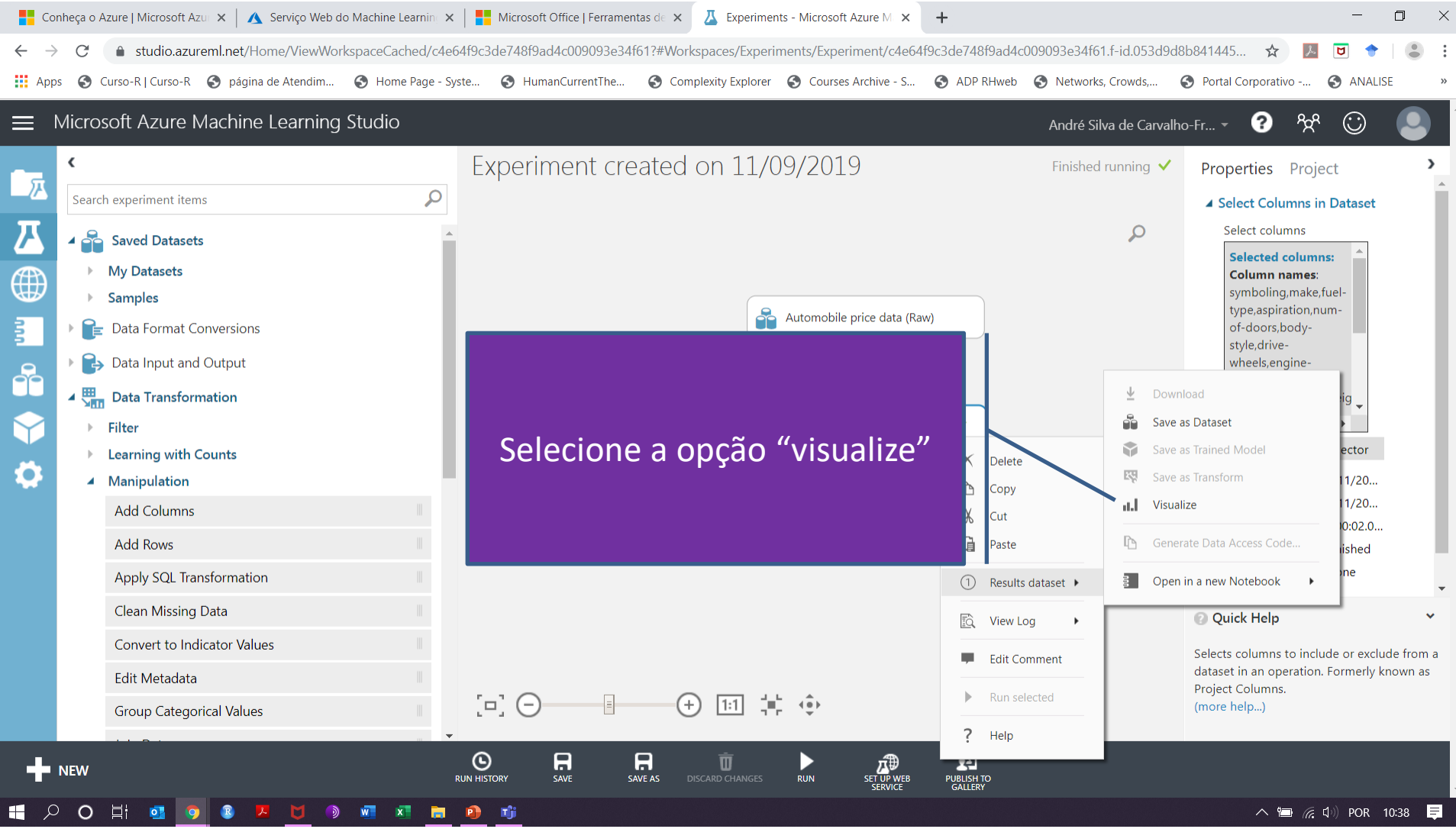


Clique com o botão direito do mouse na função “Select Columns in Dataset”

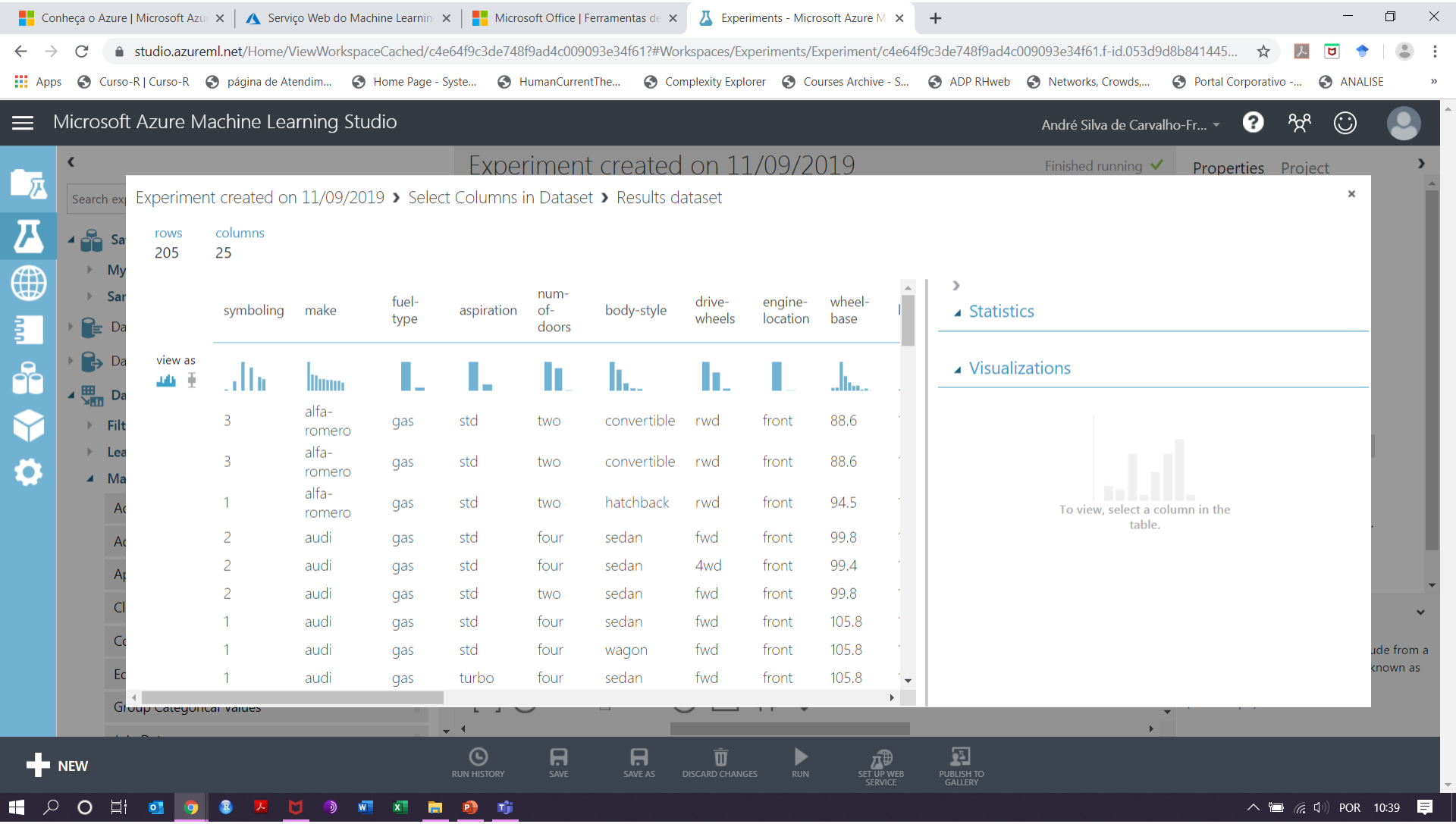
Azure ML – Executando



Azure ML – Executando

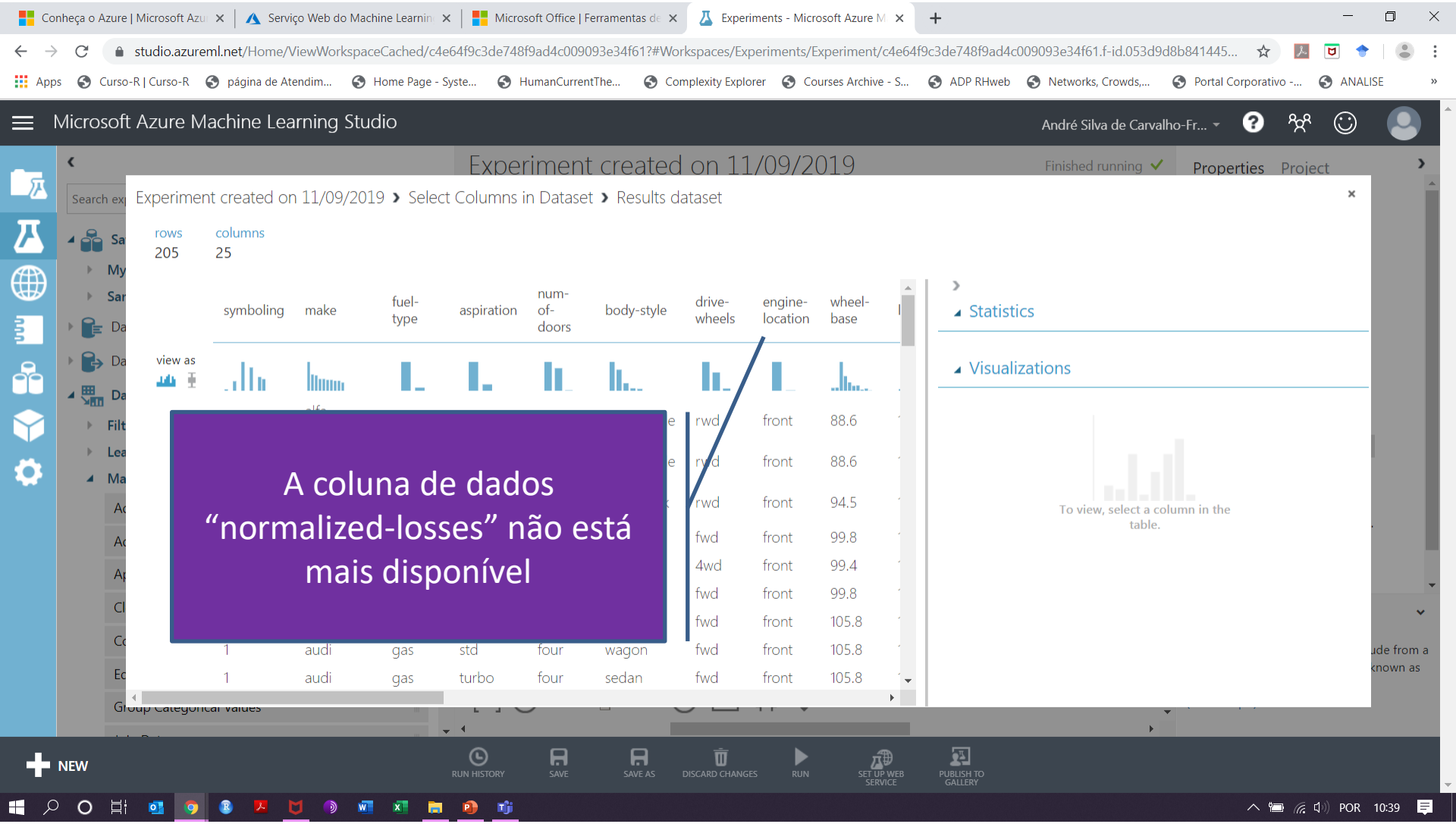


Azure ML – Analisando o resultado

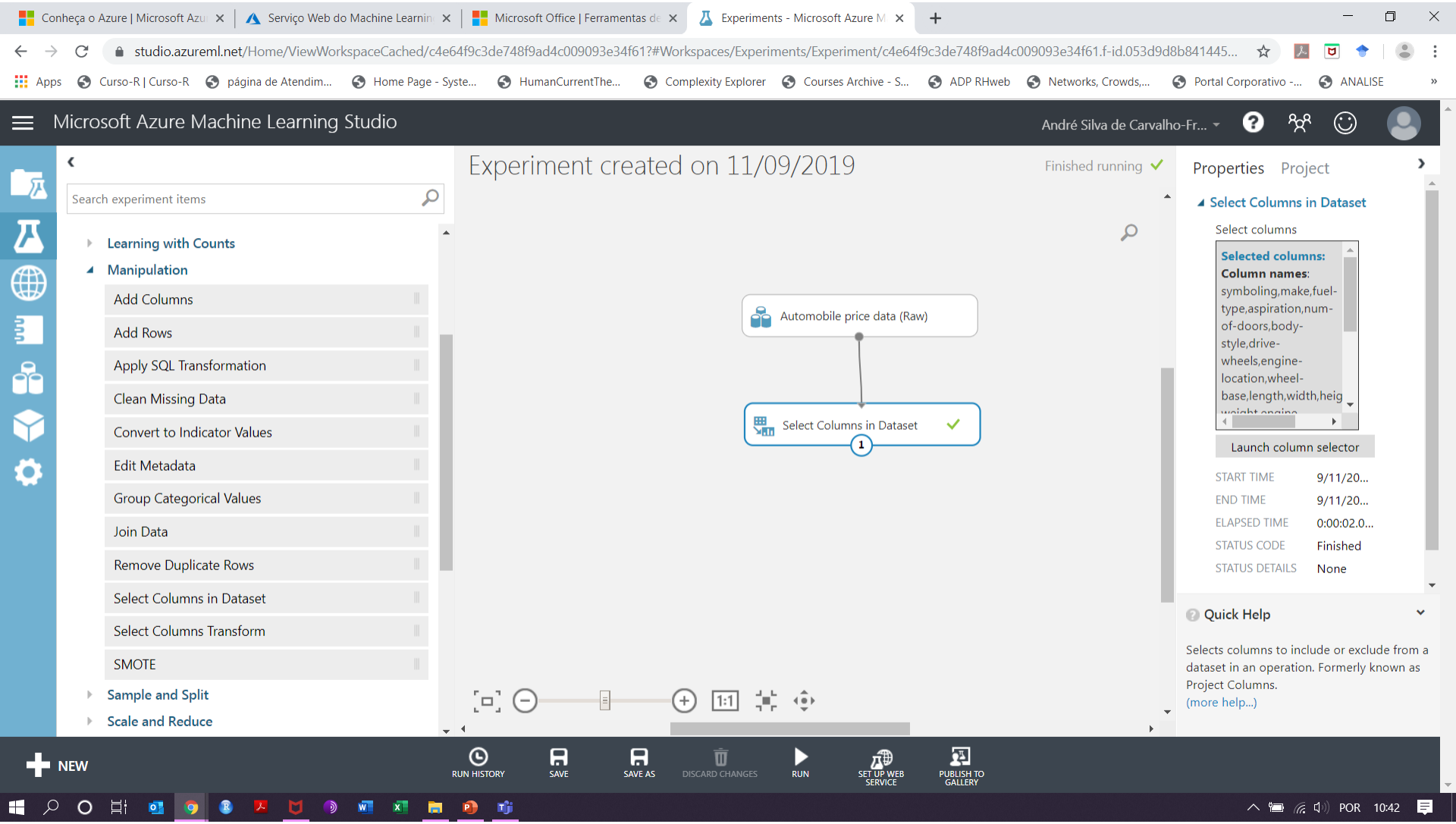


symboling	make	fuel-type	aspiration	num-of-doors	body-style	drive-wheels	engine-location	wheel-base
3	alfa-romero	gas	std	two	convertible	rwd	front	88.6
3	alfa-romero	gas	std	two	convertible	rwd	front	88.6
1	alfa-romero	gas	std	two	hatchback	rwd	front	94.5
2	audi	gas	std	four	sedan	fwd	front	99.8
2	audi	gas	std	four	sedan	4wd	front	99.4
2	audi	gas	std	two	sedan	fwd	front	99.8
1	audi	gas	std	four	sedan	fwd	front	105.8
1	audi	gas	std	four	wagon	fwd	front	105.8
1	audi	gas	turbo	four	sedan	fwd	front	105.8

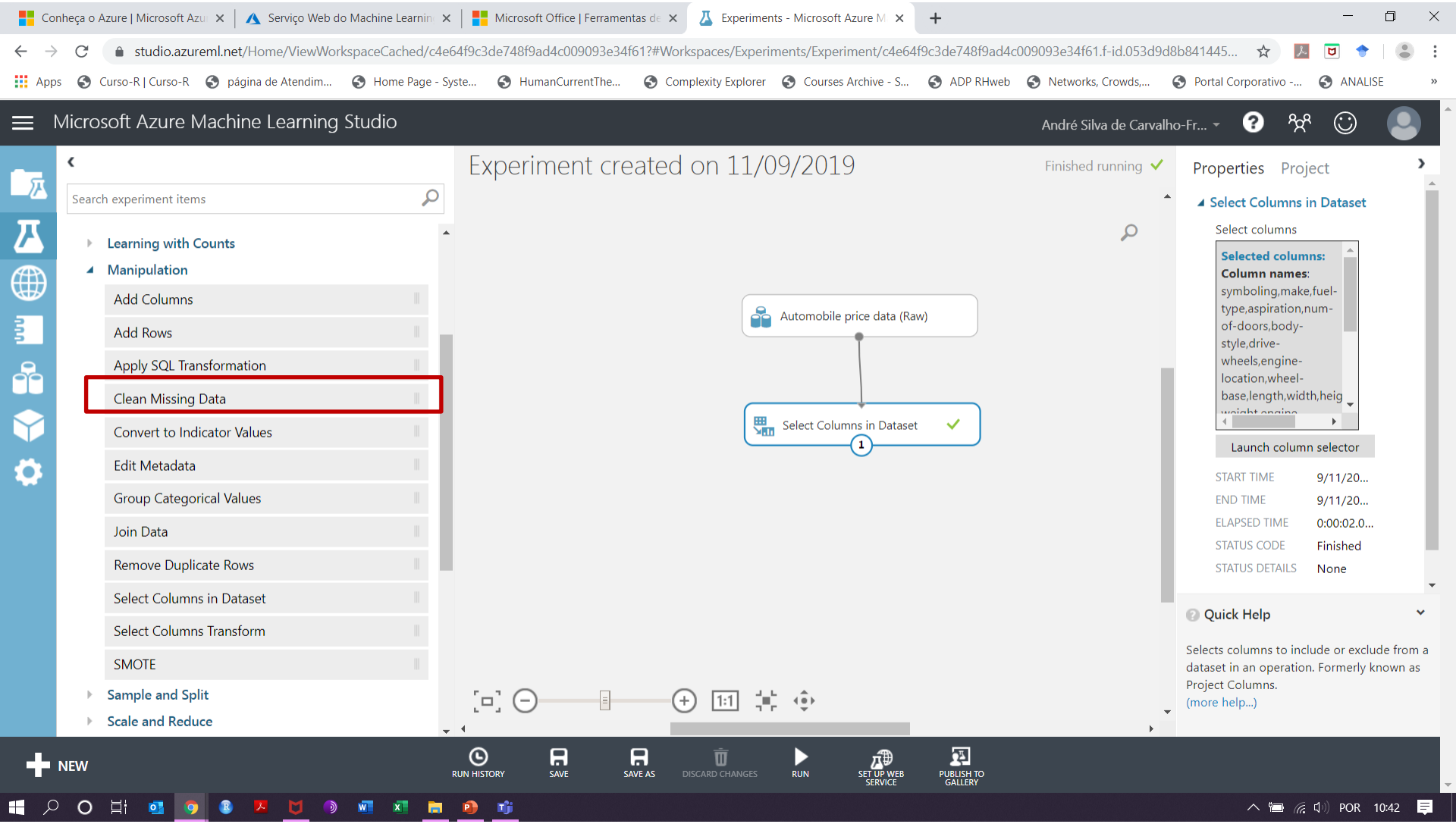
Azure ML – Analisando o resultado



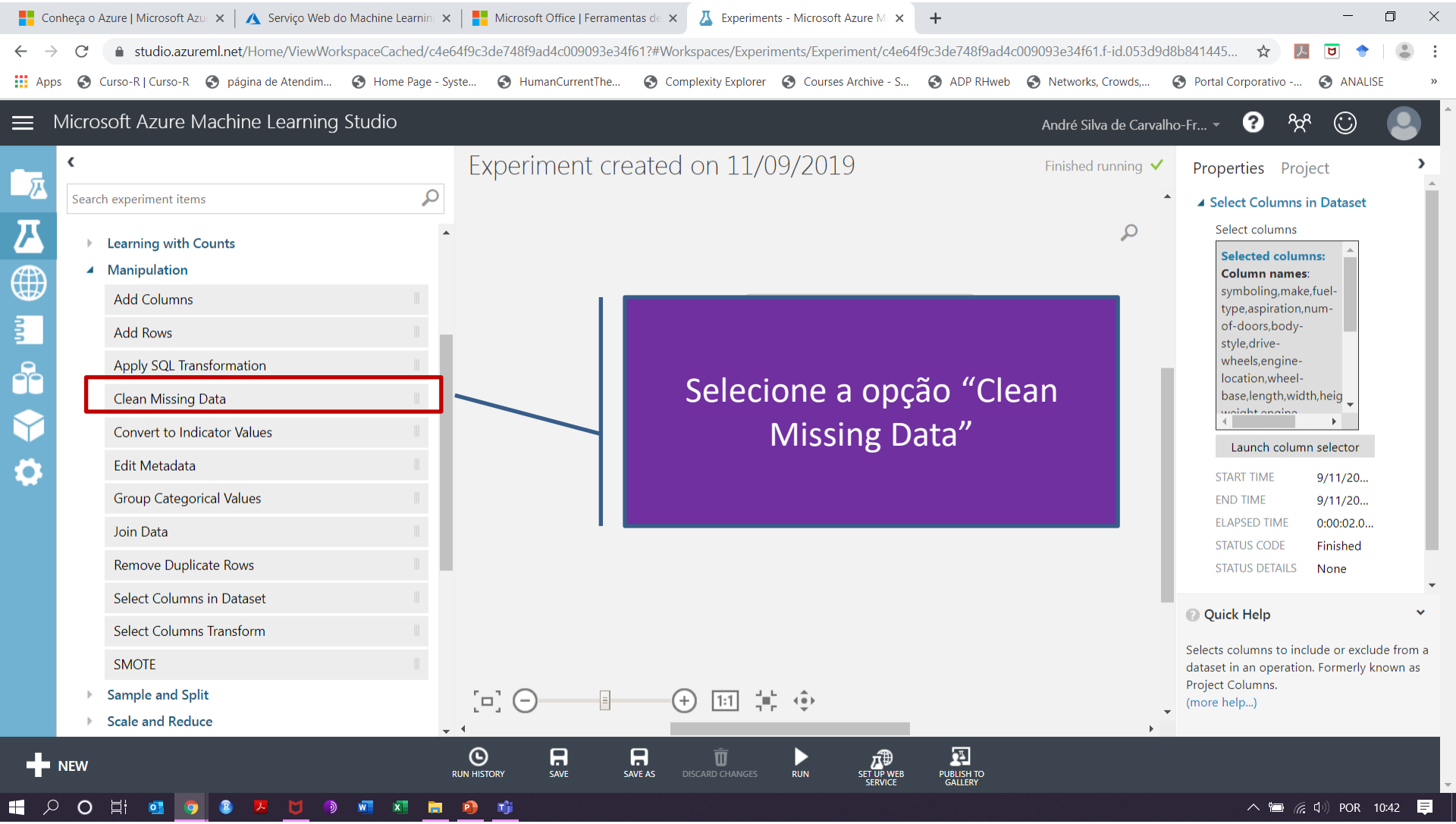
Azure ML – Continuando com os dados



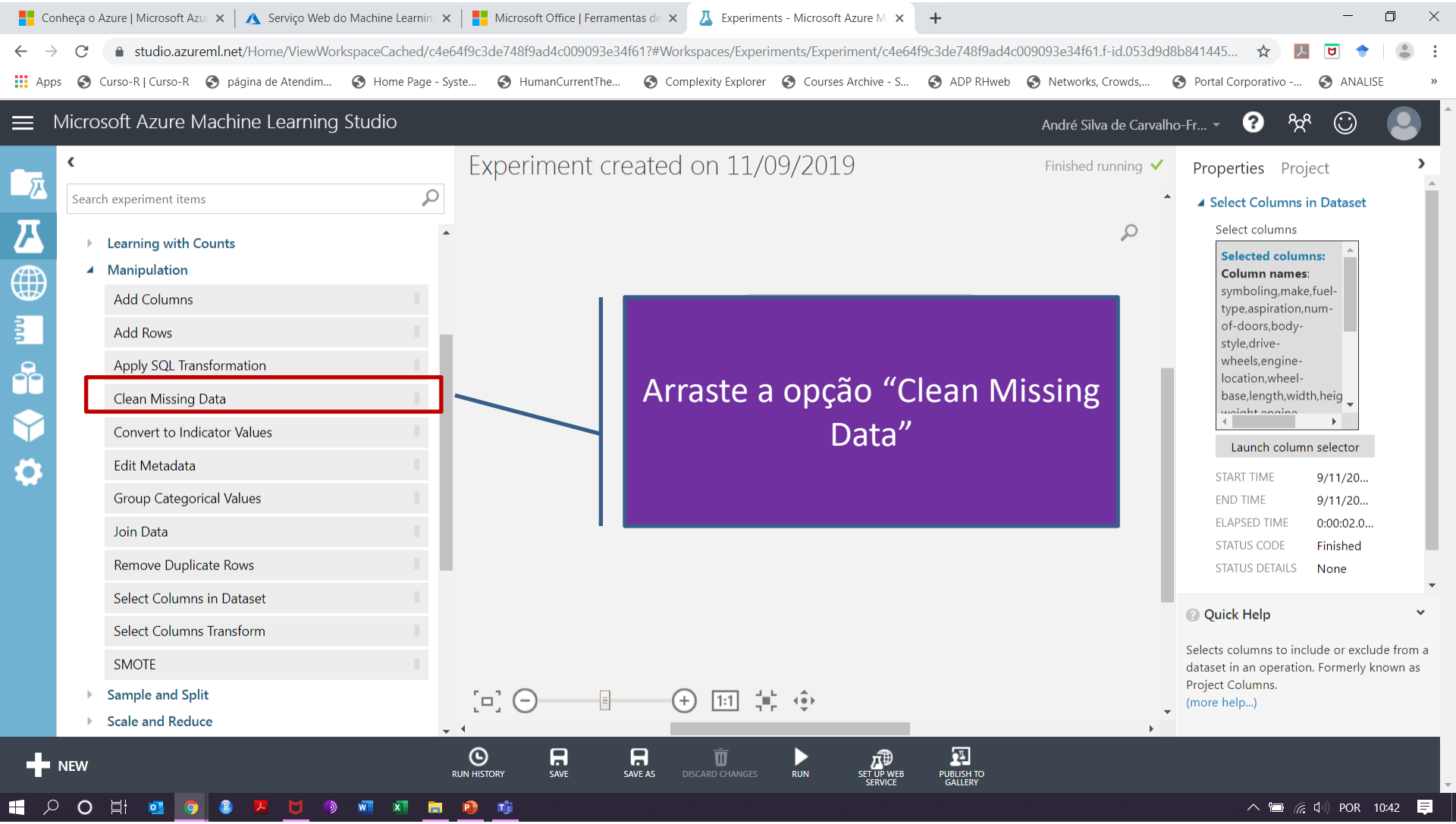
Azure ML – Continuando com os dados



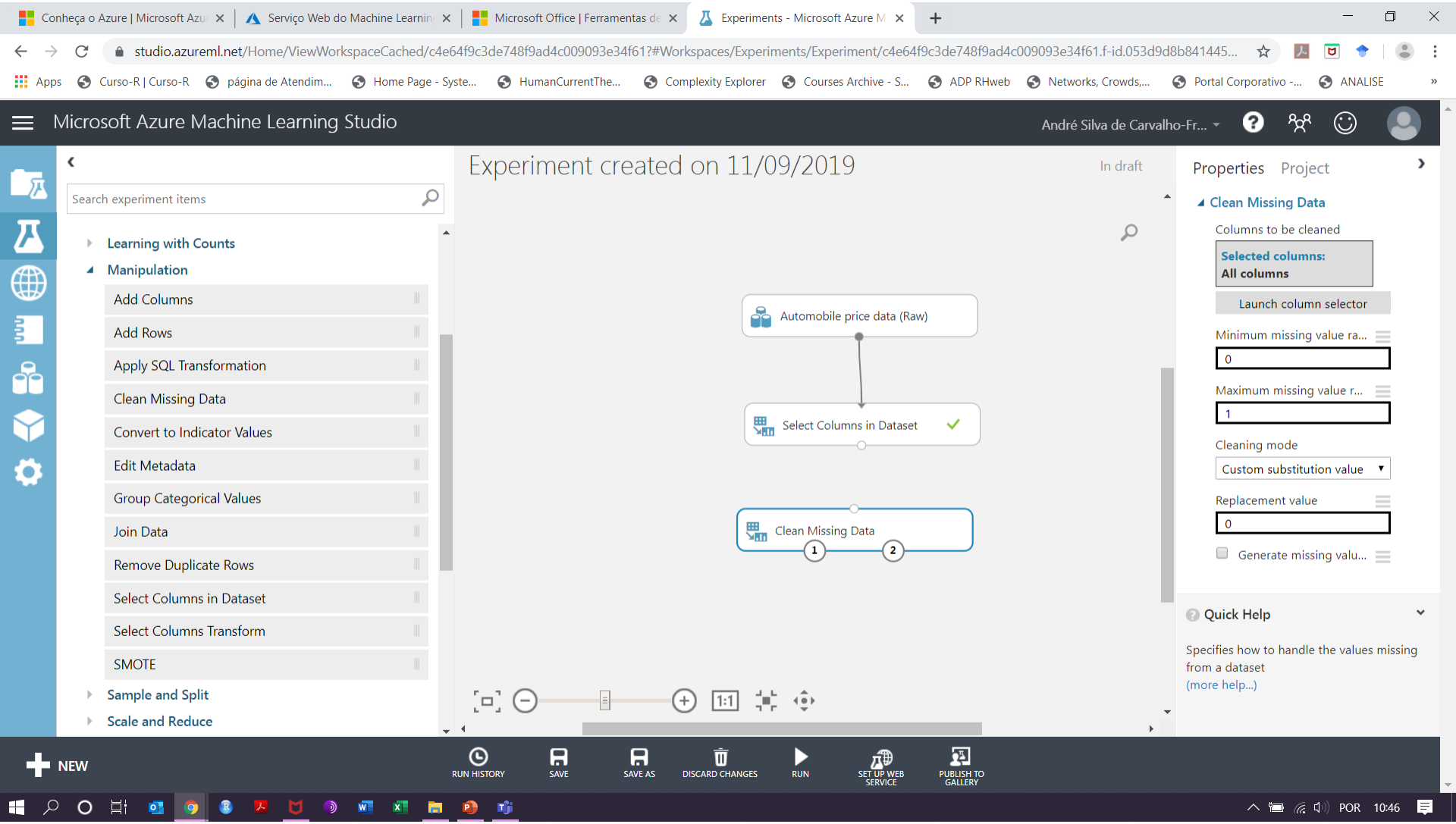
Azure ML – Continuando com os dados



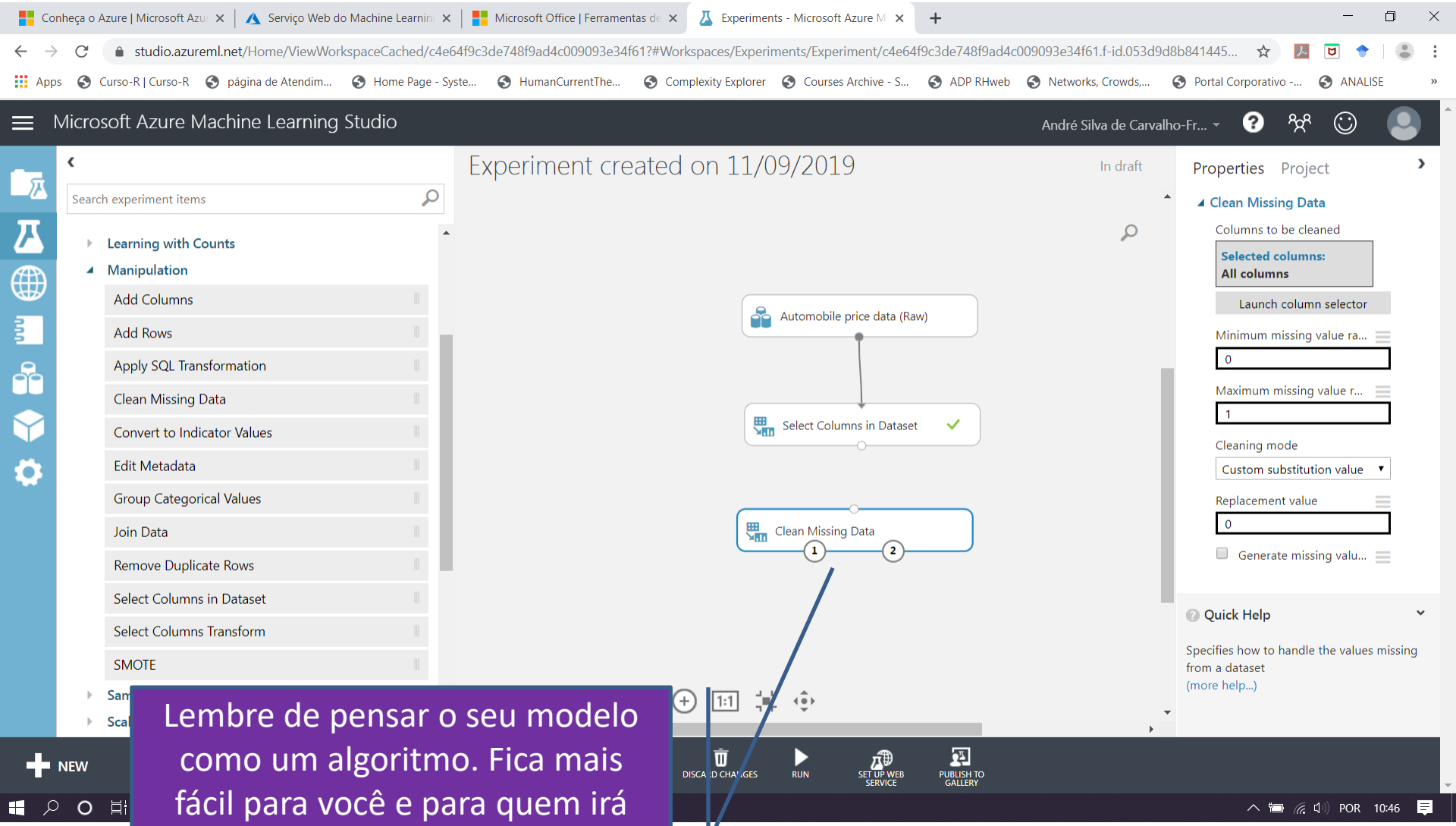
Azure ML – Continuando com os dados



Azure ML - Continuando com os dados

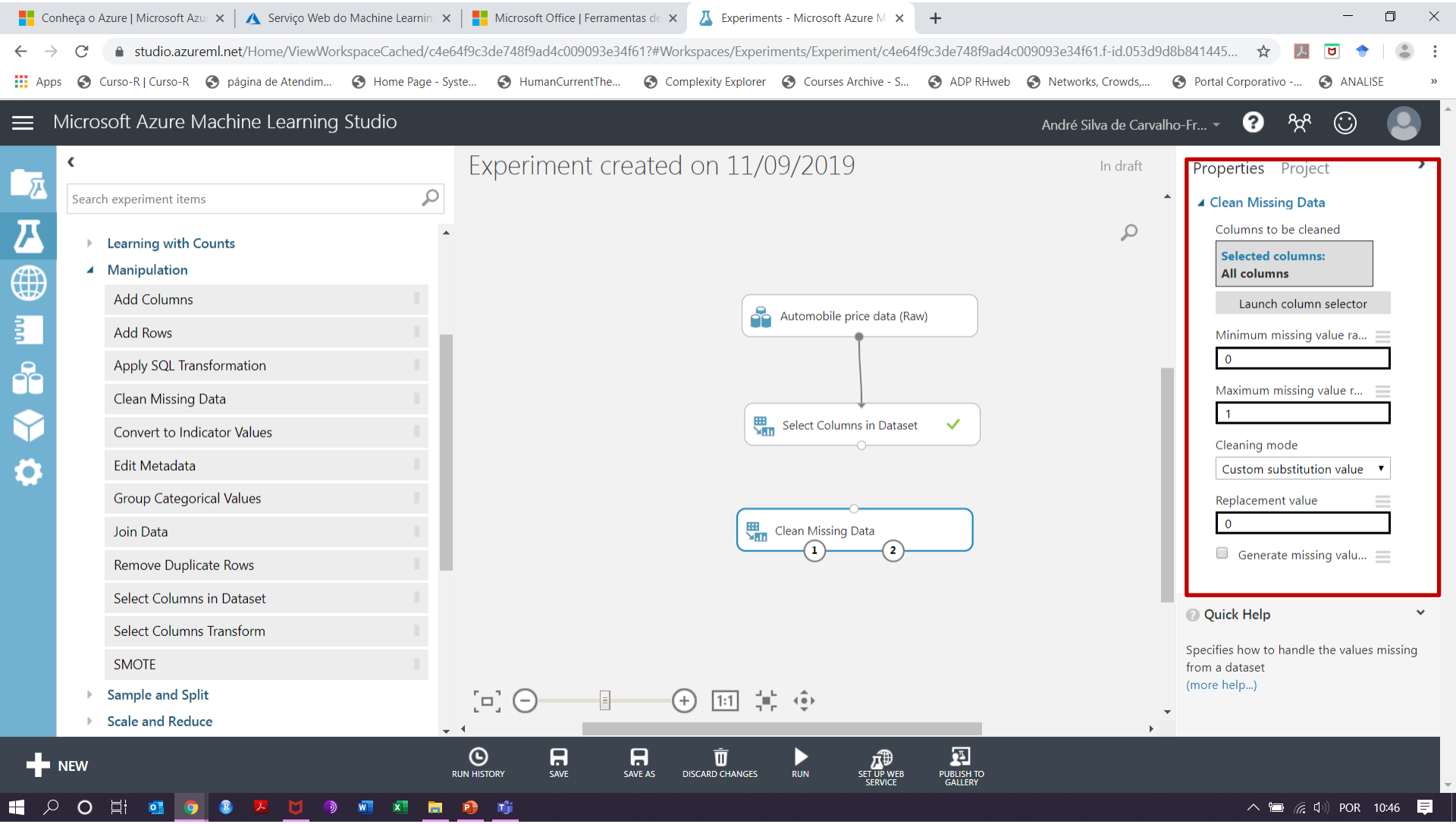


Azure ML - Continuando com os dados

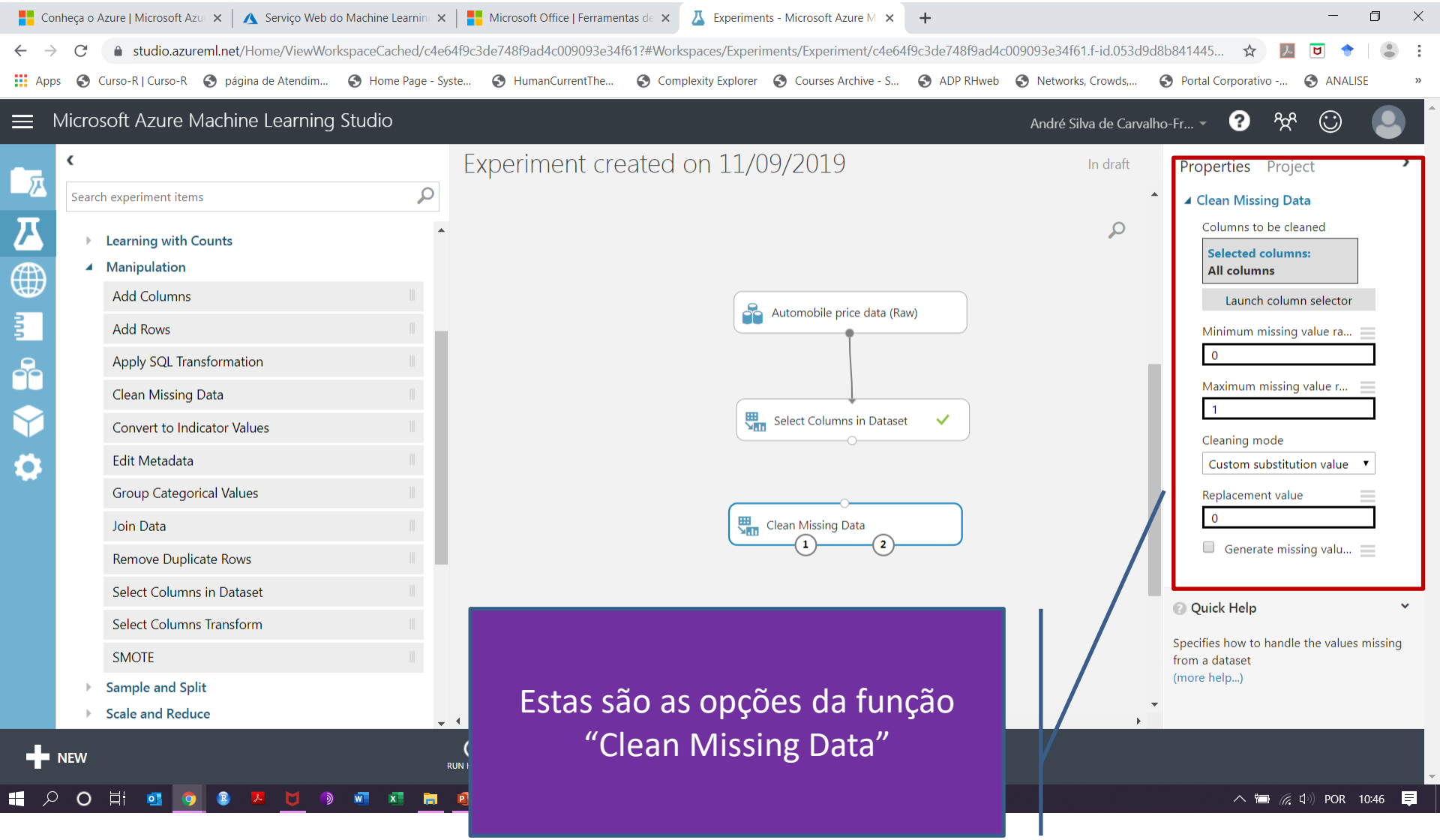


Lembre de pensar o seu modelo como um algoritmo. Fica mais fácil para você e para quem irá dar continuidade ou usar o seu modelo

Azure ML - Continuando com os dados

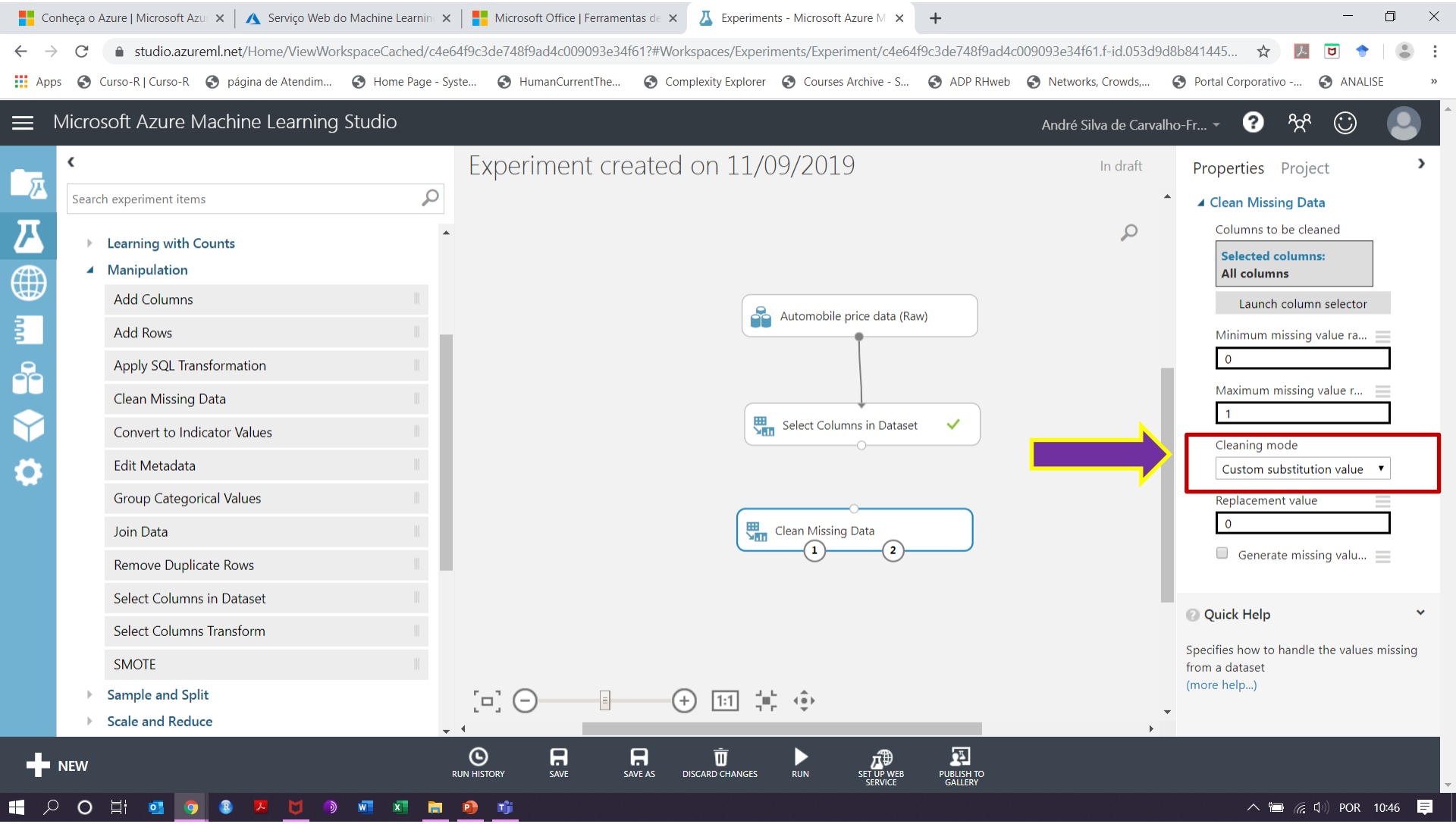


Azure ML - Continuando com os dados

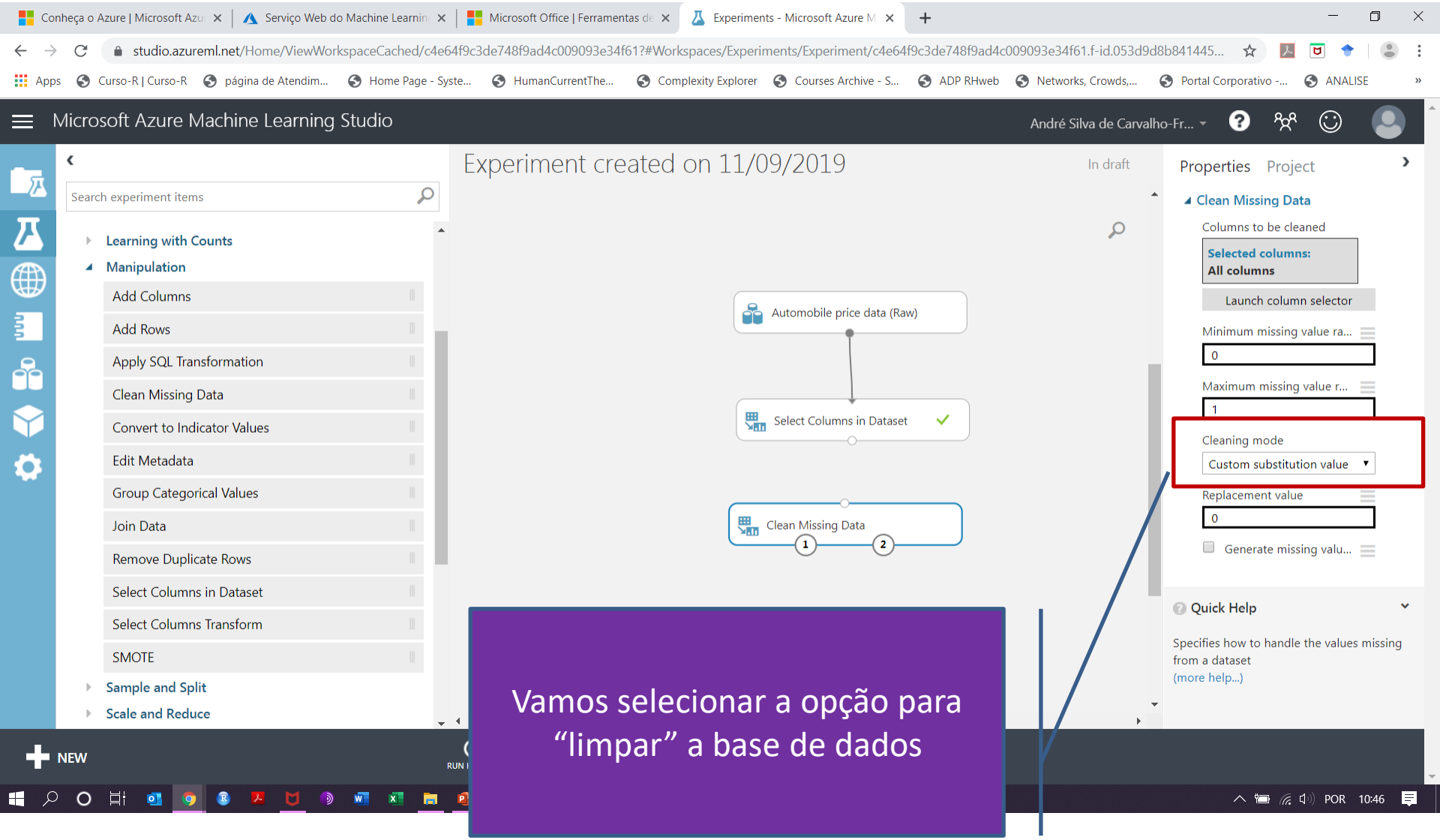


Estas são as opções da função "Clean Missing Data"

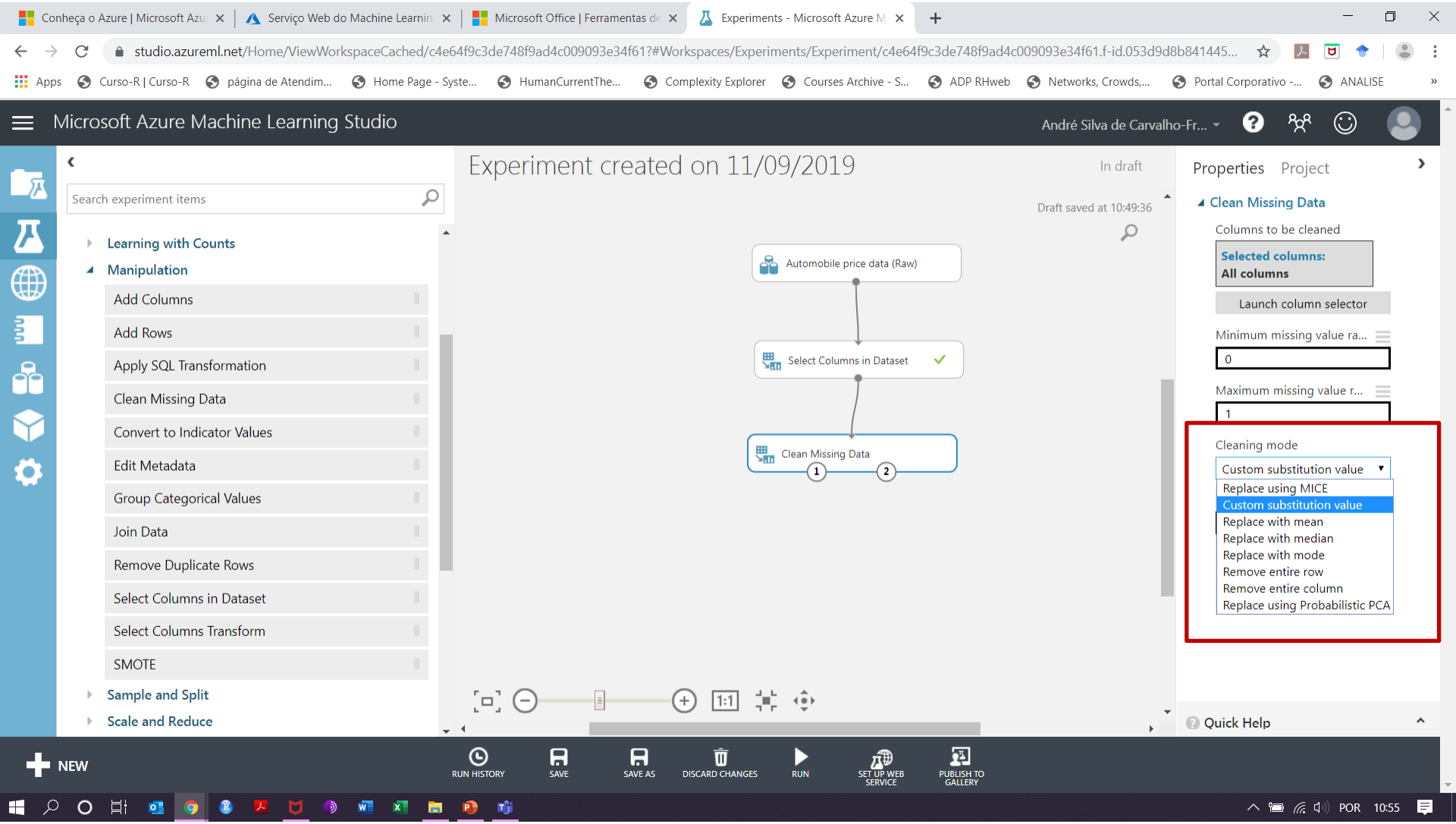
Azure ML - Continuando com os dados



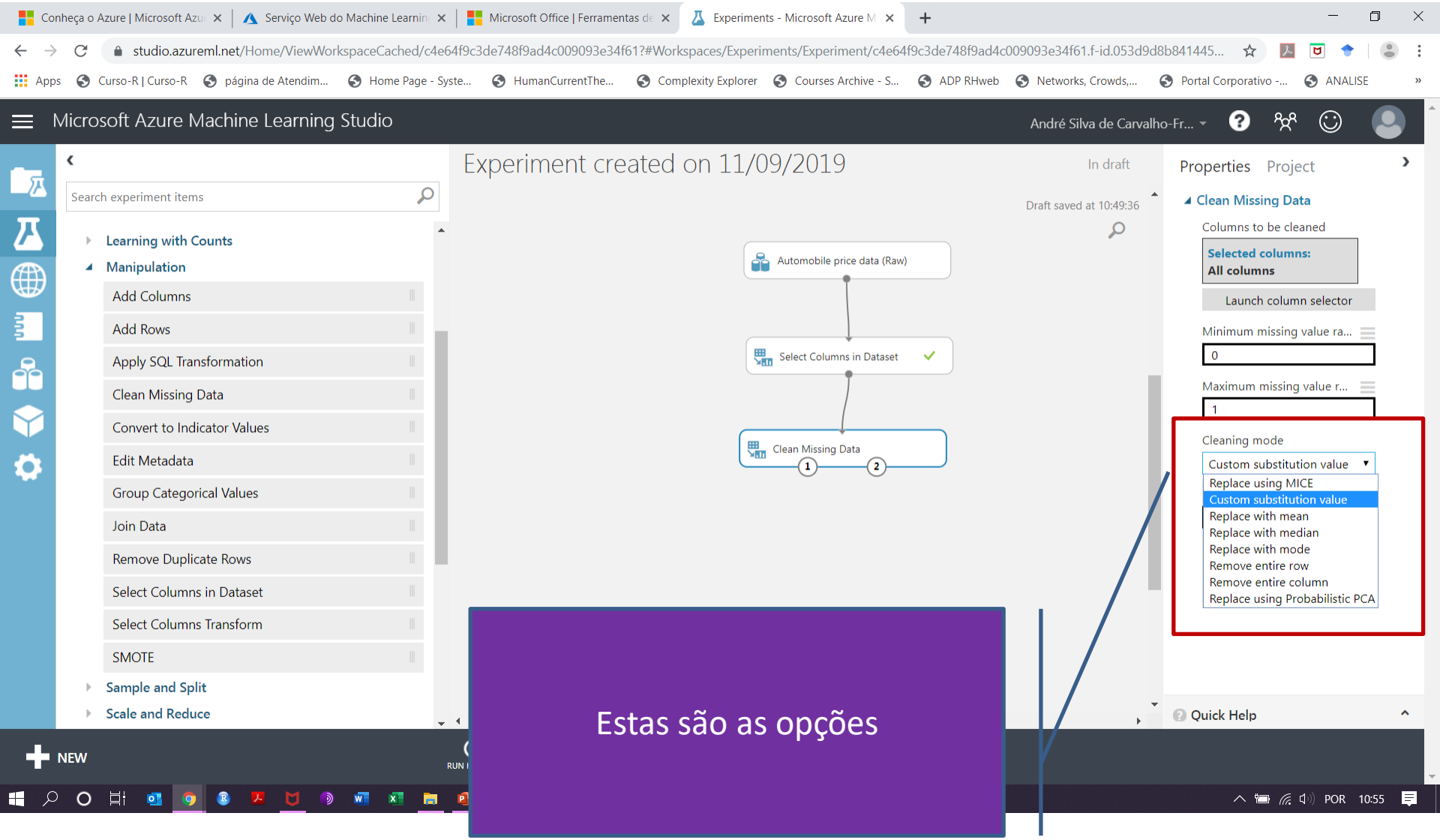
Azure ML - Continuando com os dados



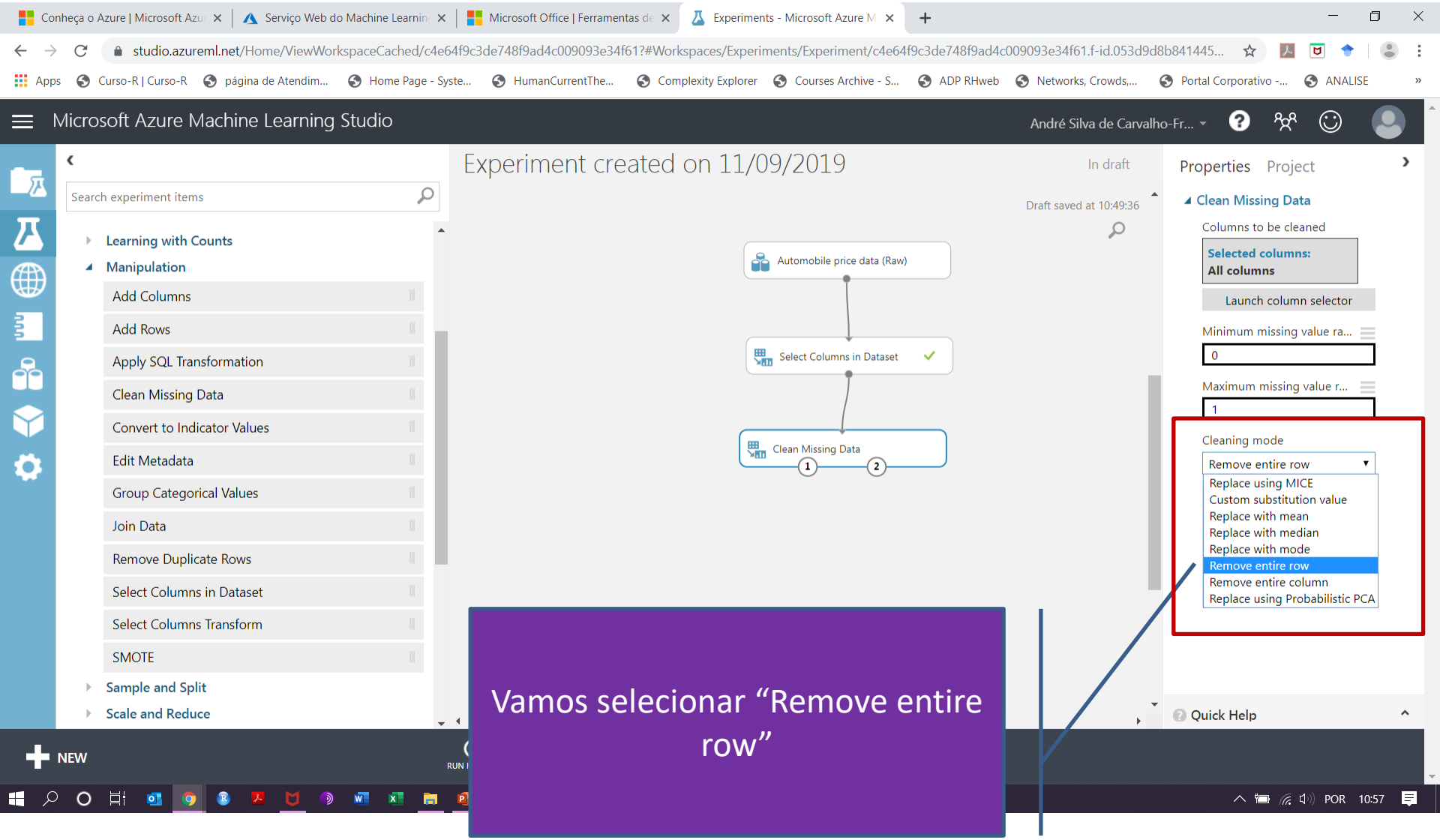
Azure ML - Continuando com os dados



Azure ML - Continuando com os dados

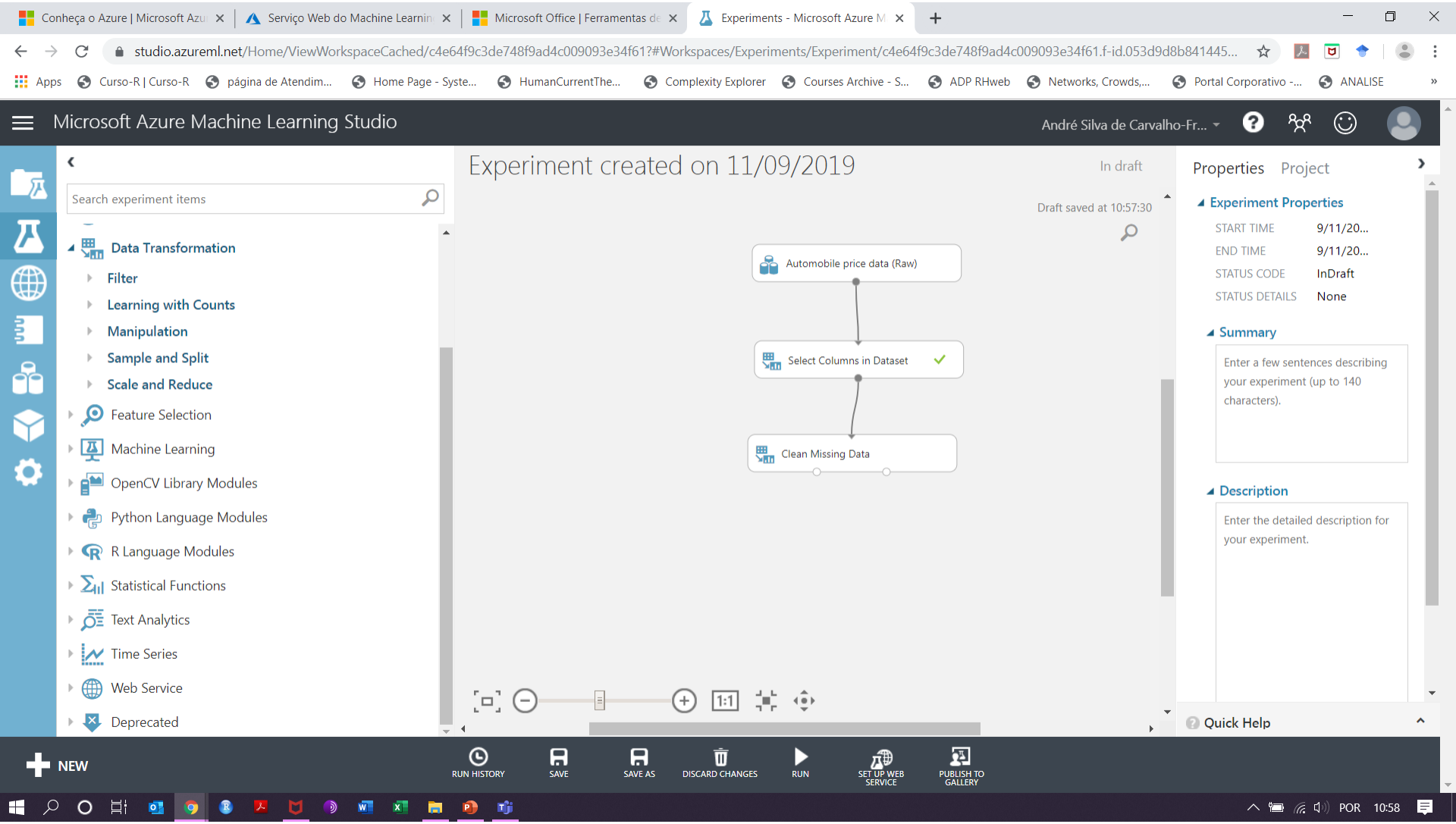


Azure ML - Continuando com os dados

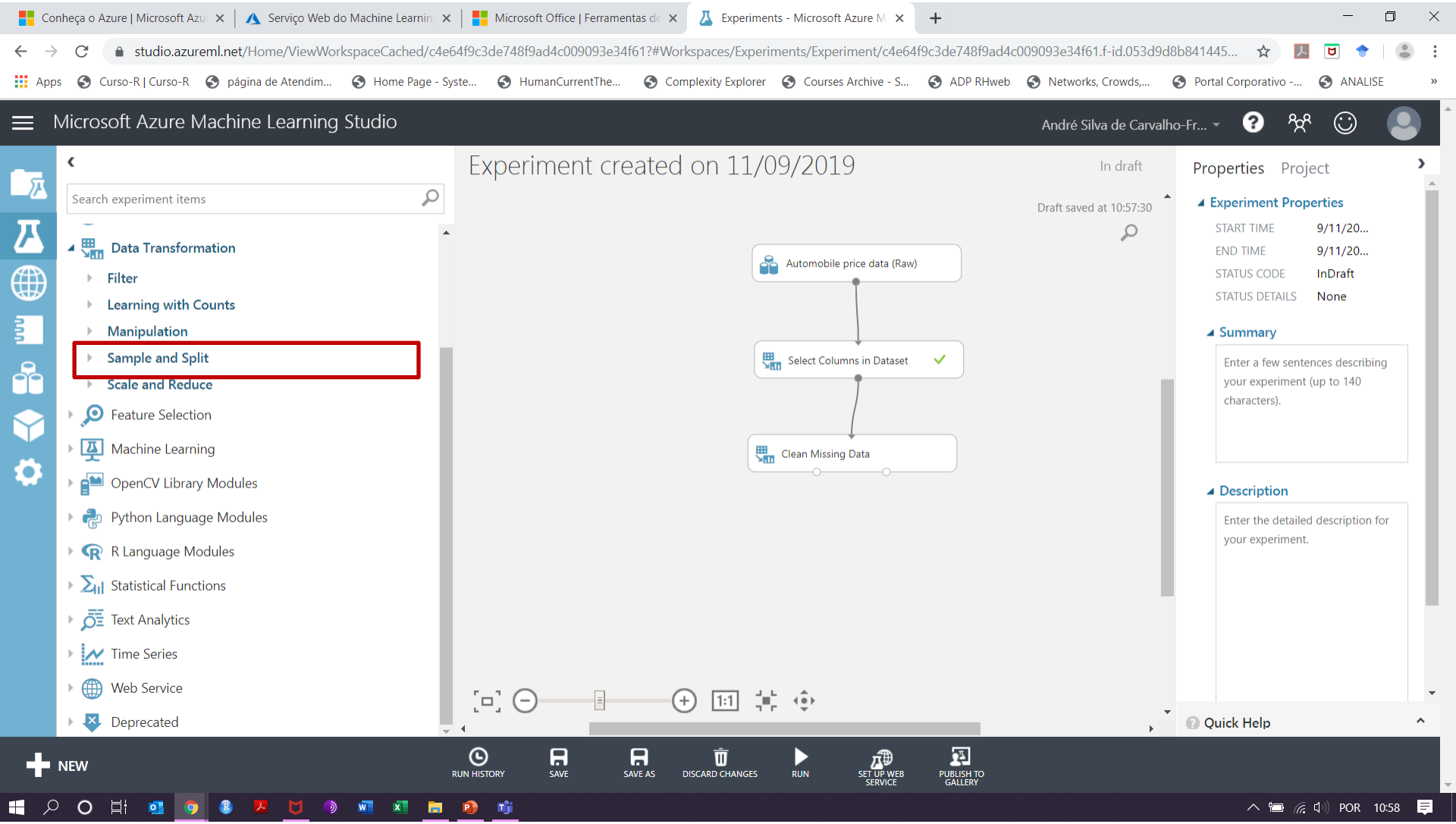


Vamos selecionar “Remove entire row”

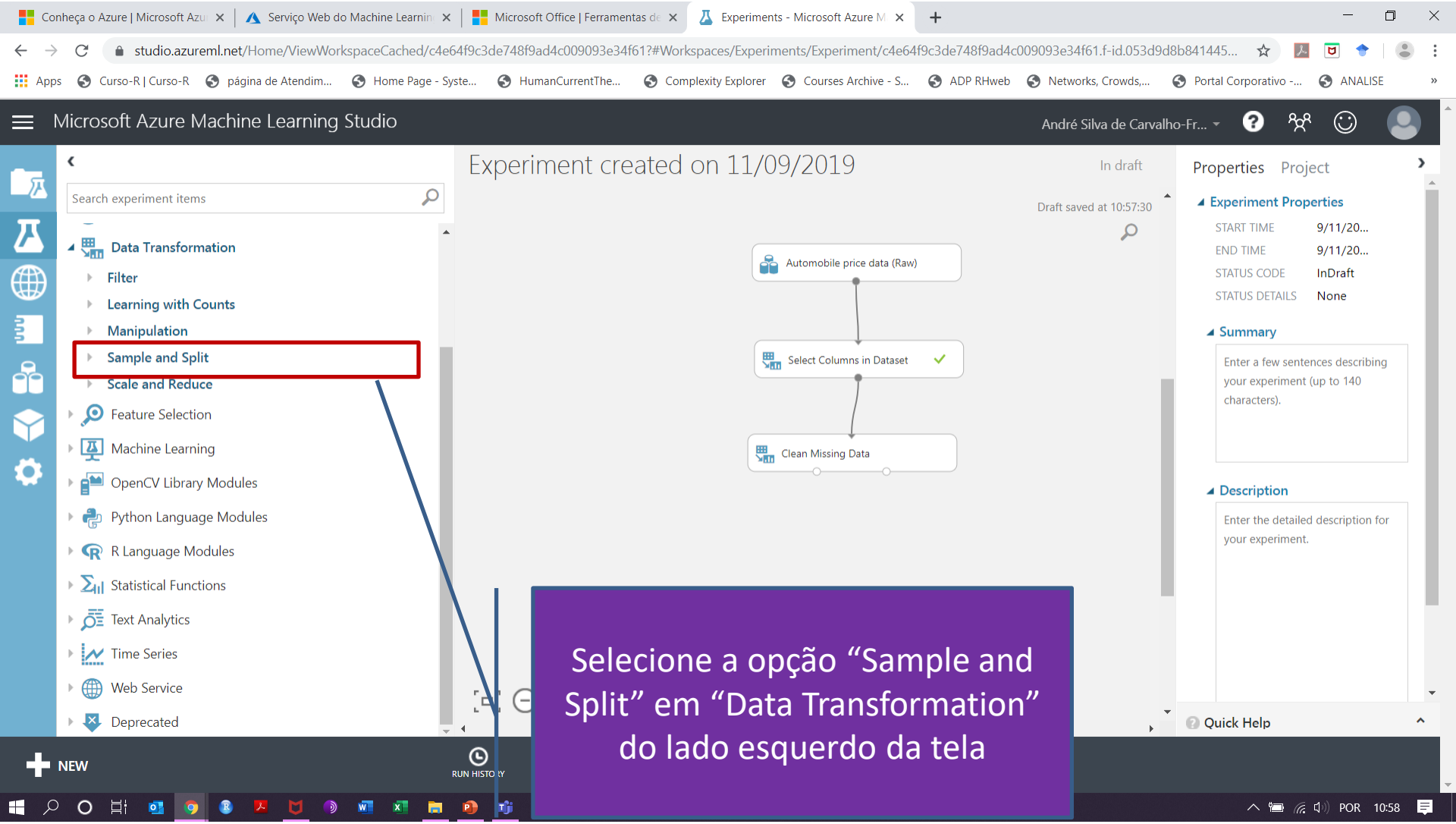
Azure ML – Base de treinamento e teste



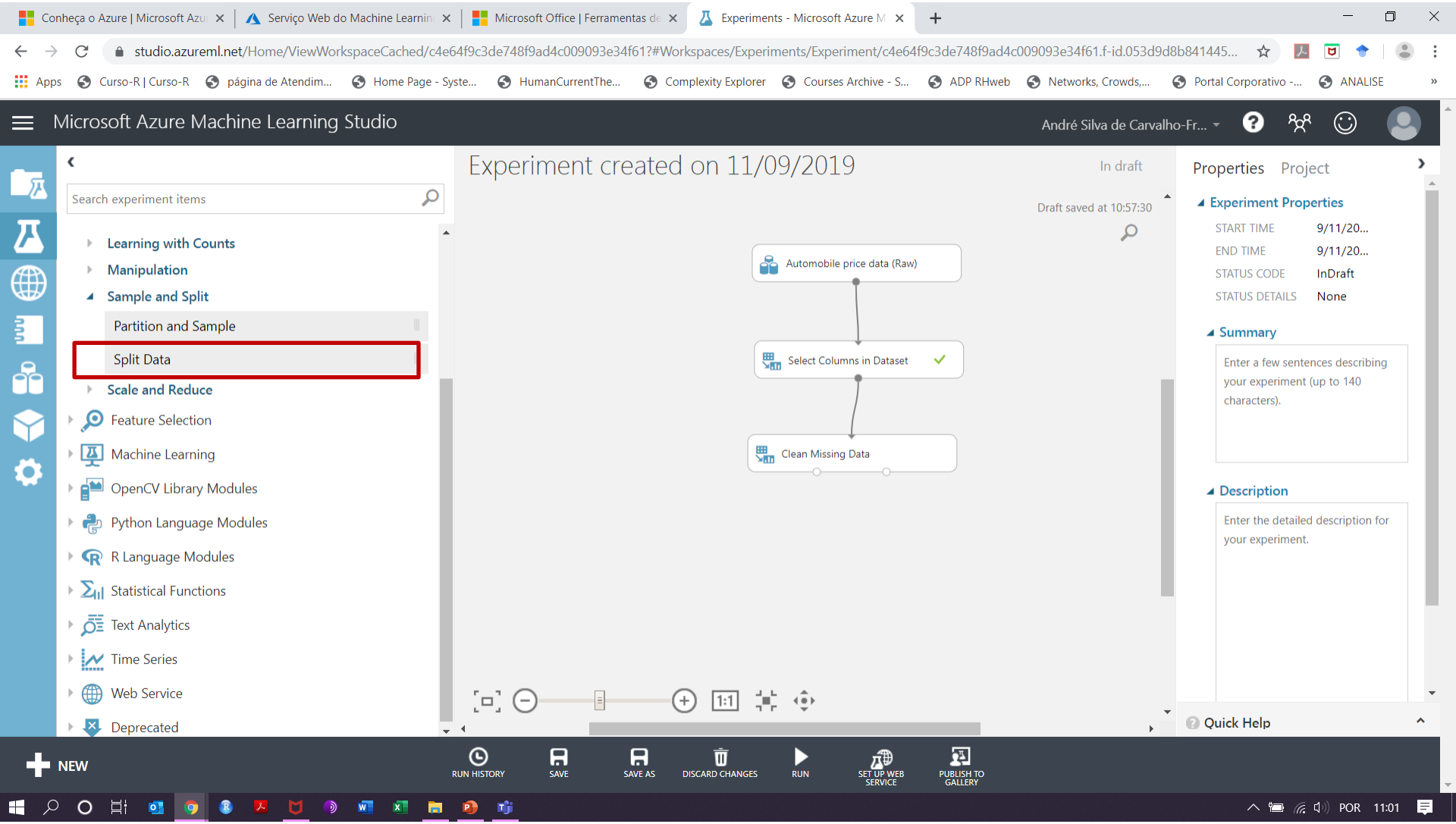
Azure ML – Base de treinamento e teste



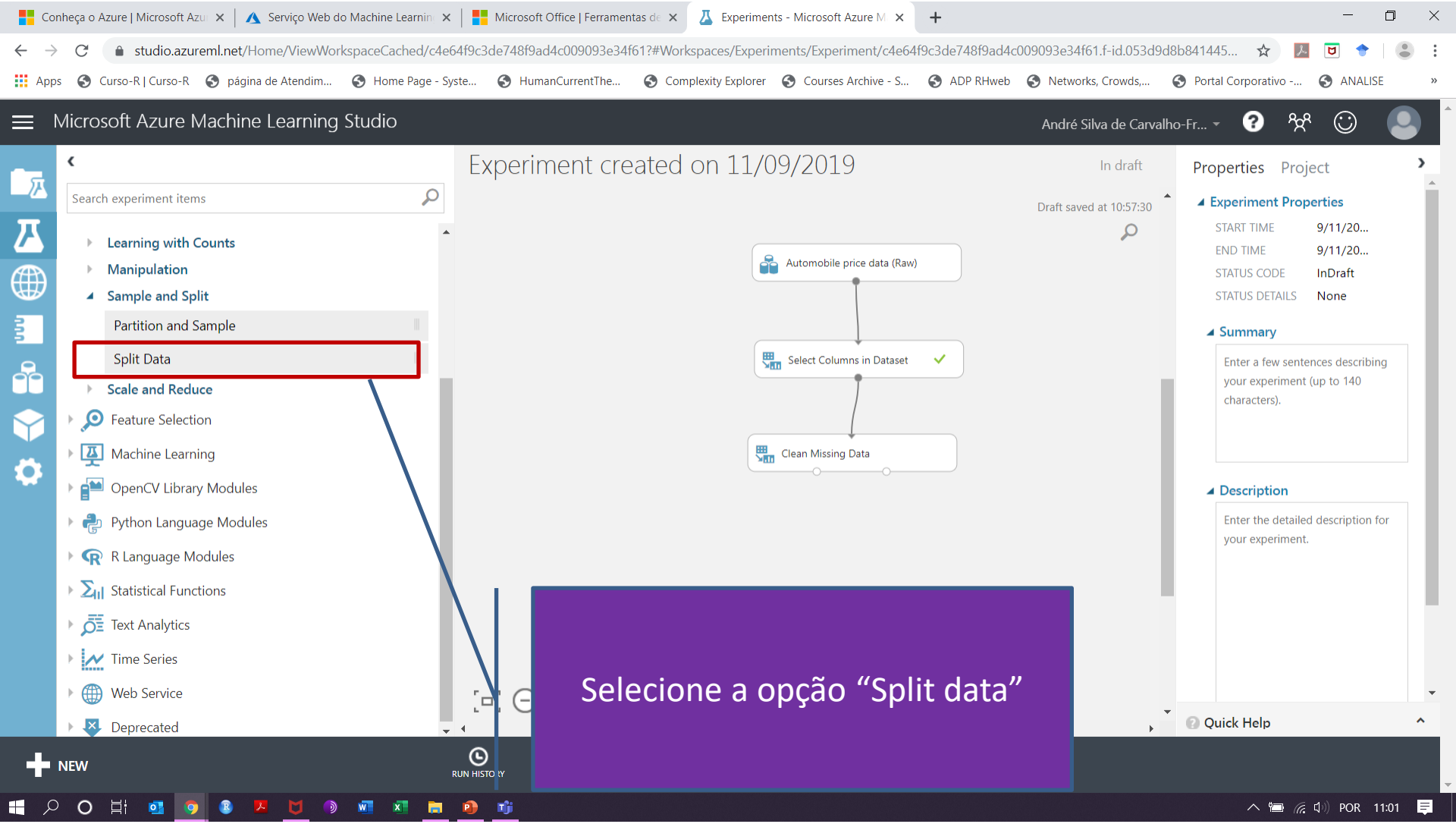
Azure ML – Base de treinamento e teste



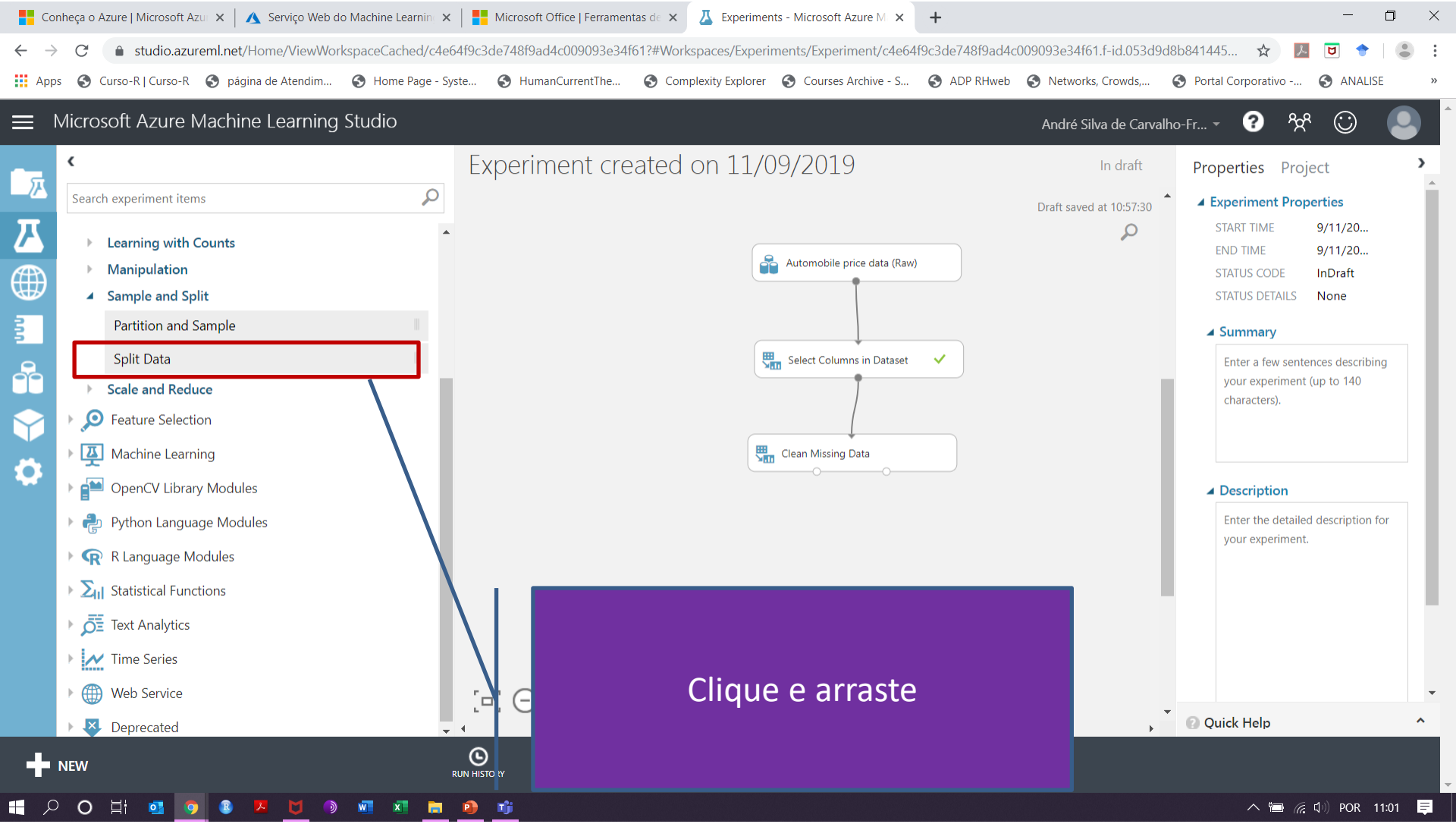
Azure ML – Base de treinamento e teste



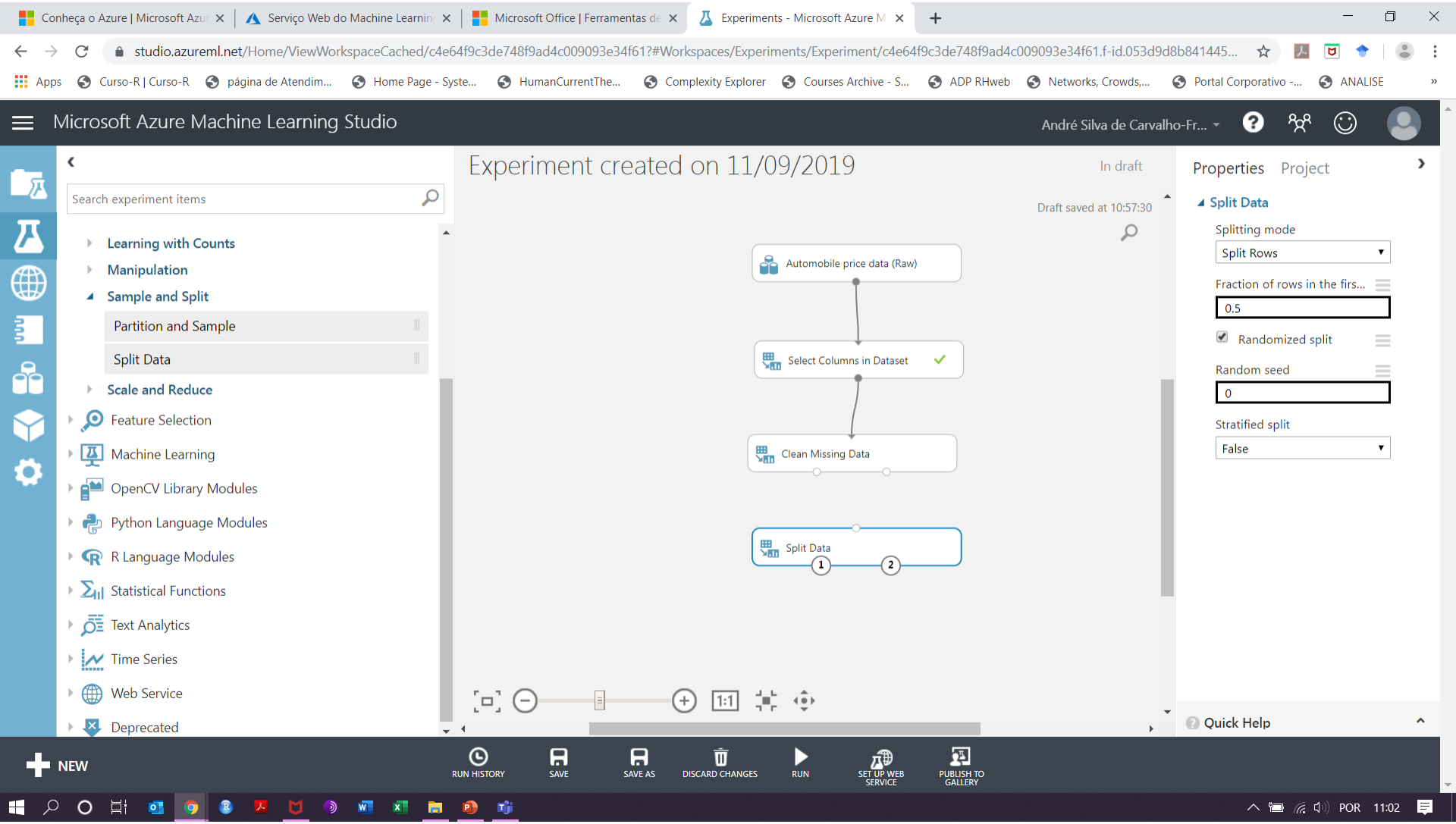
Azure ML – Base de treinamento e teste



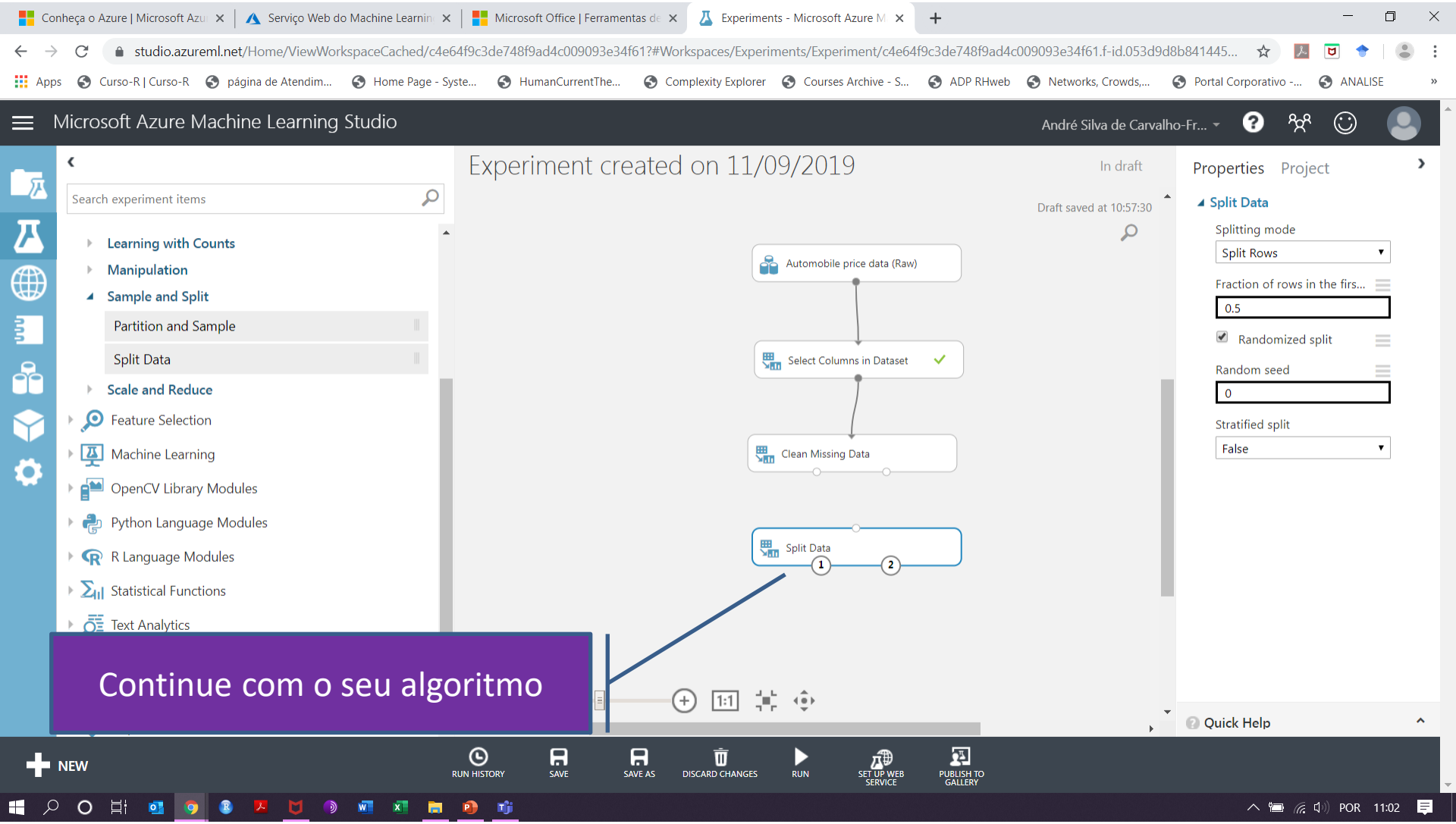
Azure ML – Base de treinamento e teste



Azure ML – Base de treinamento e teste

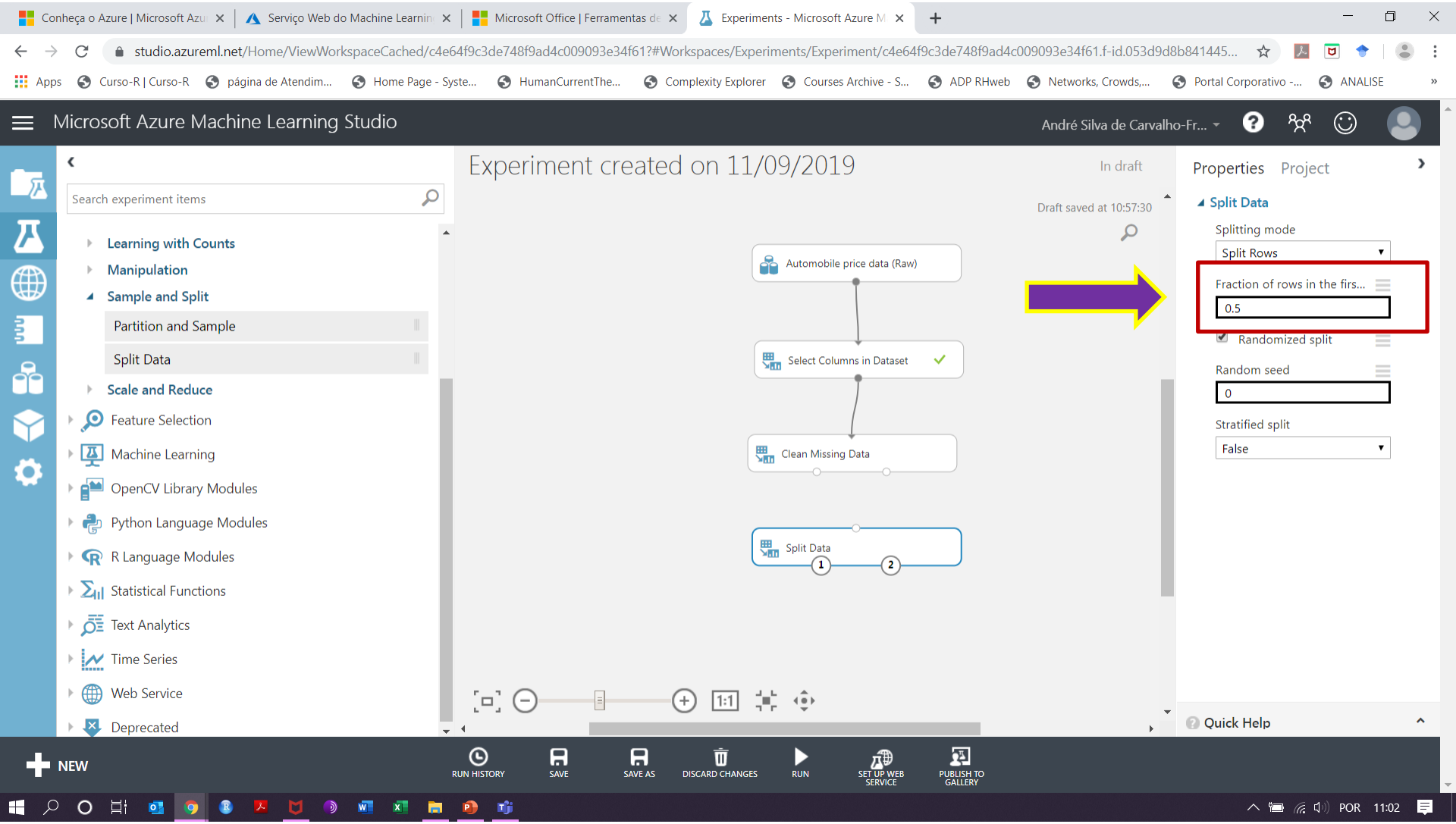


Azure ML – Base de treinamento e teste

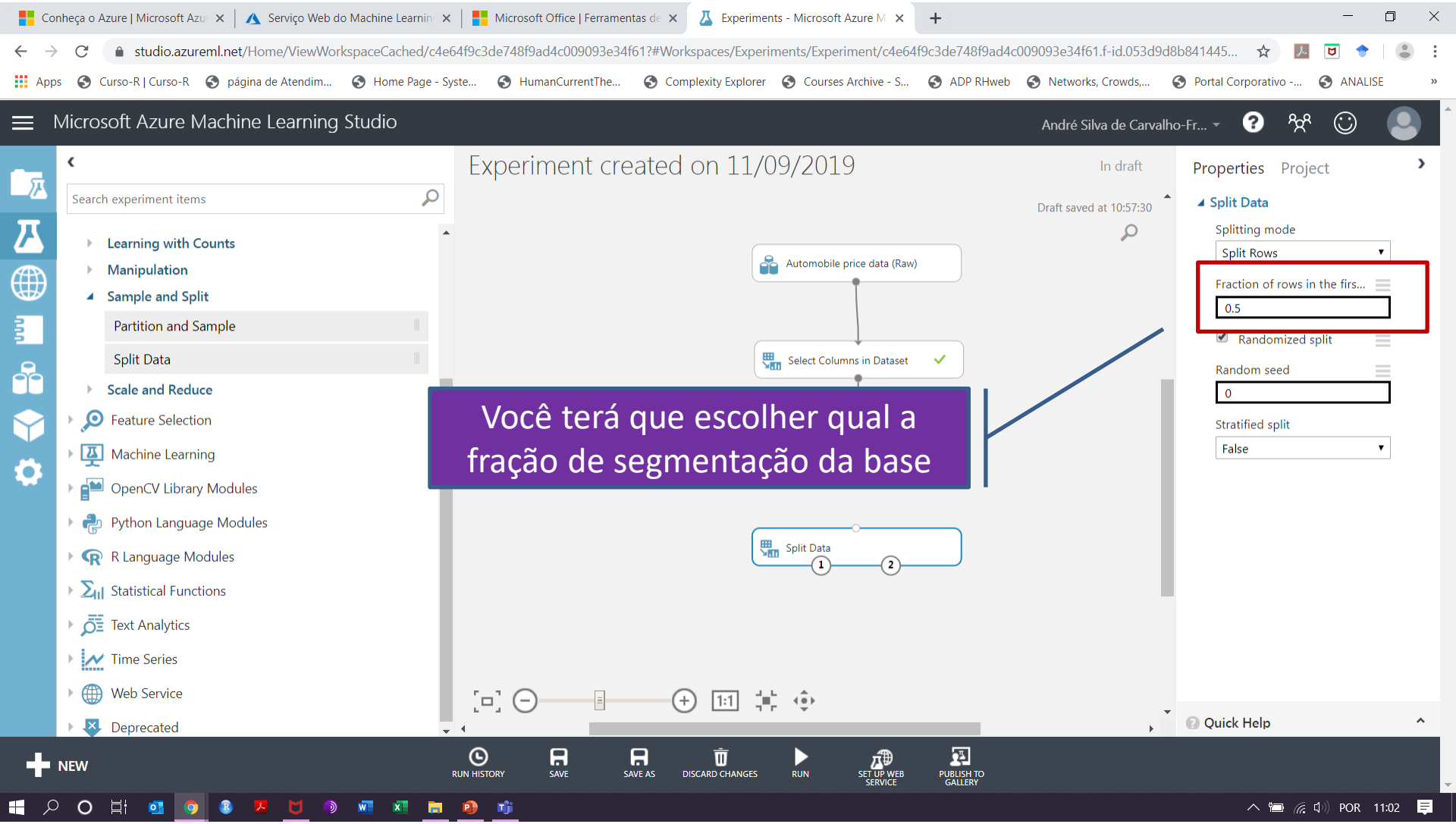


Continue com o seu algoritmo

Azure ML – Base de treinamento e teste

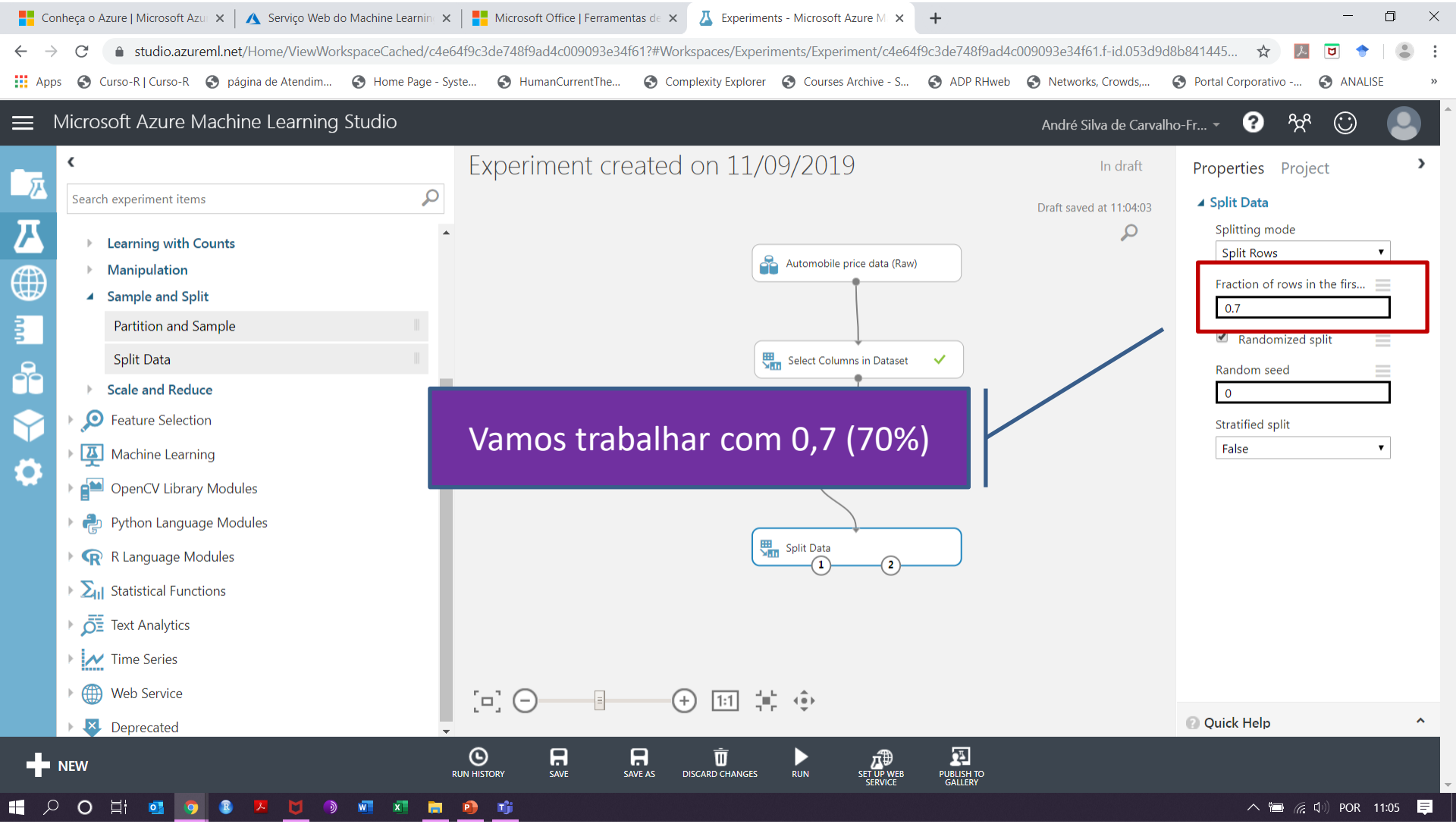


Azure ML – Base de treinamento e teste

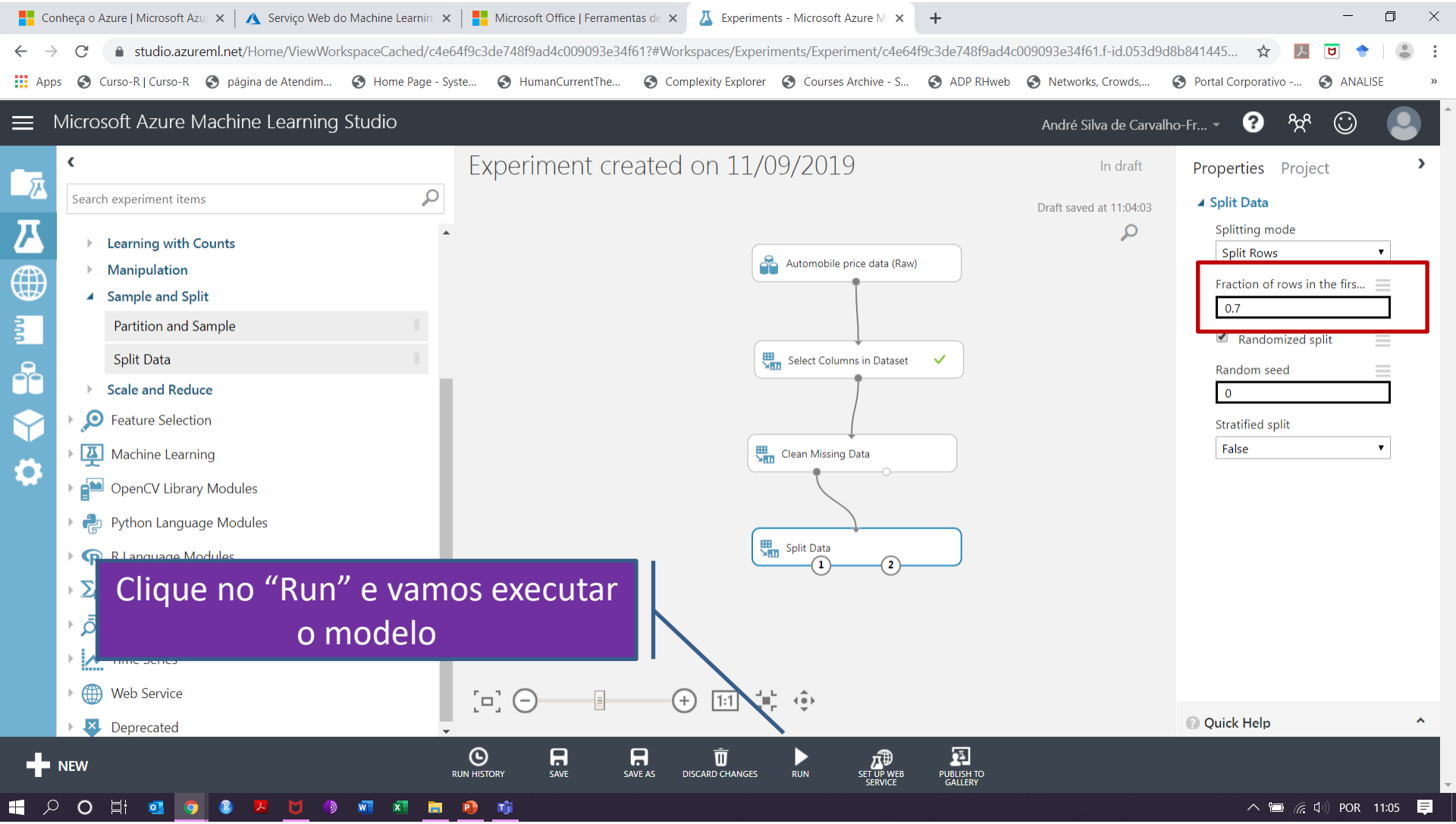


Você terá que escolher qual a fração de segmentação da base

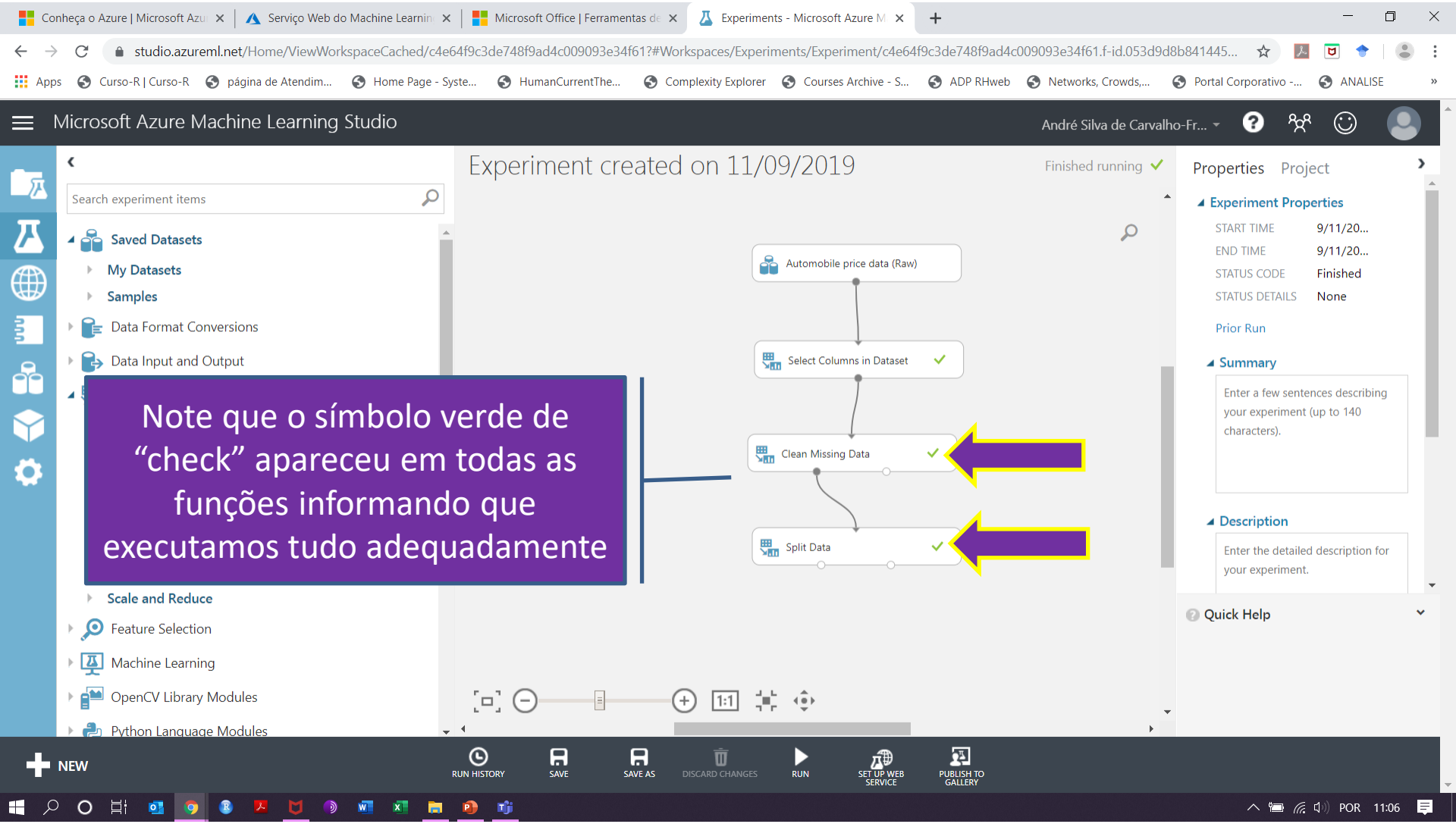
Azure ML – Base de treinamento e teste



Azure ML – Base de treinamento e teste

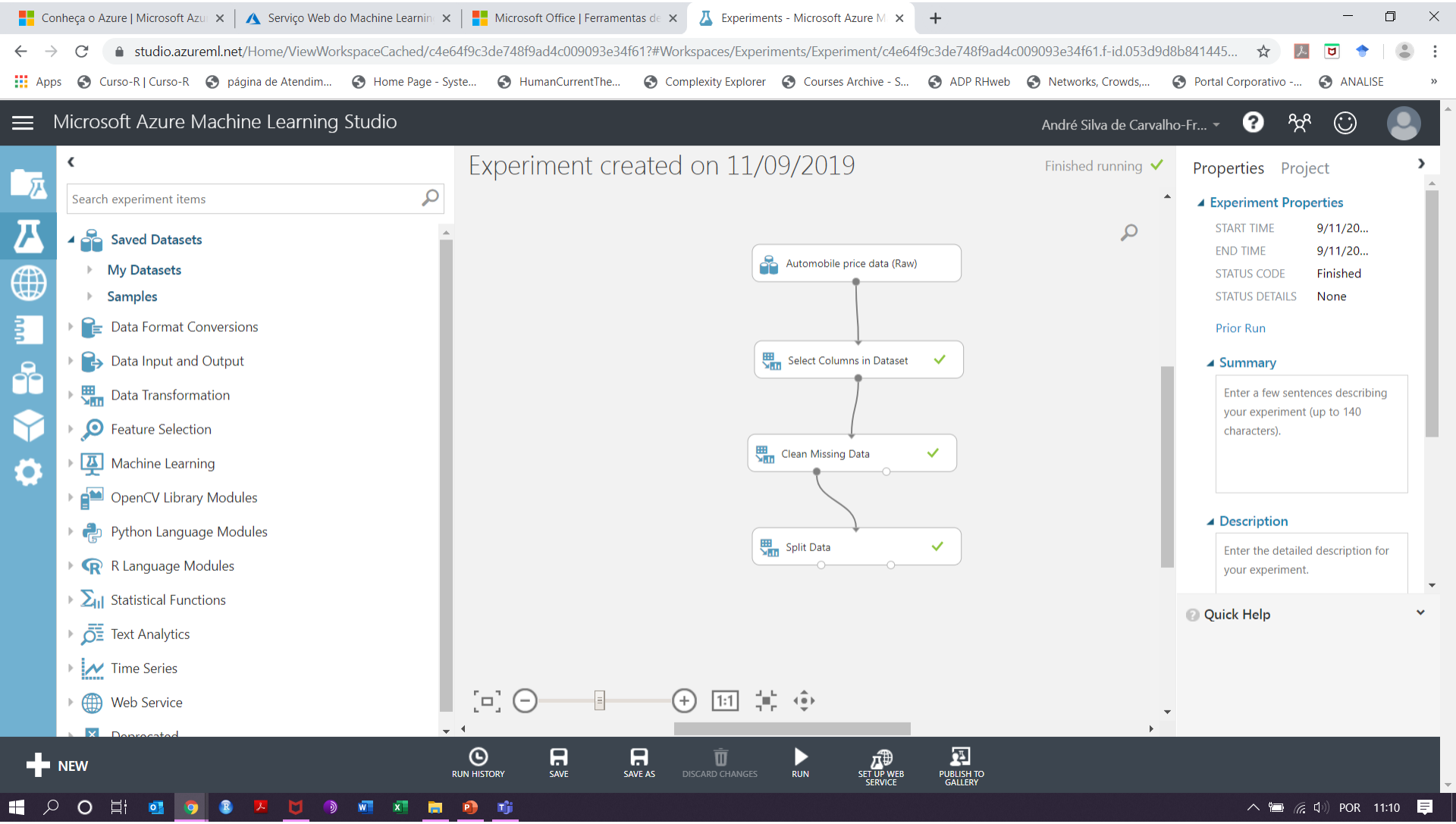


Azure ML – Base de treinamento e teste

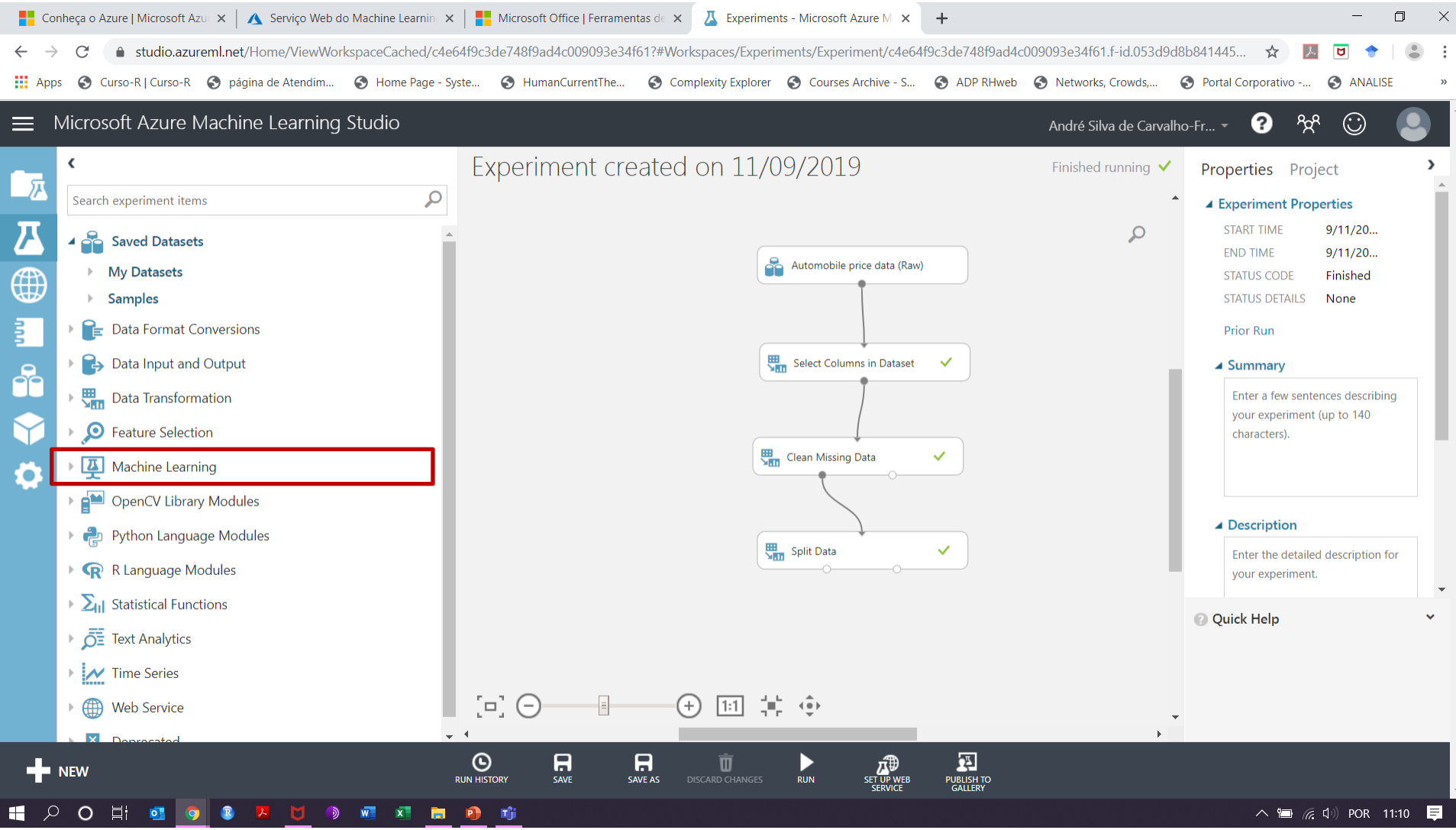


Note que o símbolo verde de "check" apareceu em todas as funções informando que executamos tudo adequadamente

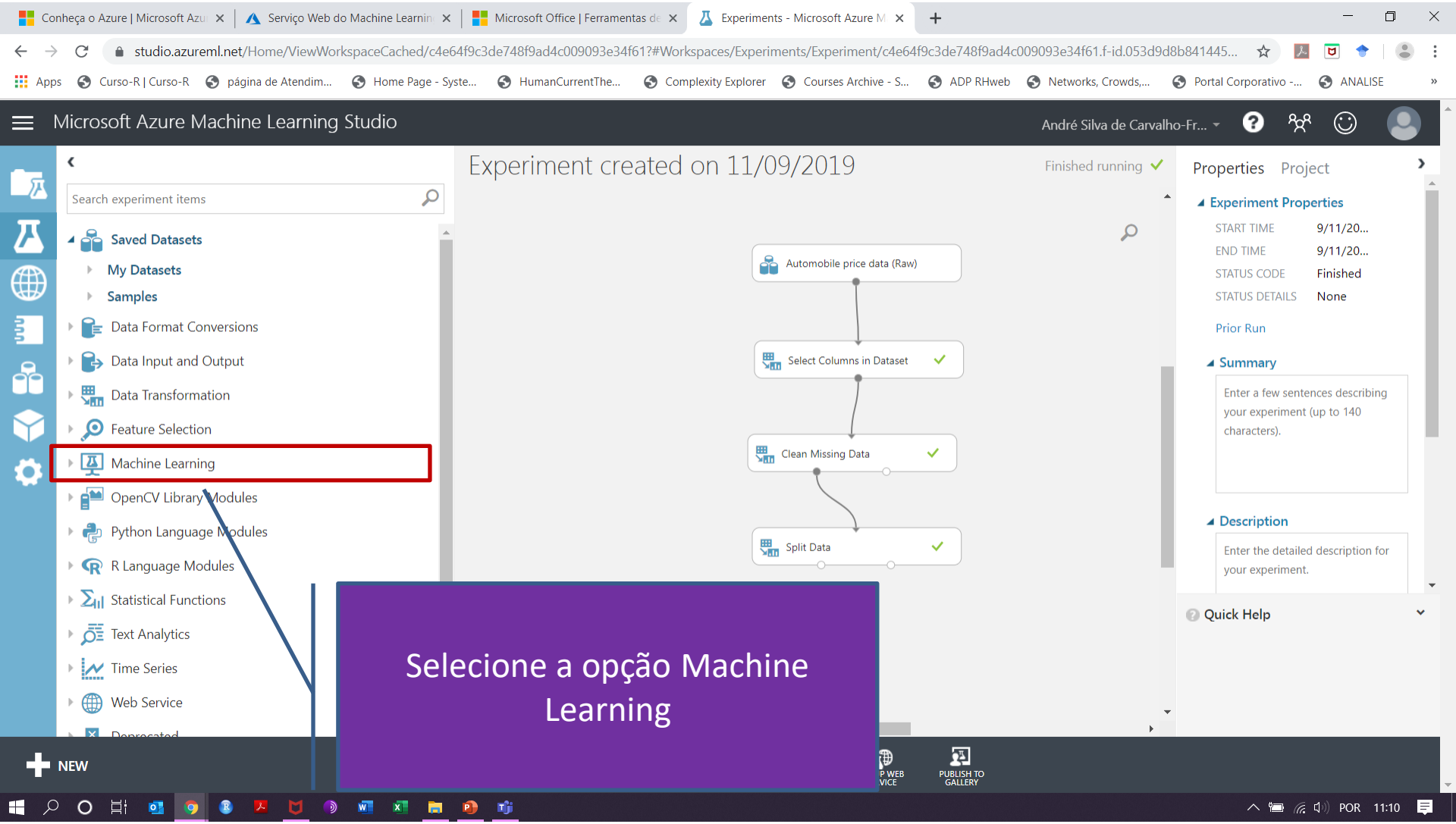
Azure ML – Vamos escolher o modelo



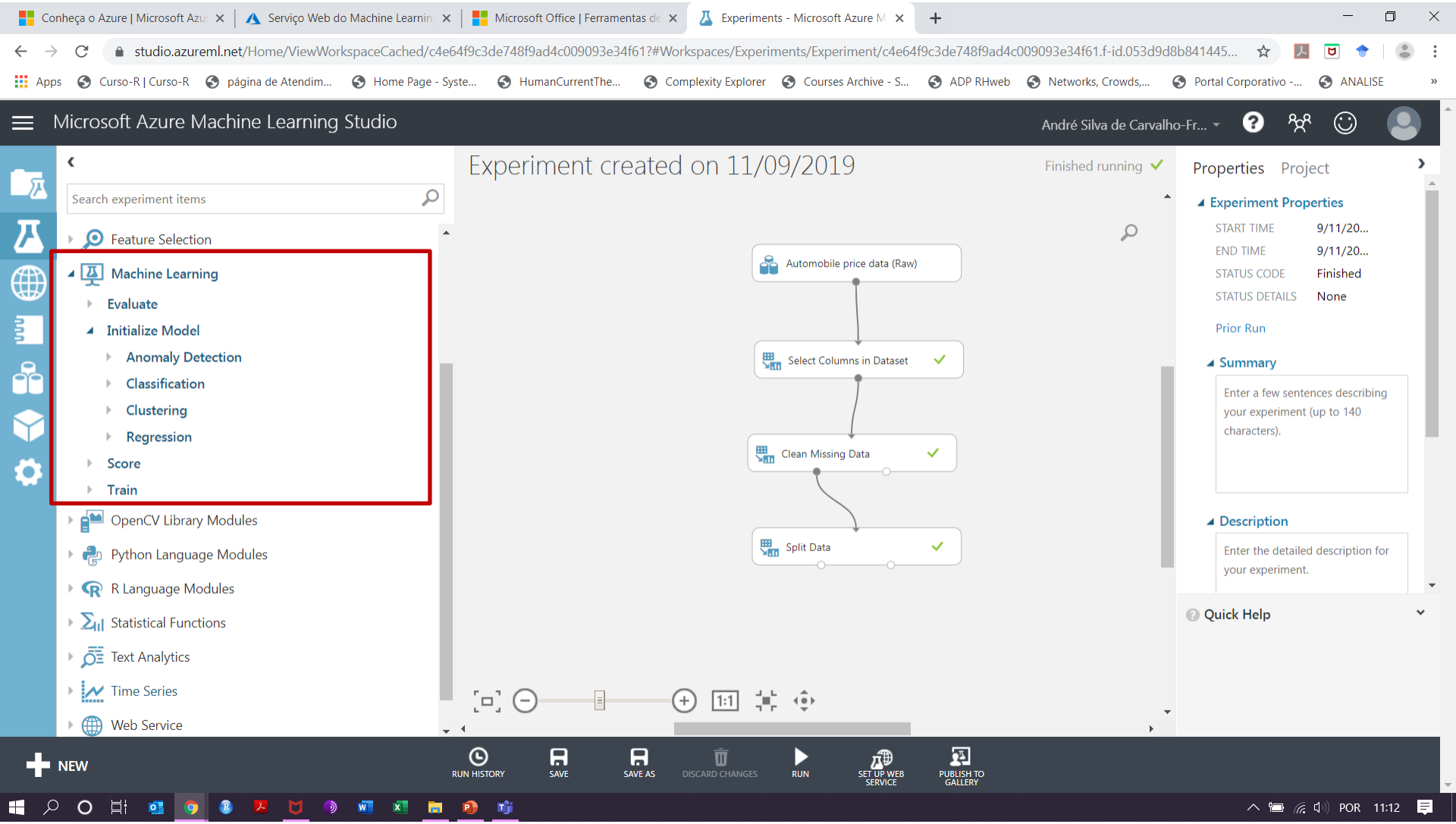
Azure ML – Vamos escolher o modelo



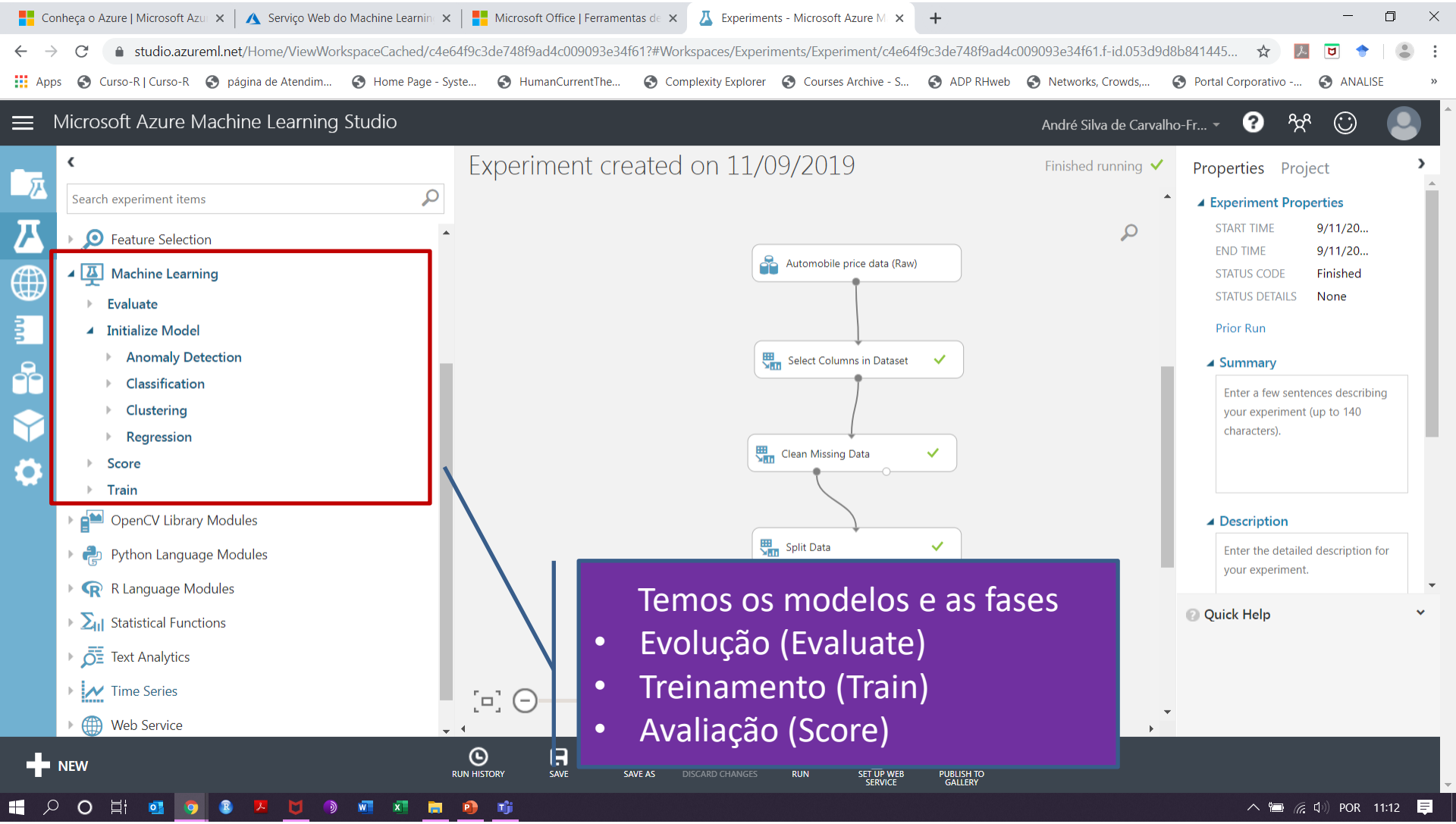
Azure ML – Vamos escolher o modelo



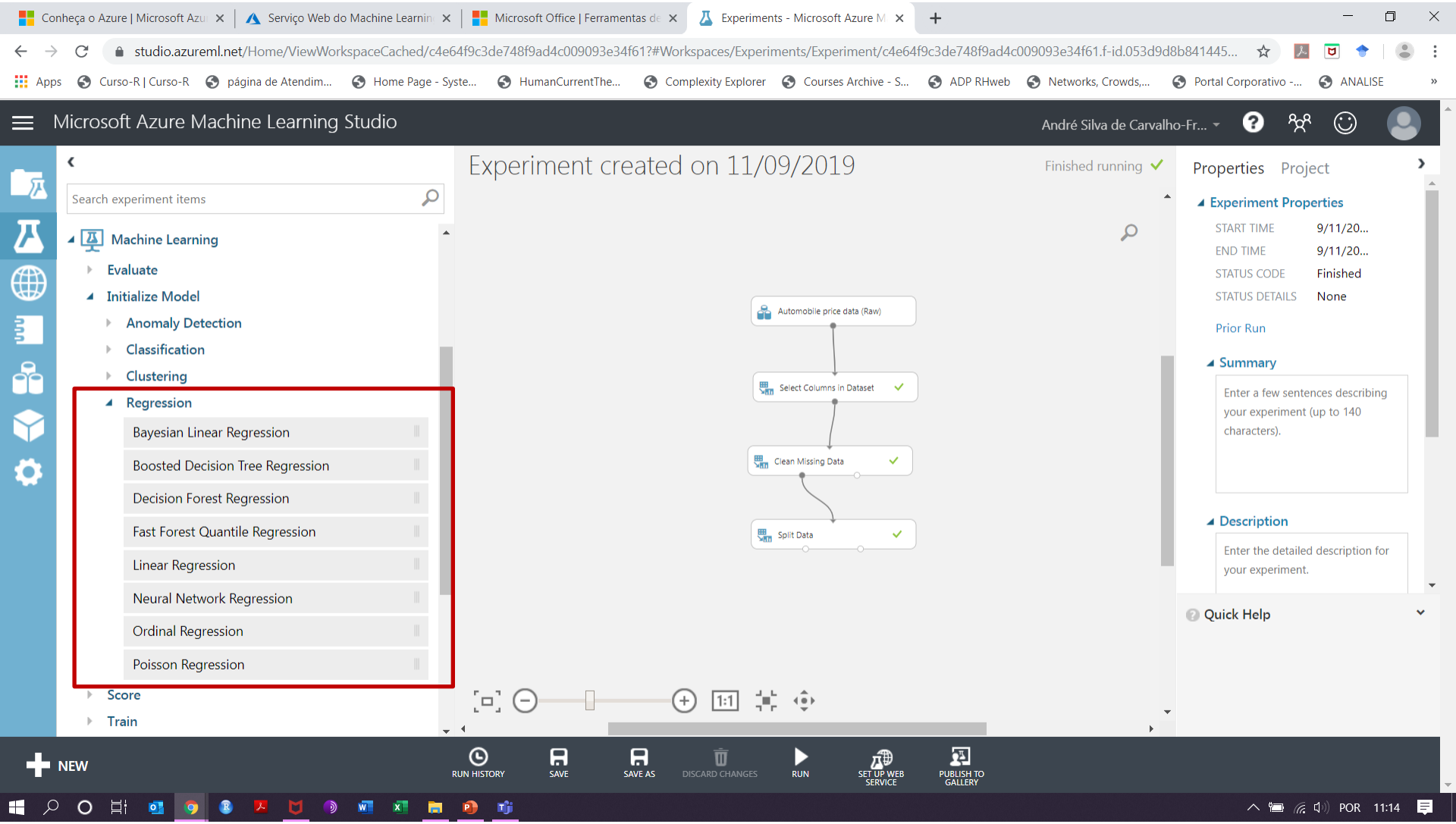
Azure ML – Vamos escolher o modelo



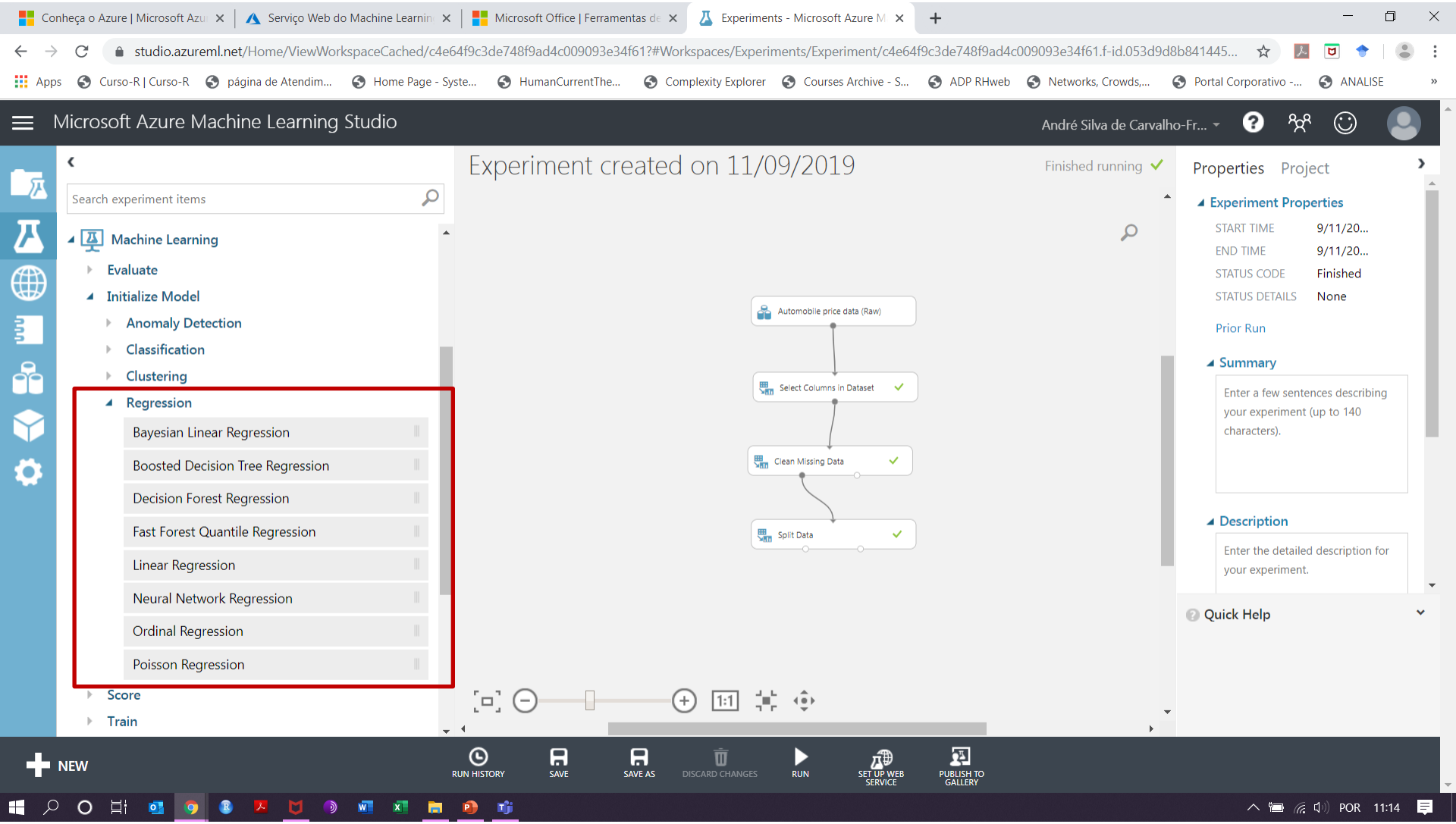
Azure ML – Vamos escolher o modelo



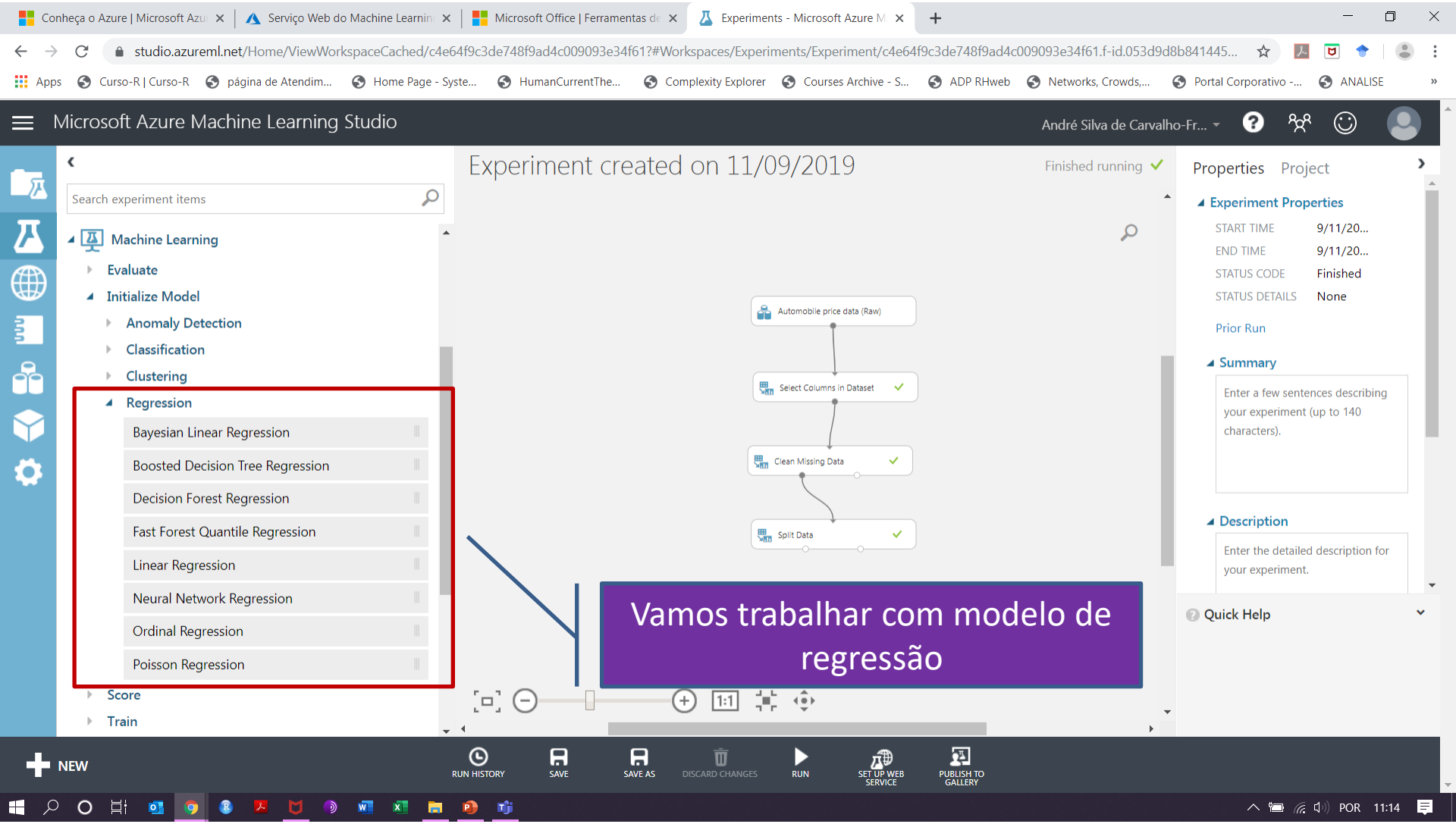
Azure ML – Vamos escolher o modelo



Azure ML – Vamos escolher o modelo

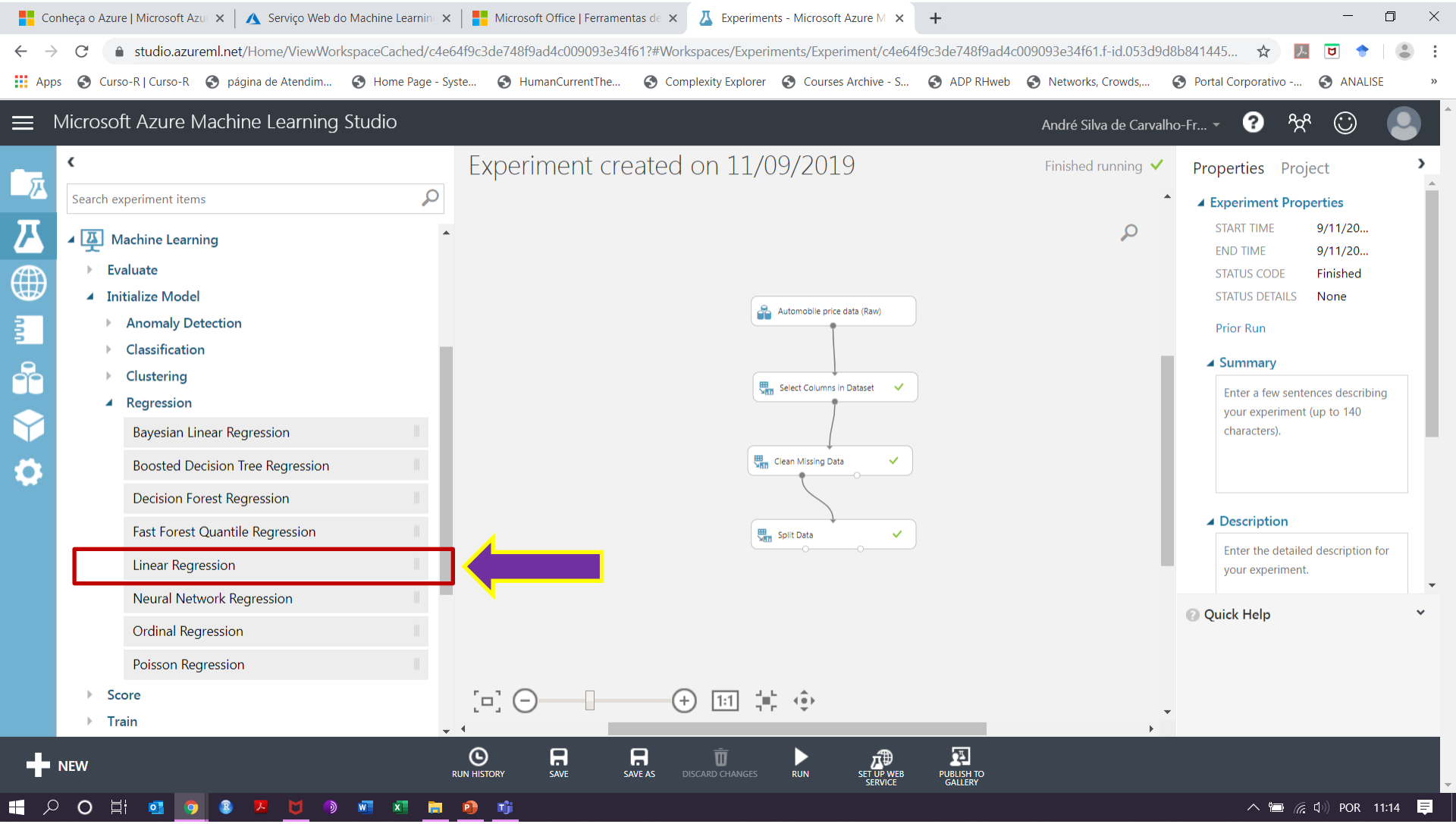


Azure ML – Vamos escolher o modelo

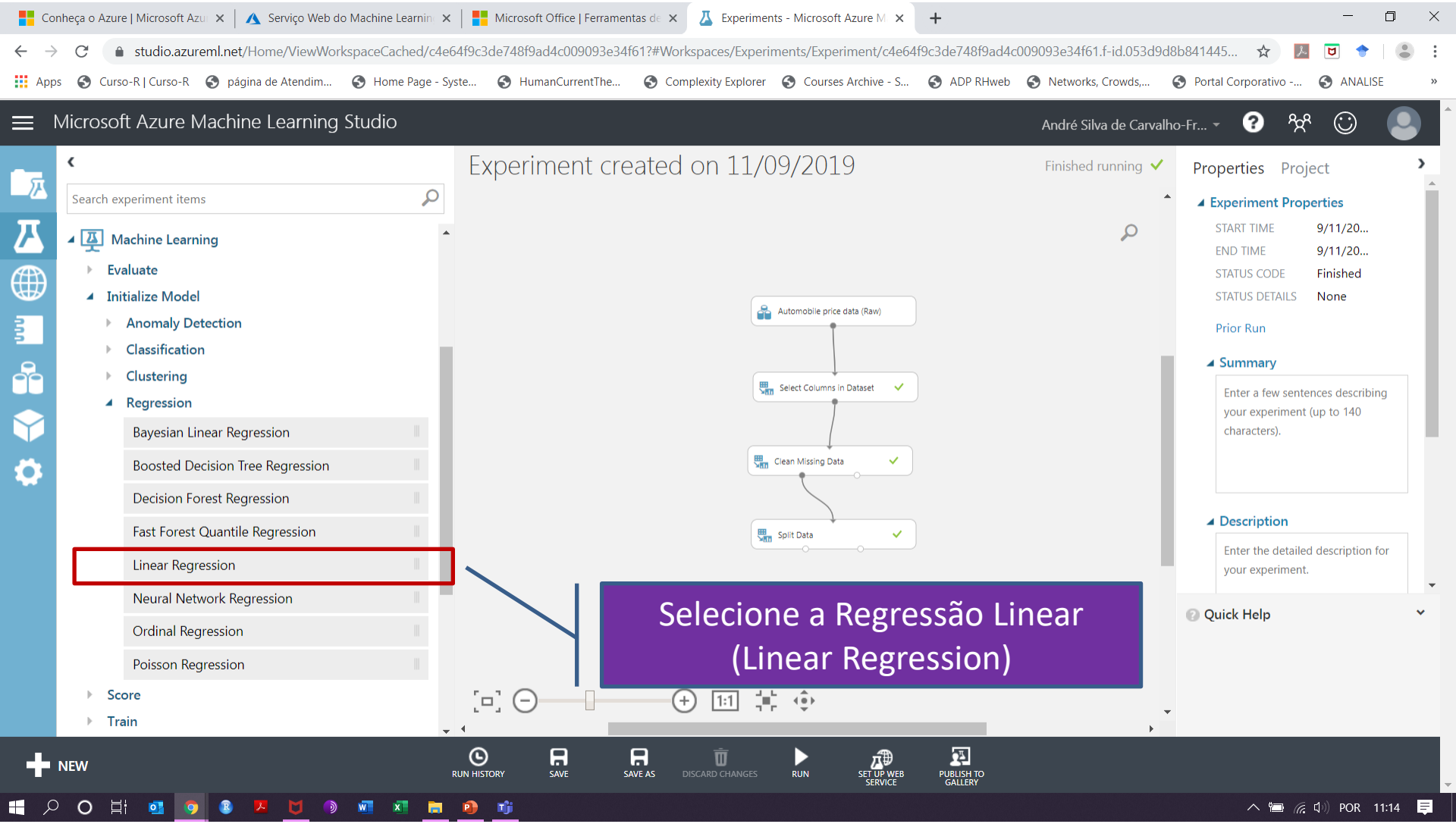


Vamos trabalhar com modelo de regressão

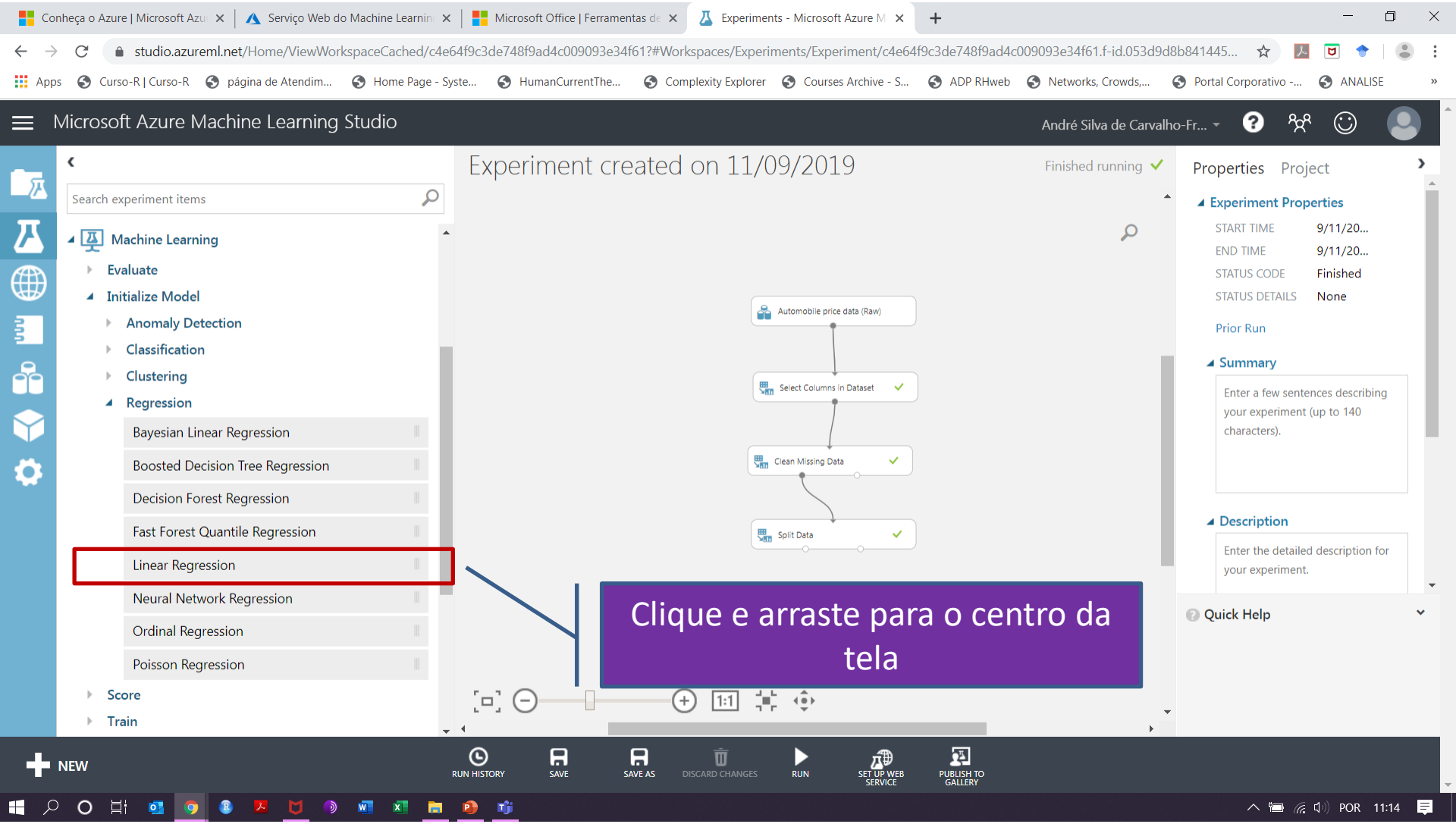
Azure ML – Vamos escolher o modelo



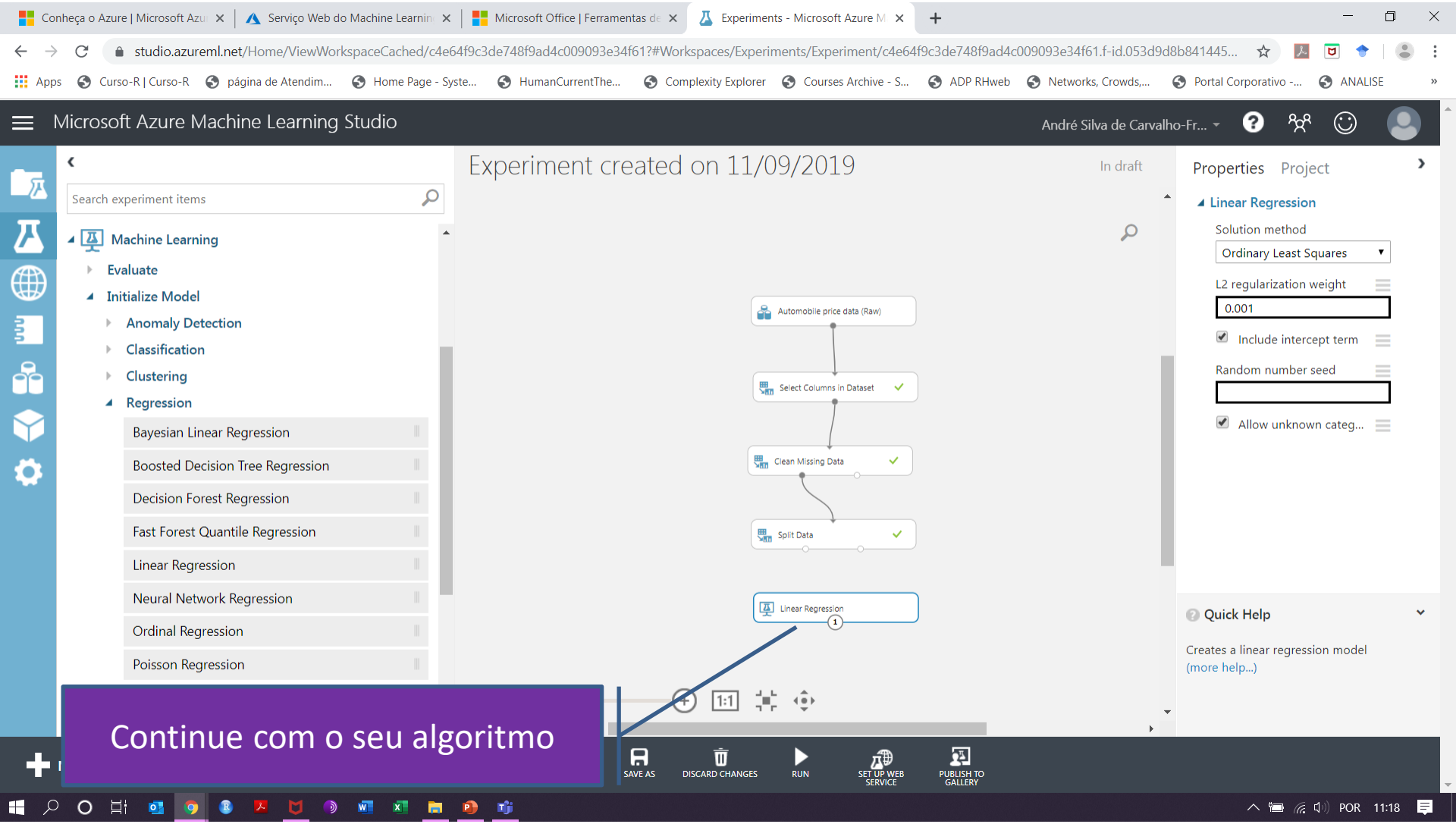
Azure ML – Vamos escolher o modelo



Azure ML – Vamos escolher o modelo

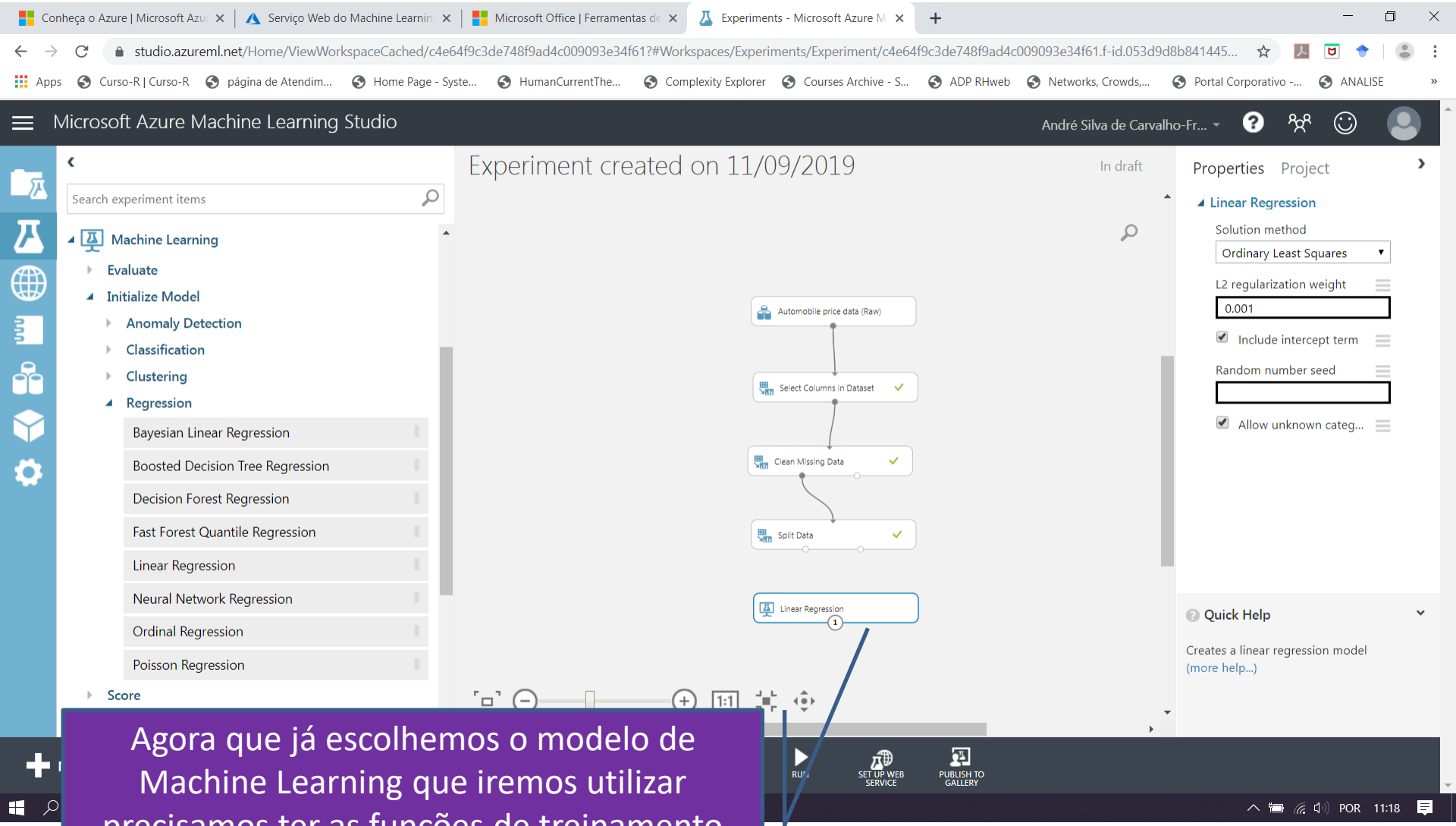


Azure ML – Vamos escolher o modelo



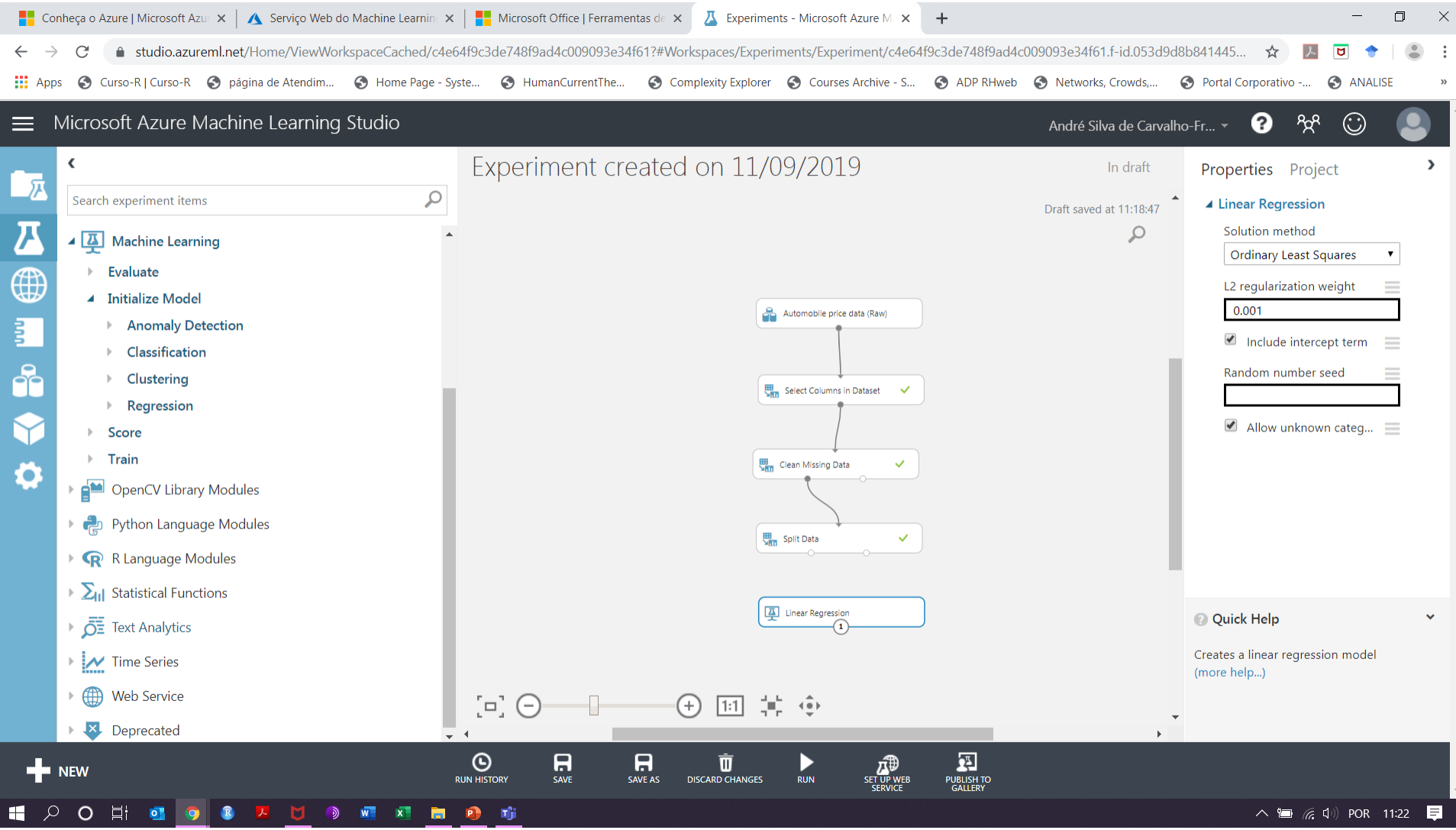
Continue com o seu algoritmo

Azure ML – Vamos escolher o modelo

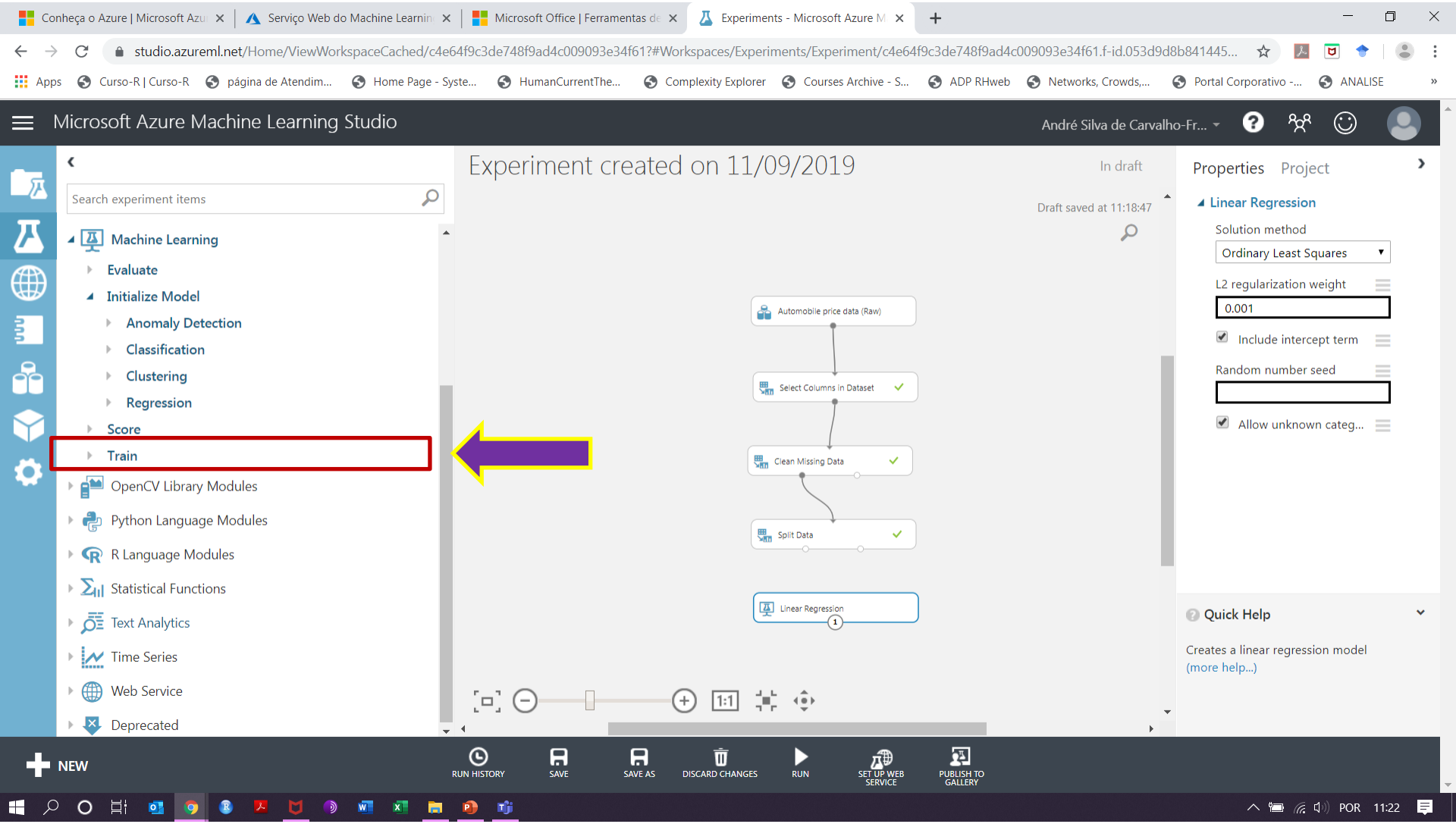


Agora que já escolhemos o modelo de Machine Learning que iremos utilizar precisamos ter as funções de treinamento (Train) e análise do resultado do treinamento (Score)

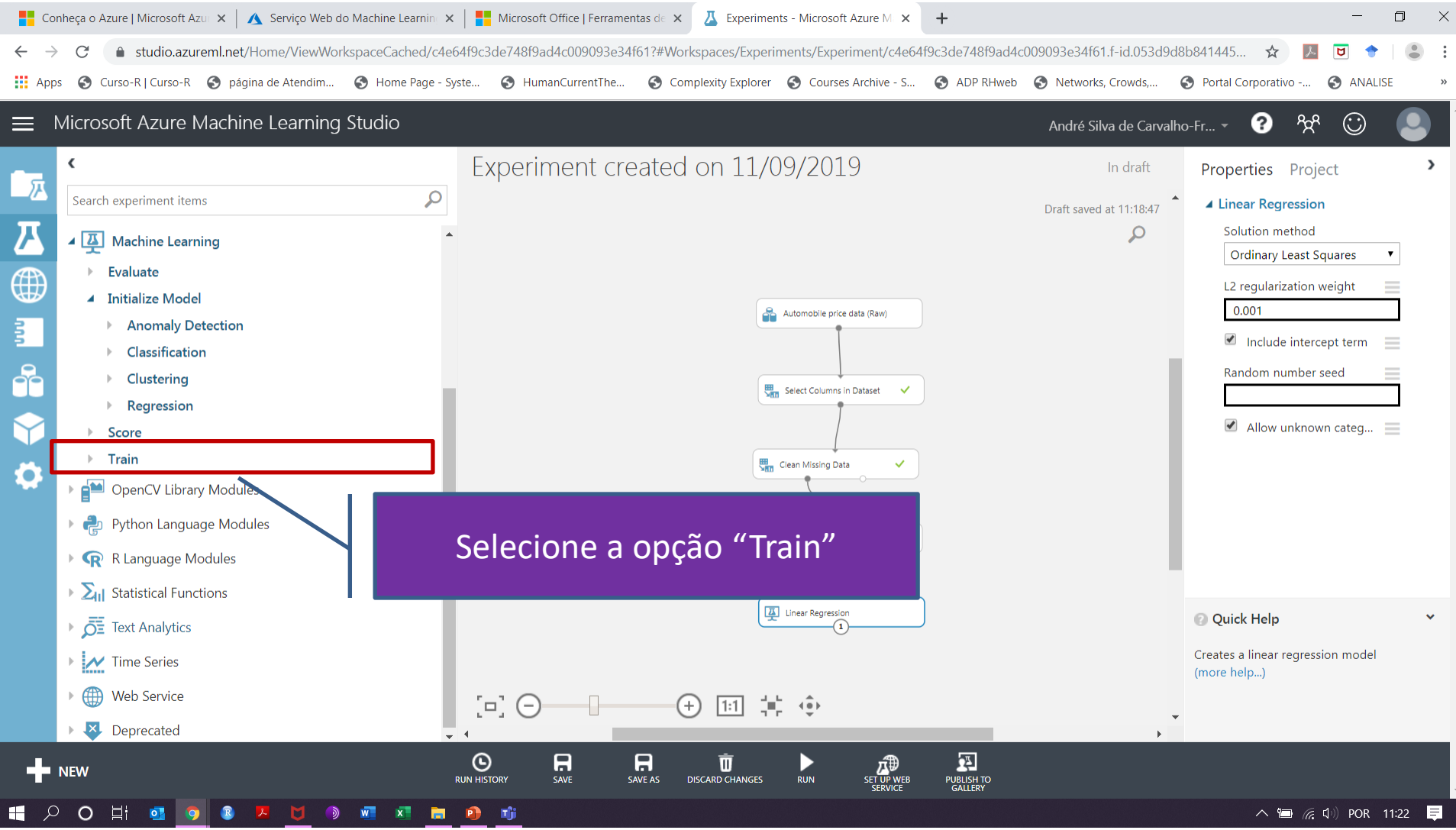
Azure ML – Evoluindo o modelo



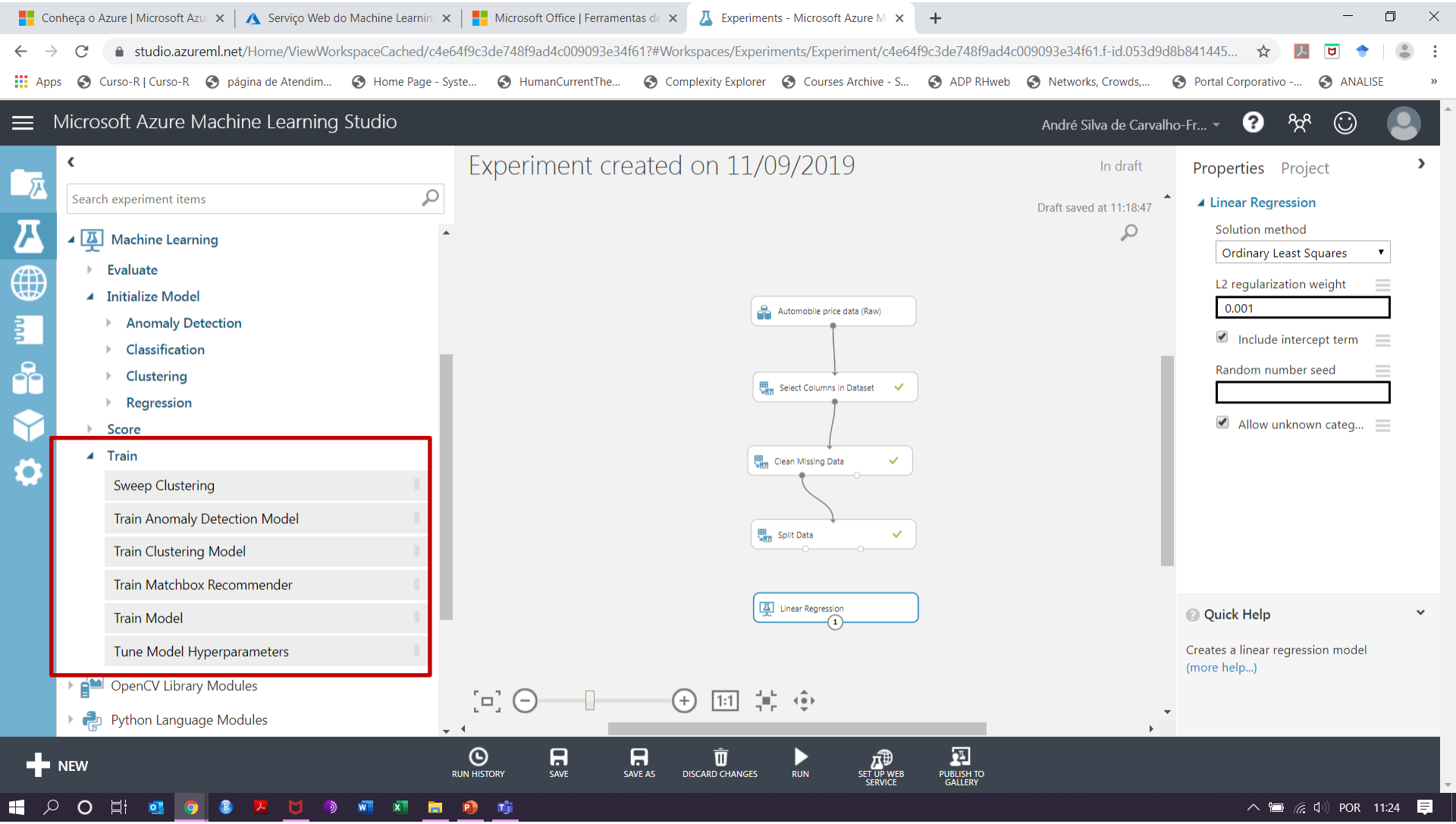
Azure ML – Evoluindo o modelo



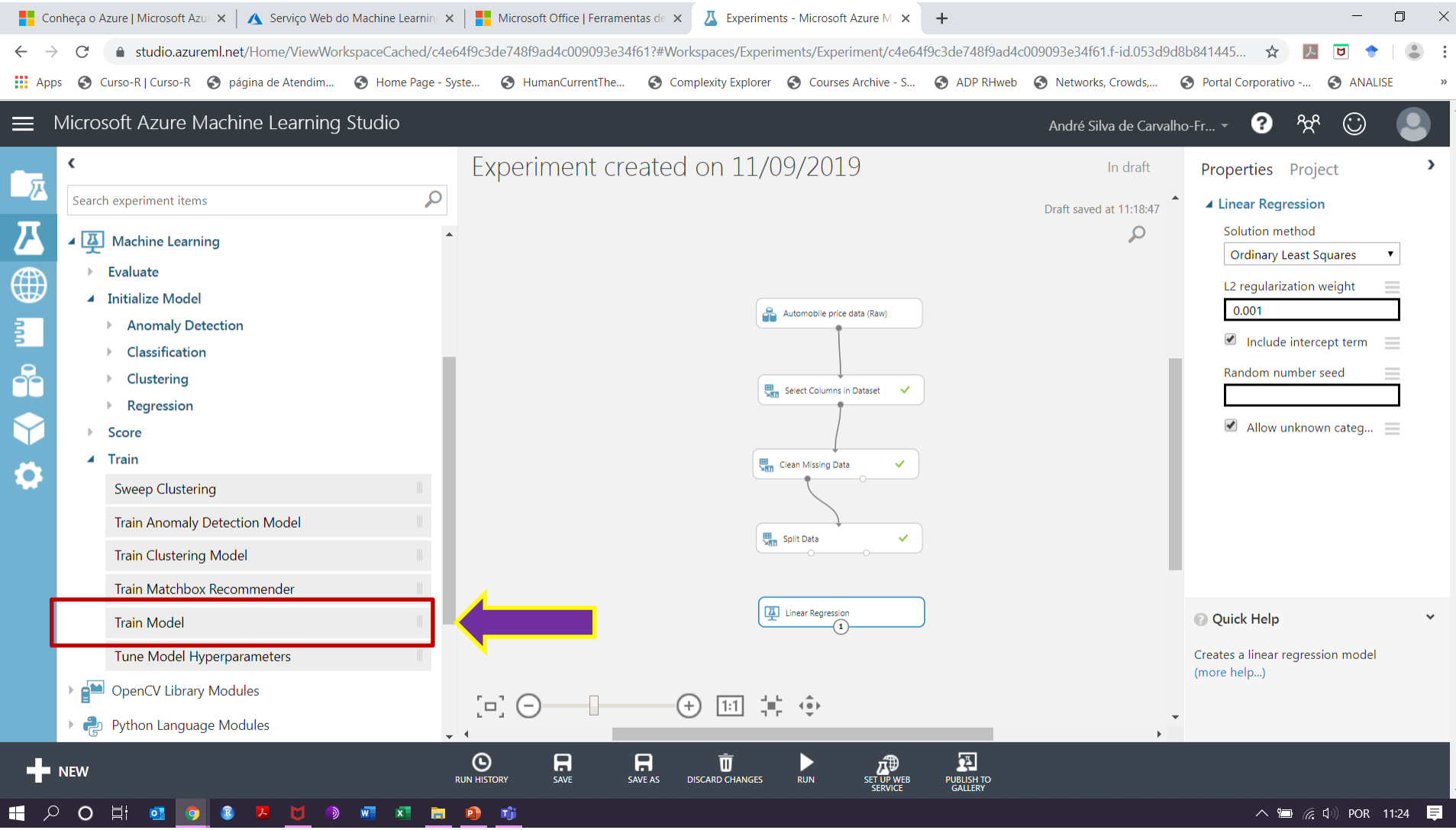
Azure ML – Evoluindo o modelo



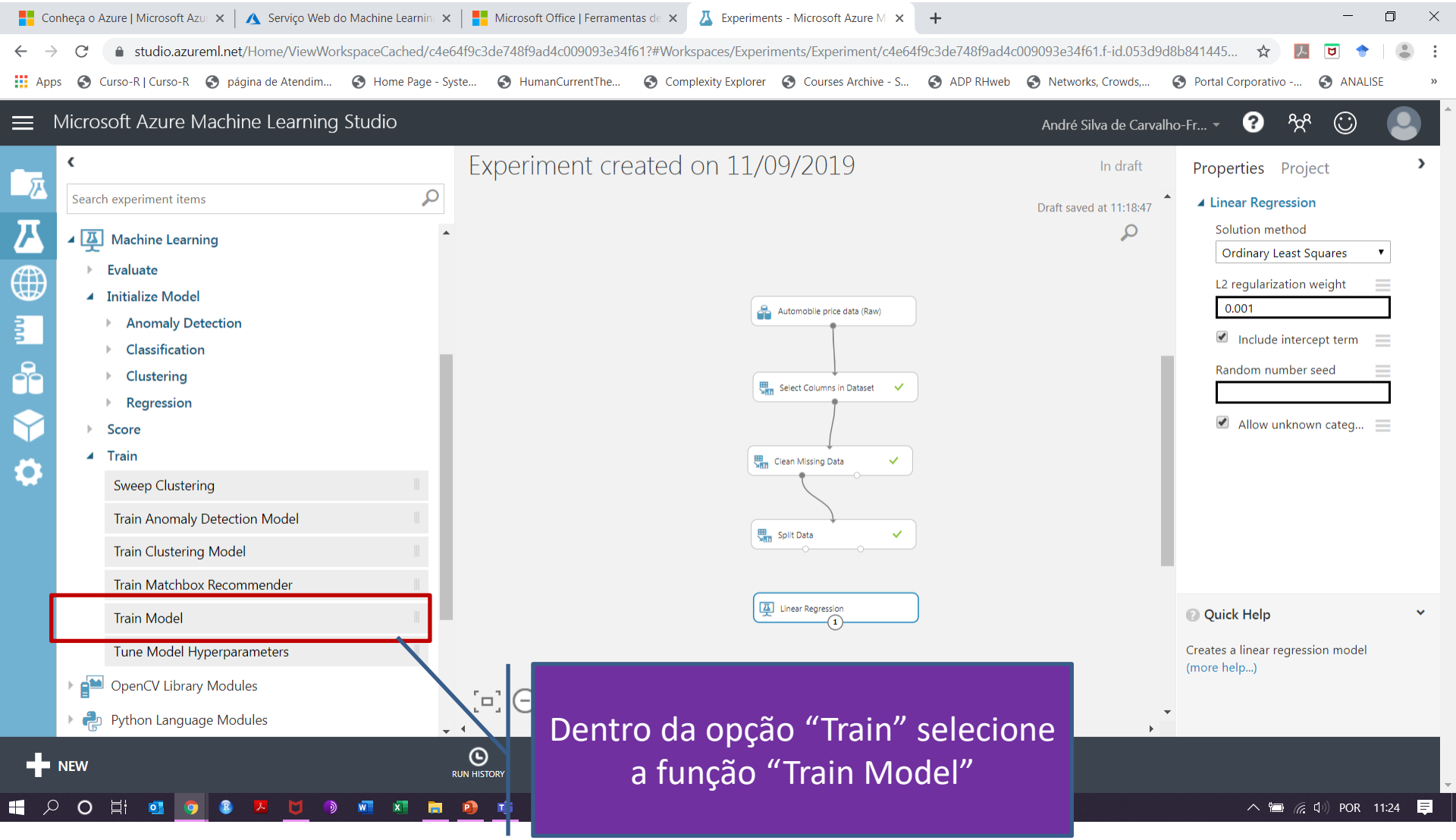
Azure ML – Evoluindo o modelo



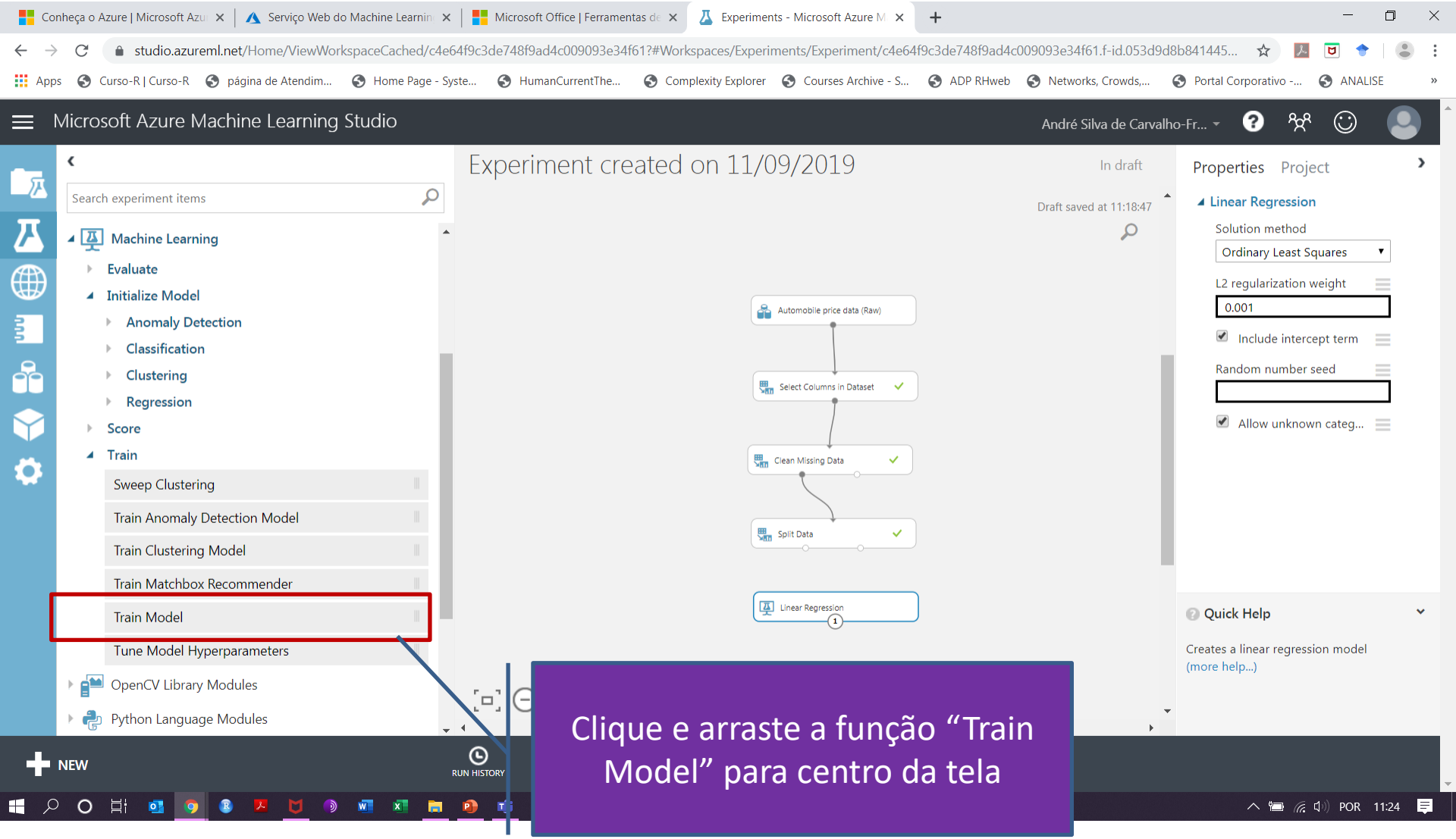
Azure ML – Evoluindo o modelo



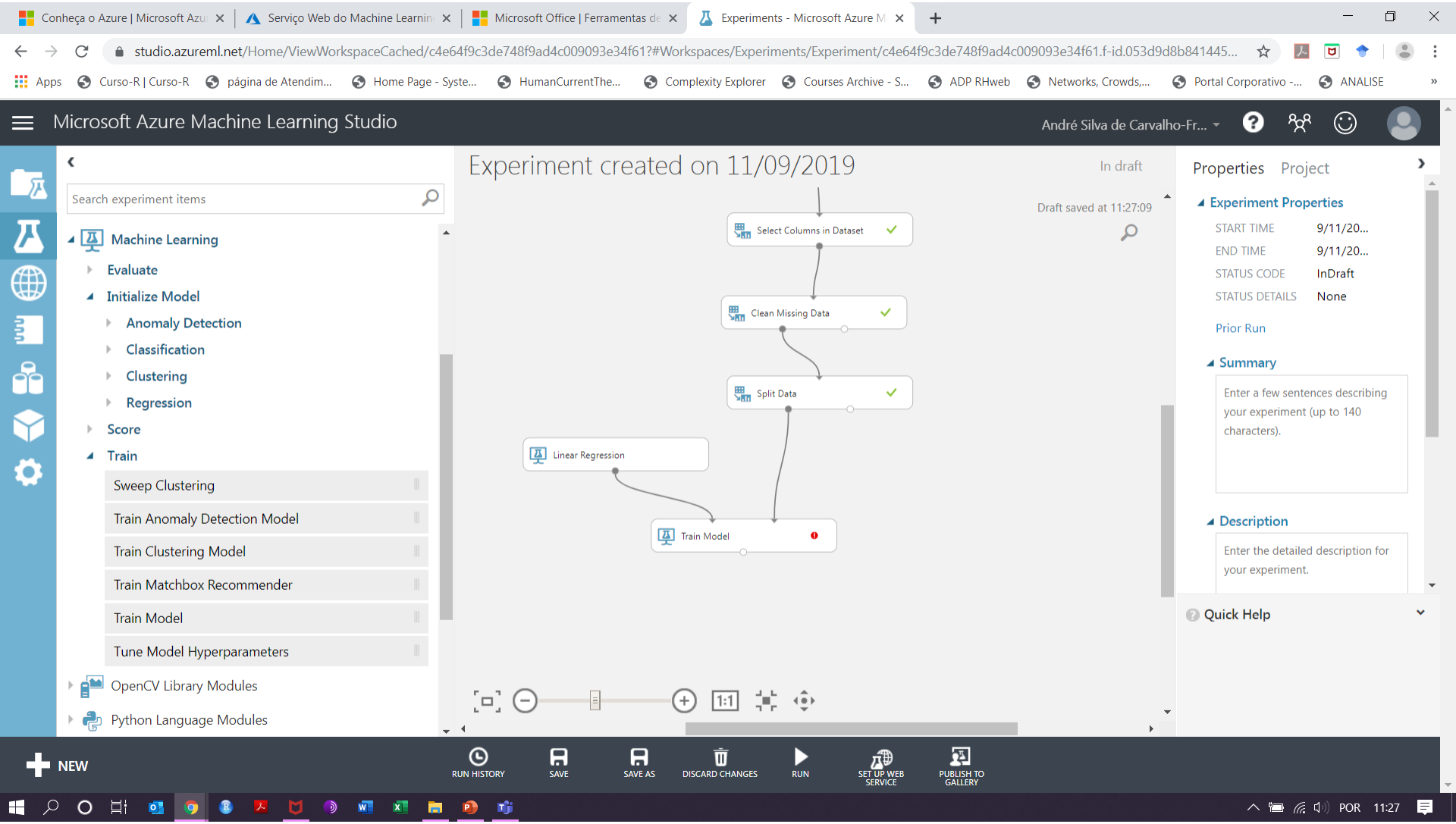
Azure ML – Evoluindo o modelo



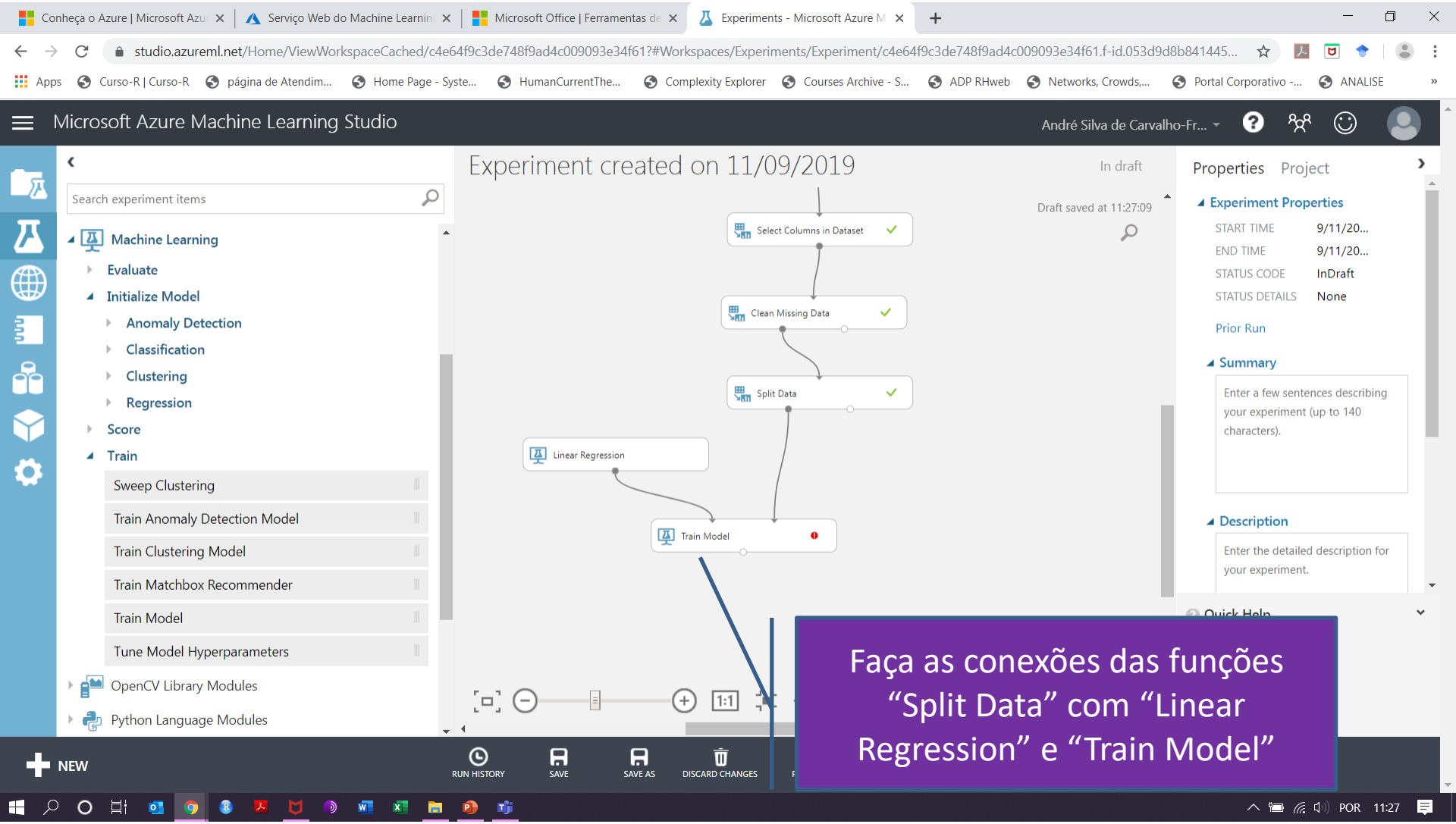
Azure ML – Evoluindo o modelo



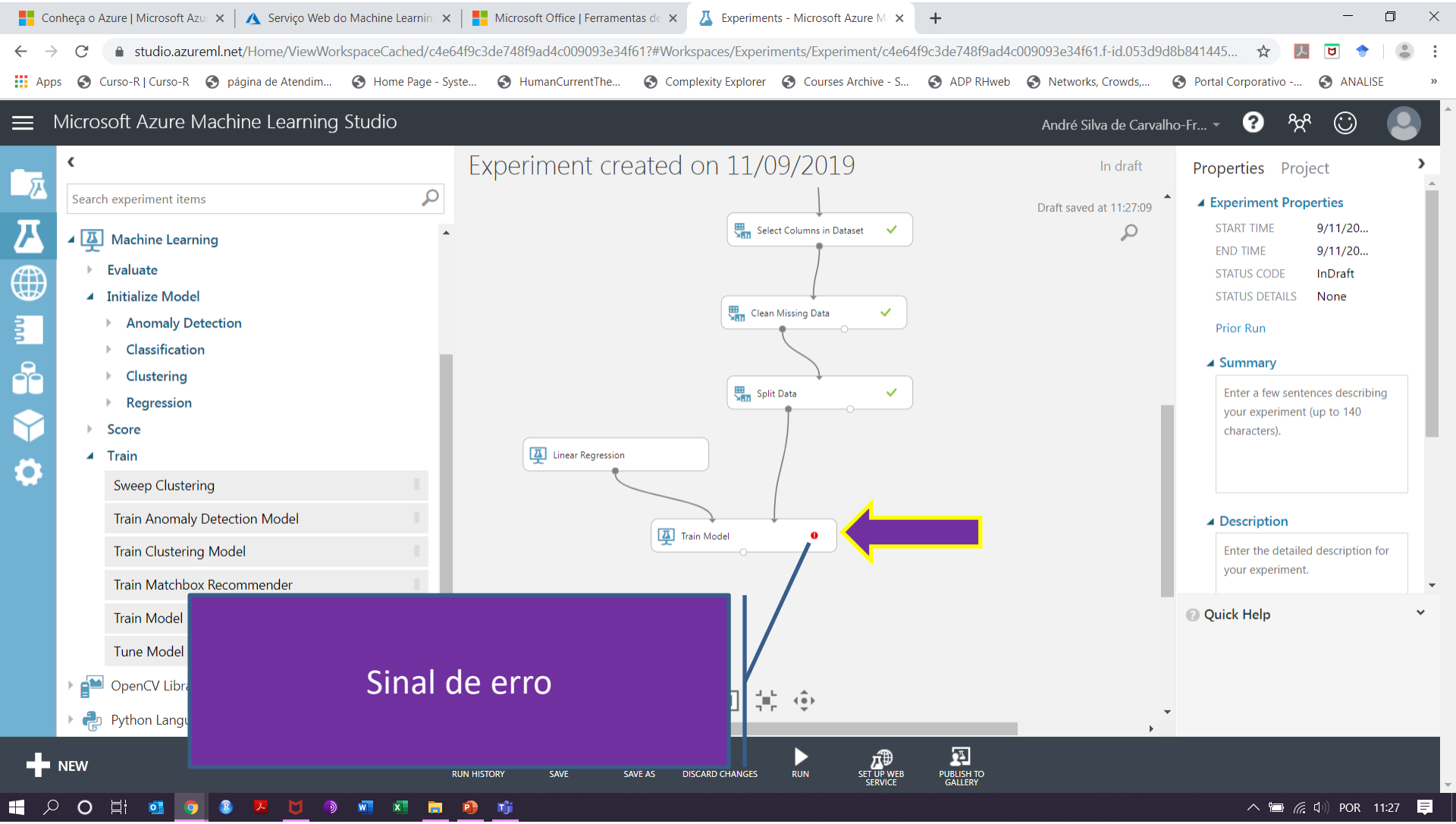
Azure ML - Evoluindo o modelo



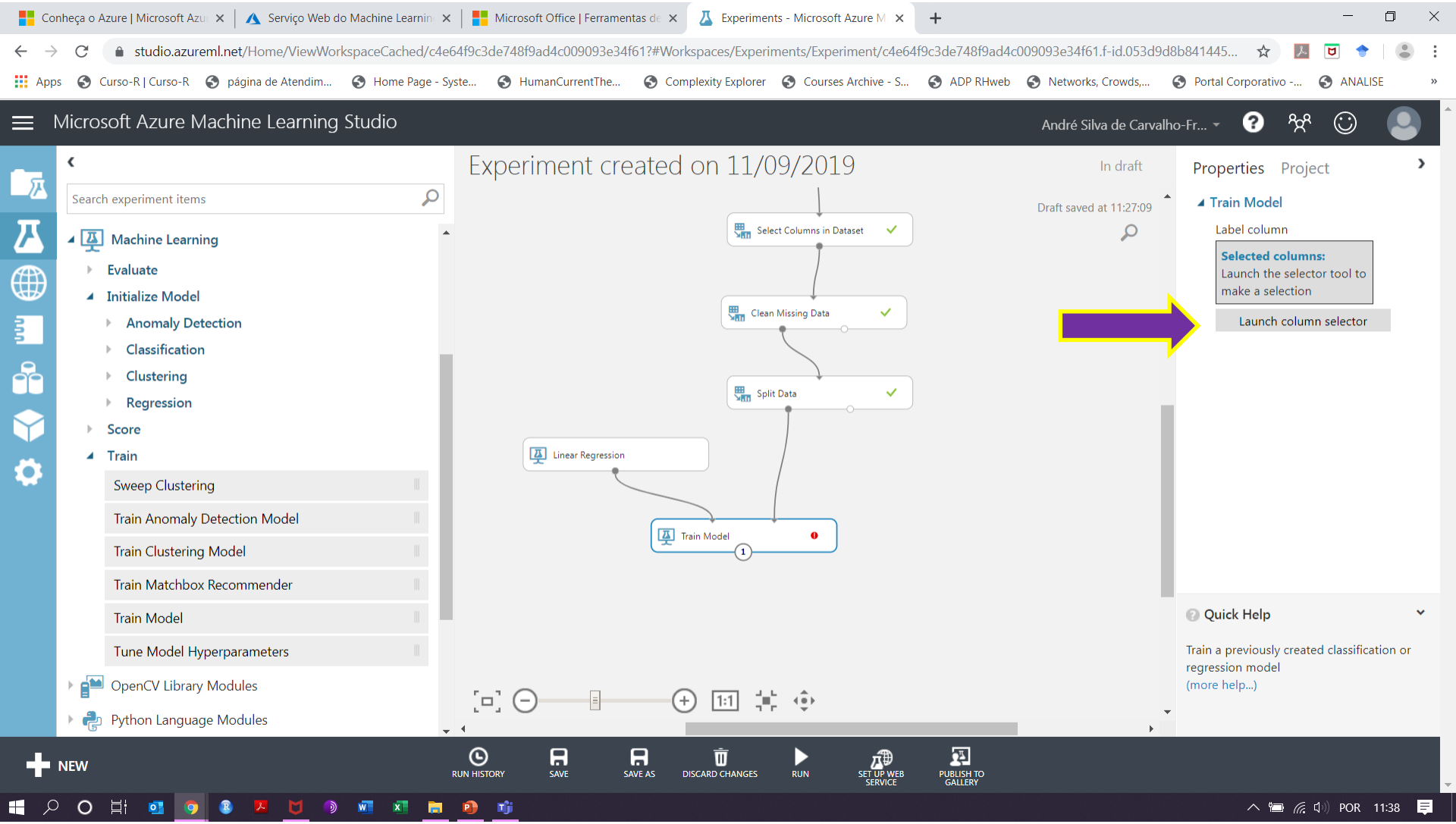
Azure ML - Evoluindo o modelo



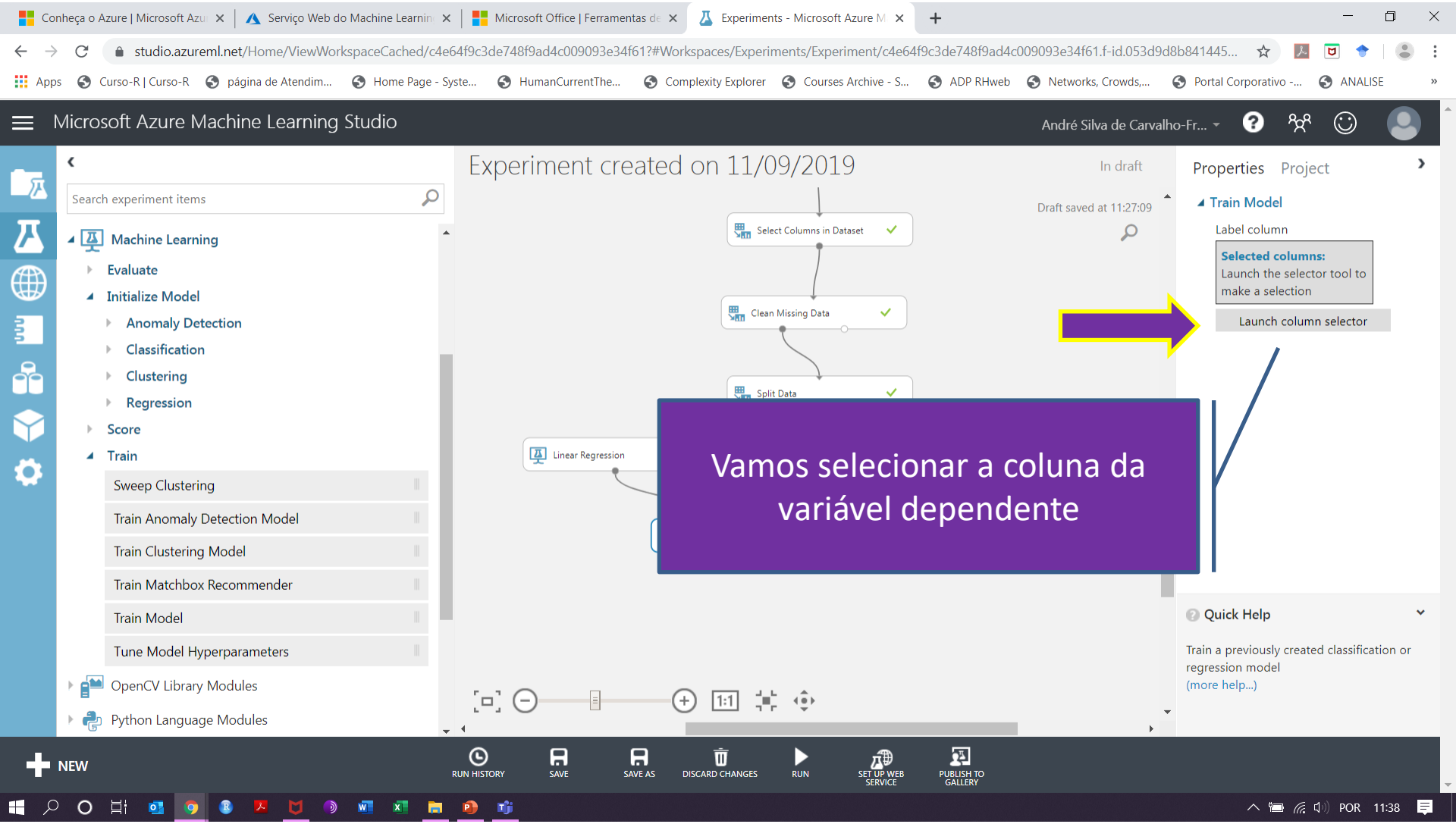
Azure ML - Evoluindo o modelo



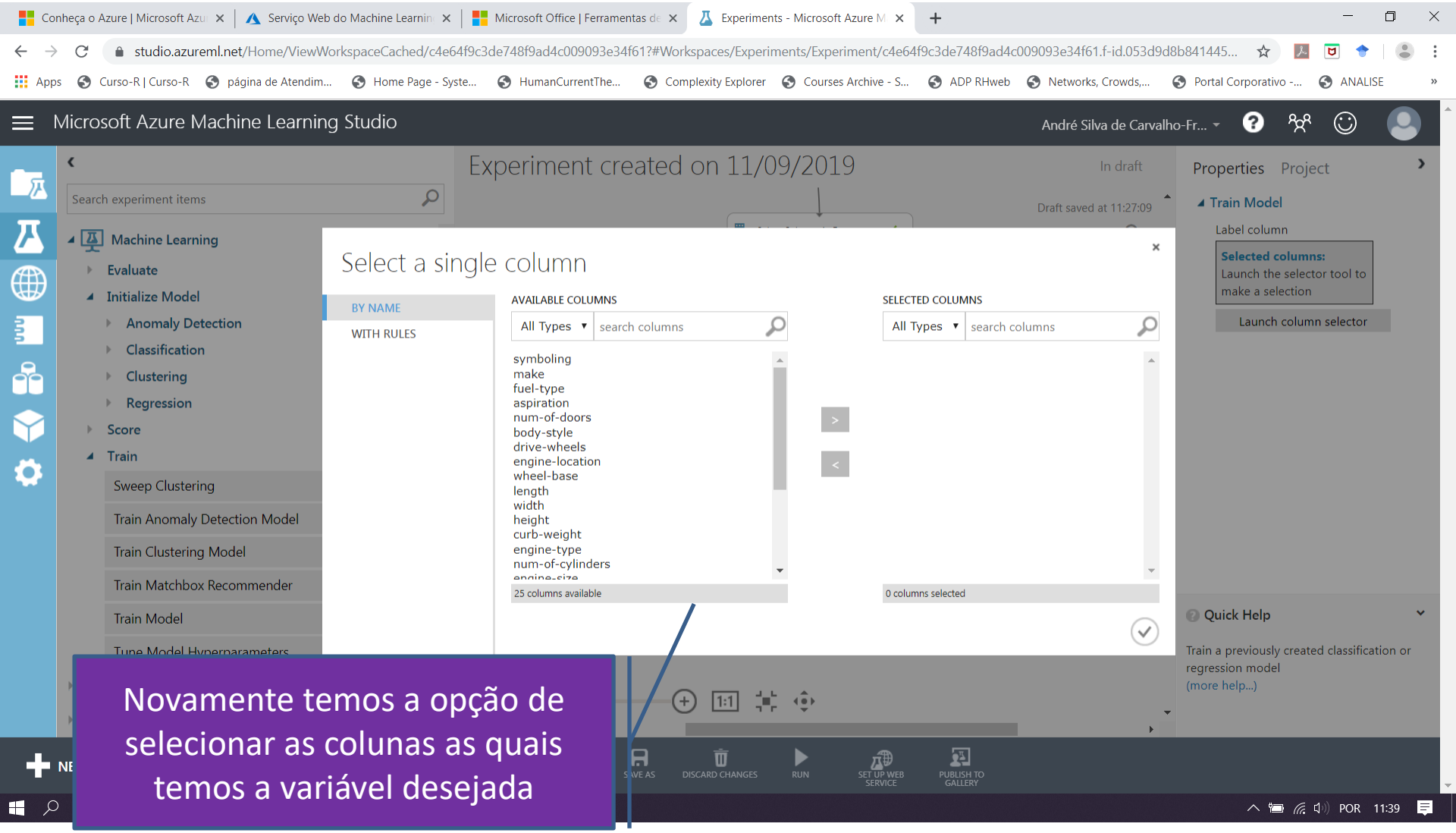
Azure ML - Evoluindo o modelo



Azure ML - Evoluindo o modelo

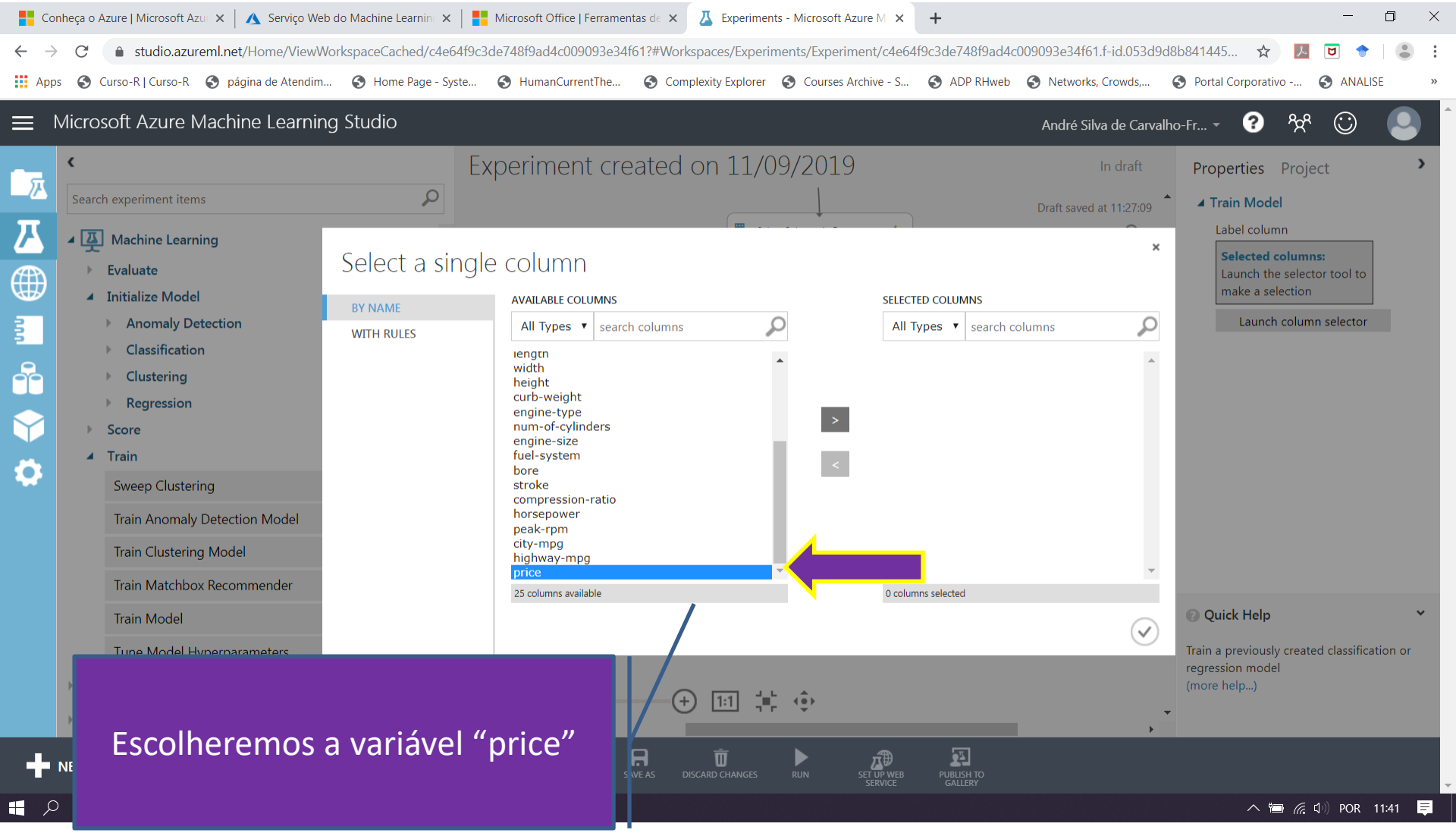


Azure ML - Evoluindo o modelo



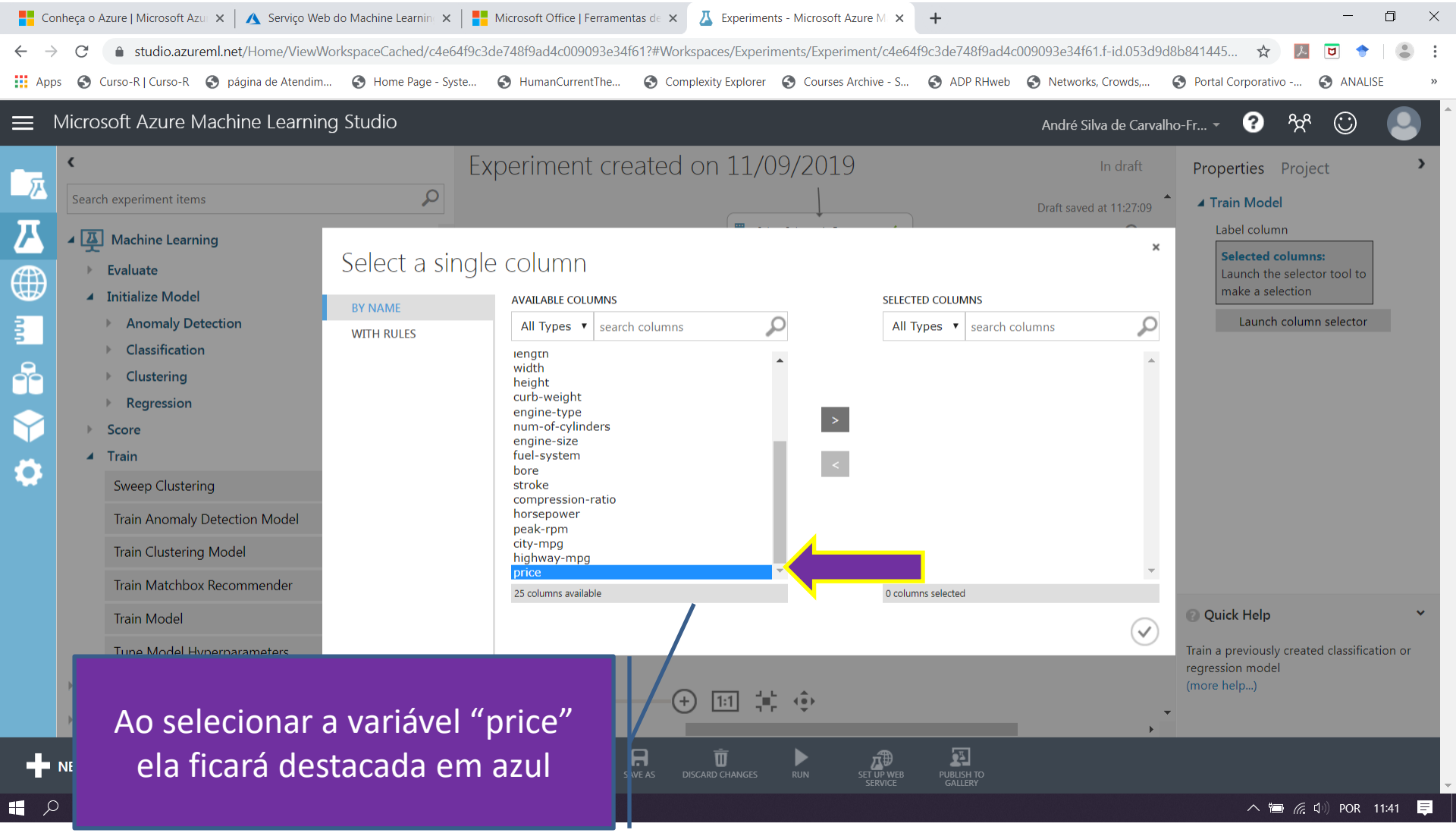
Novamente temos a opção de selecionar as colunas as quais temos a variável desejada

Azure ML - Evoluindo o modelo



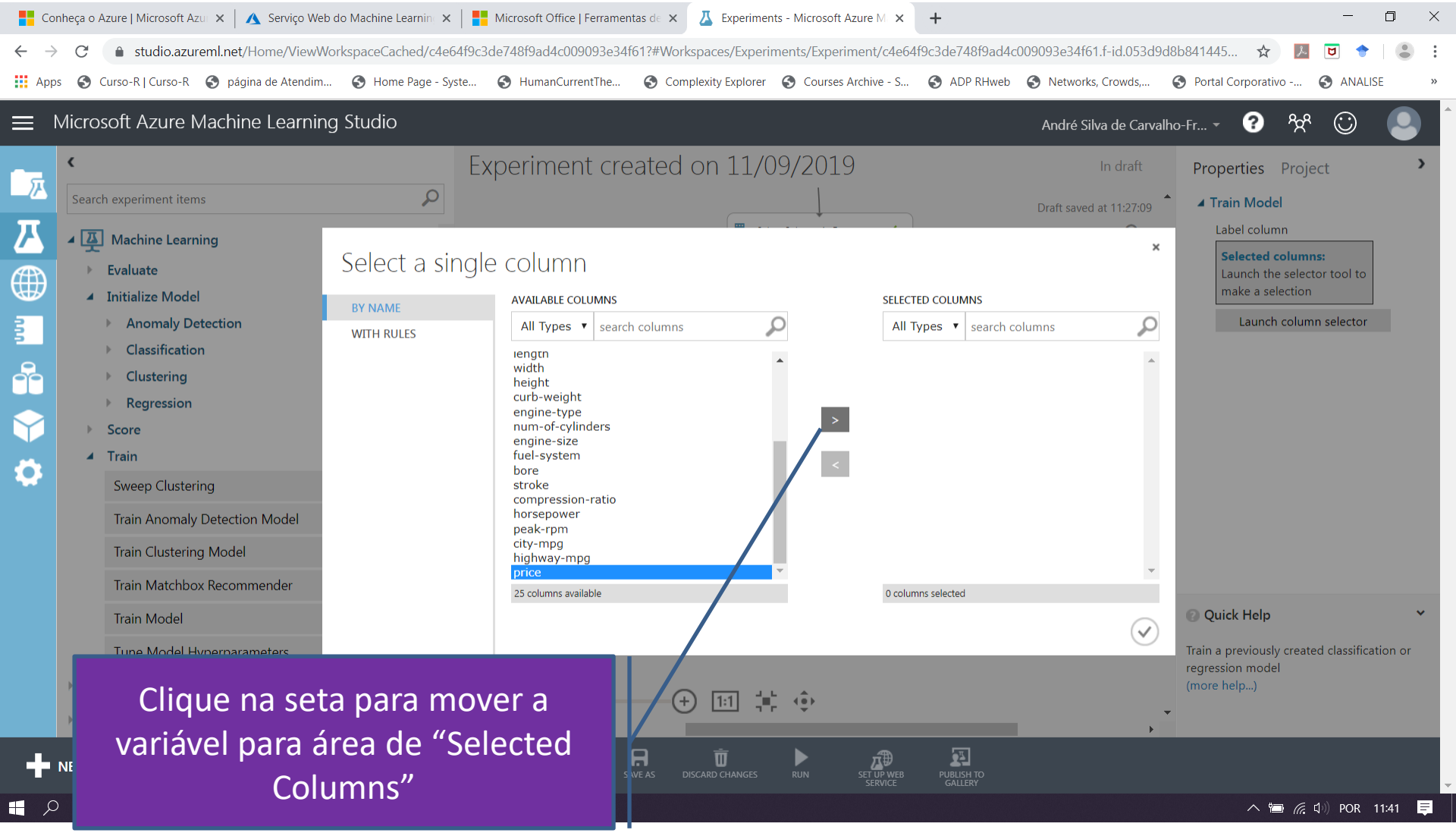
Escolheremos a variável “price”

Azure ML - Evoluindo o modelo



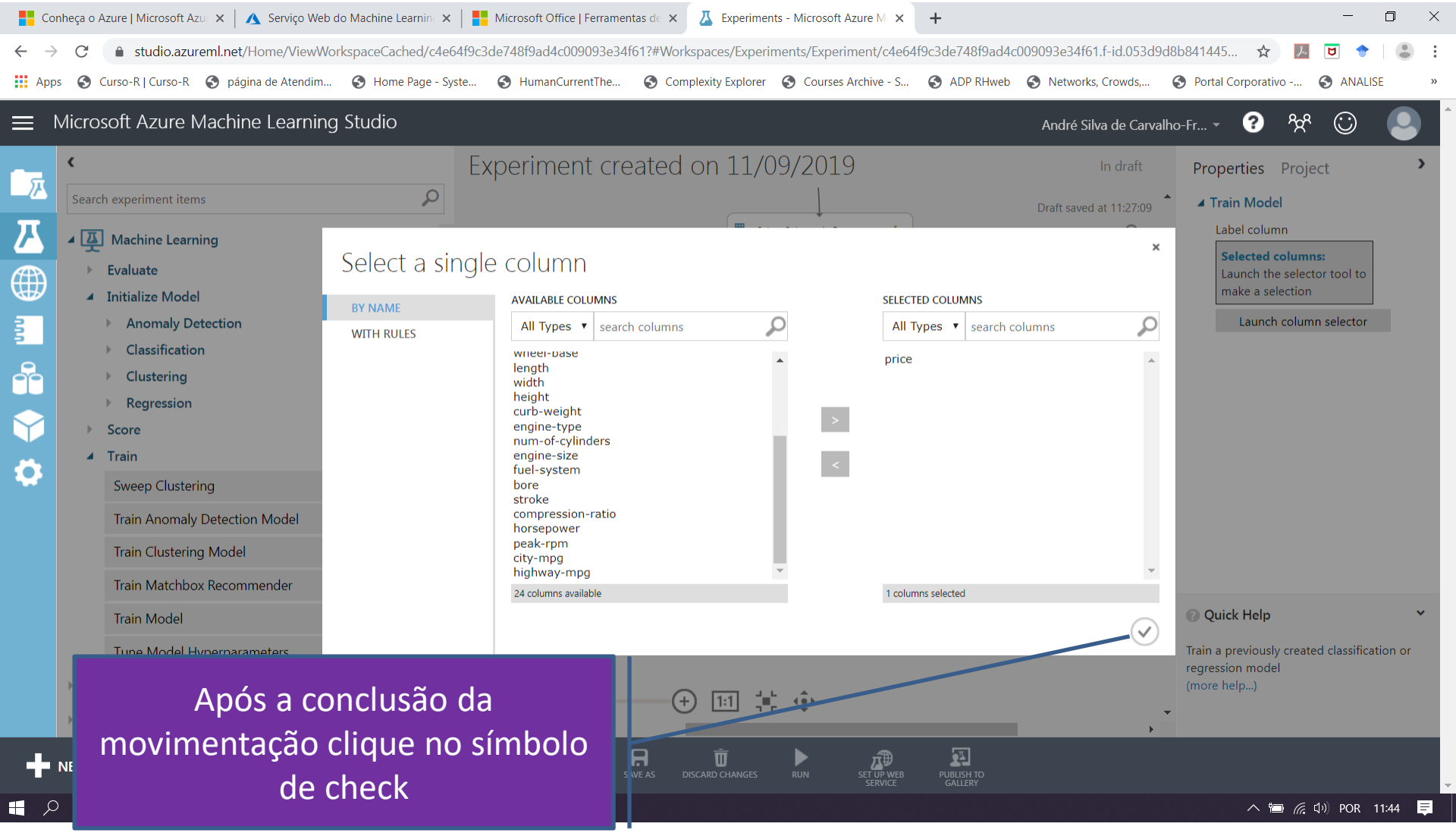
Ao selecionar a variável “price” ela ficará destacada em azul

Azure ML - Evoluindo o modelo



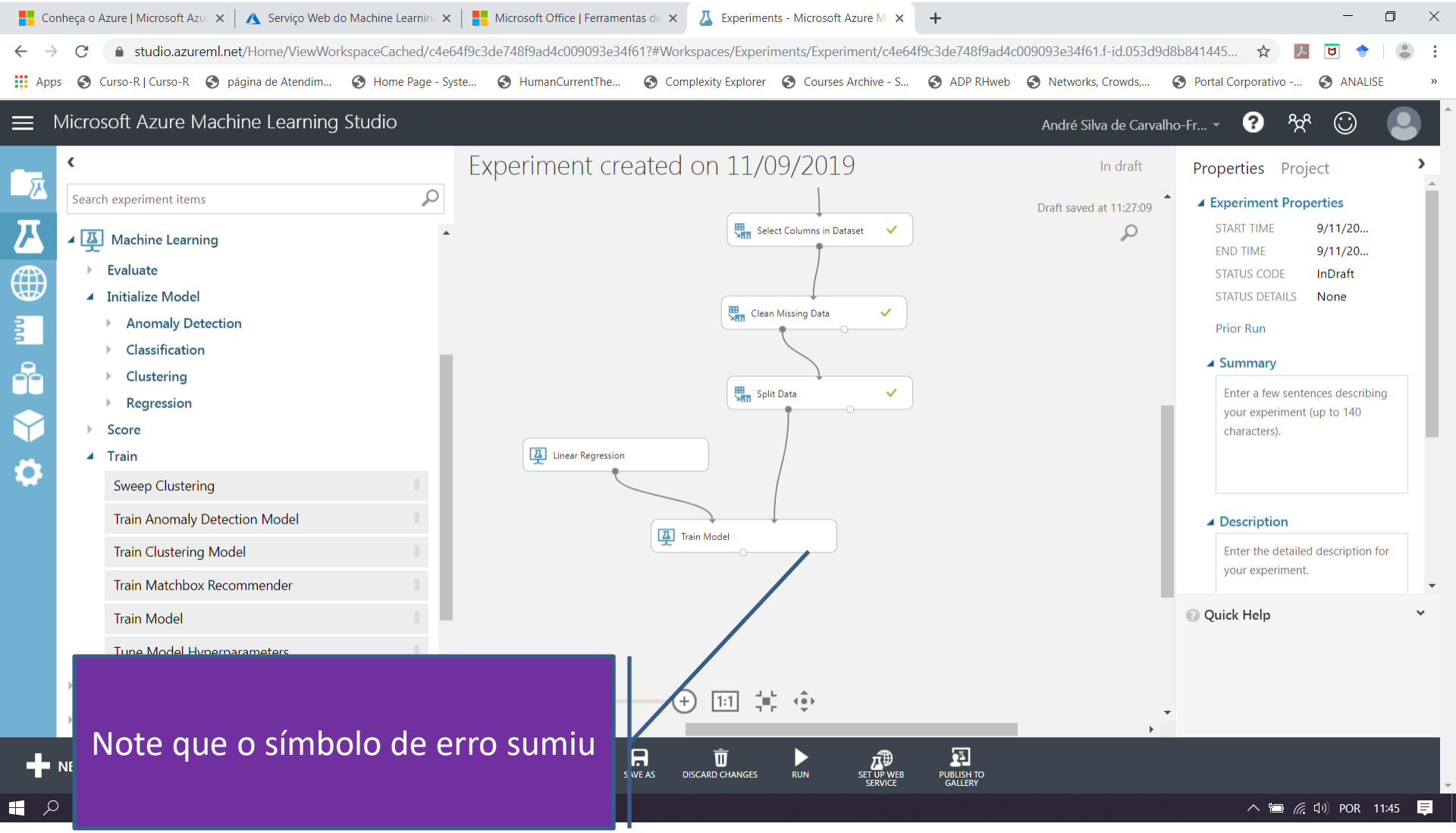
Clique na seta para mover a variável para área de “Selected Columns”

Azure ML - Evoluindo o modelo



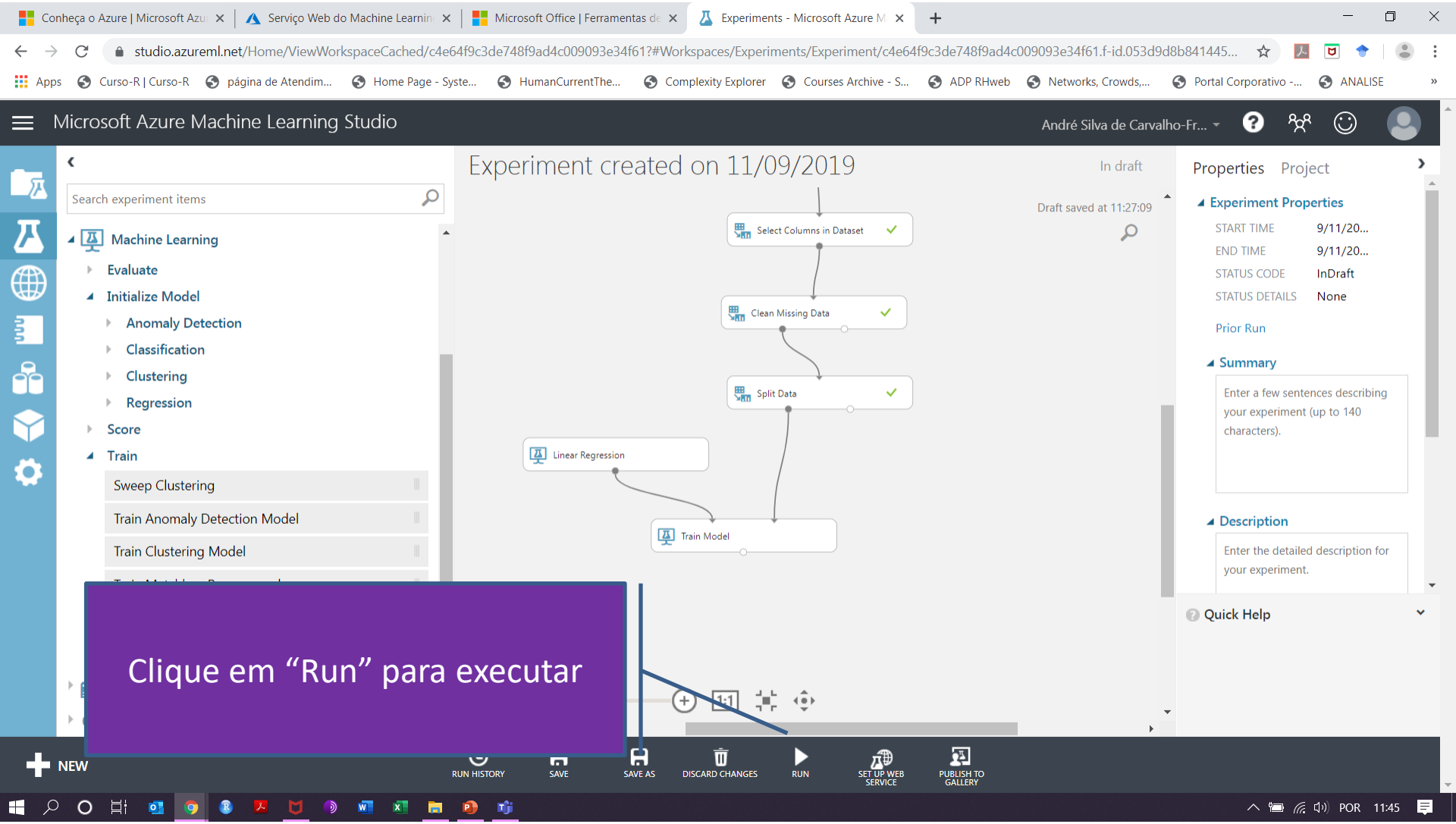
Após a conclusão da movimentação clique no símbolo de check

Azure ML - Evoluindo o modelo

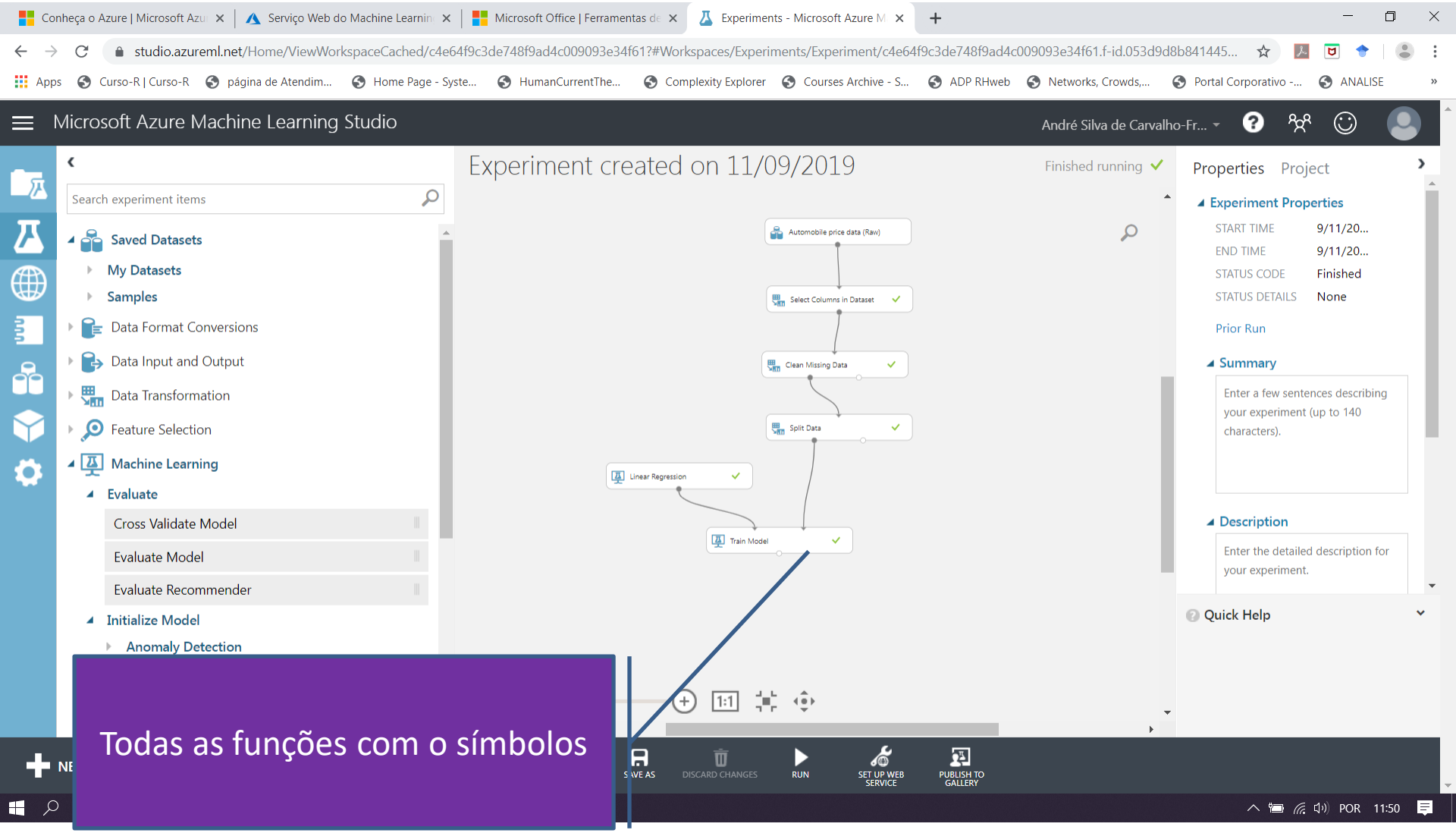


Note que o símbolo de erro sumiu

Azure ML - Evoluindo o modelo

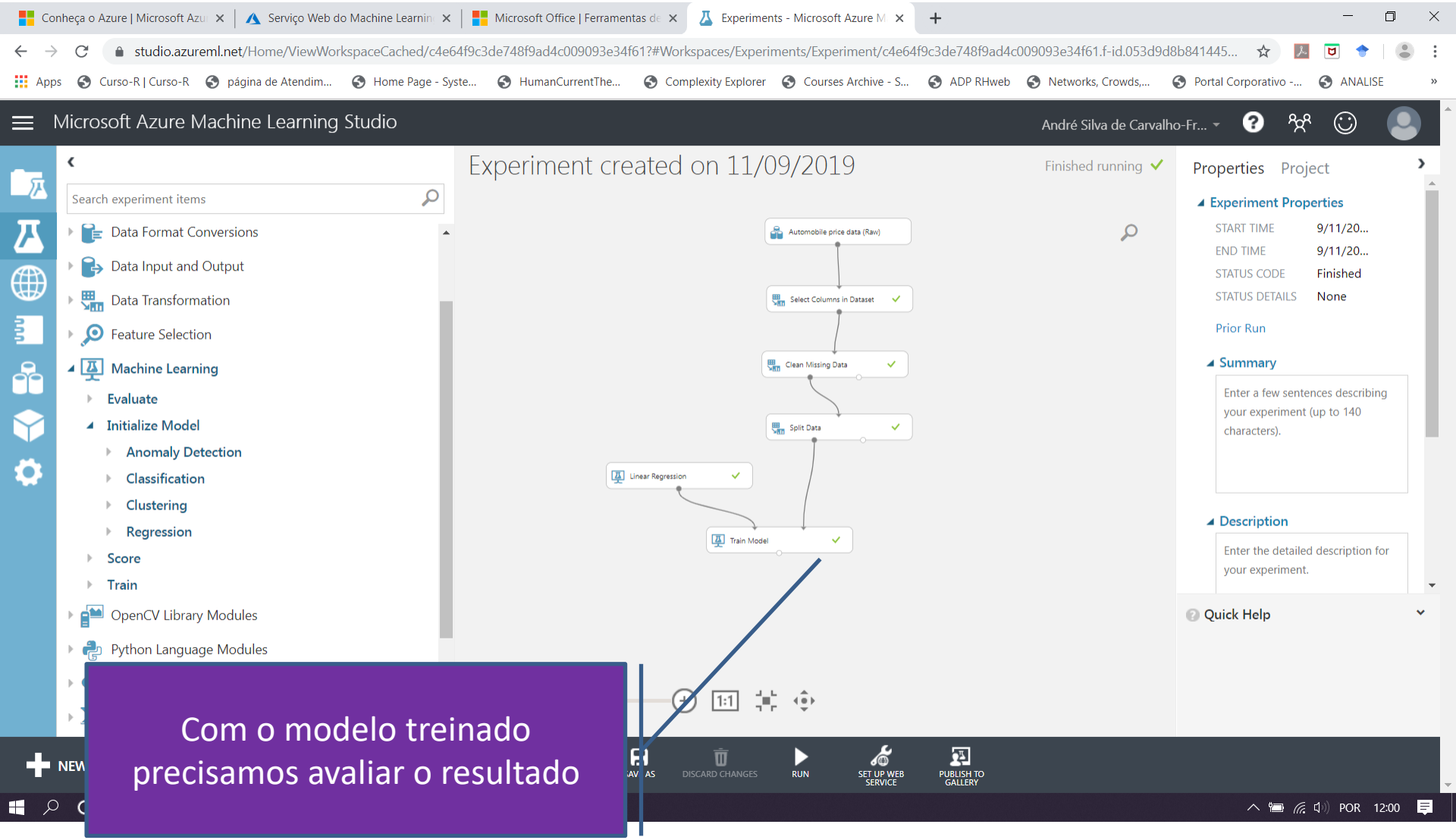


Azure ML - Evoluindo o modelo



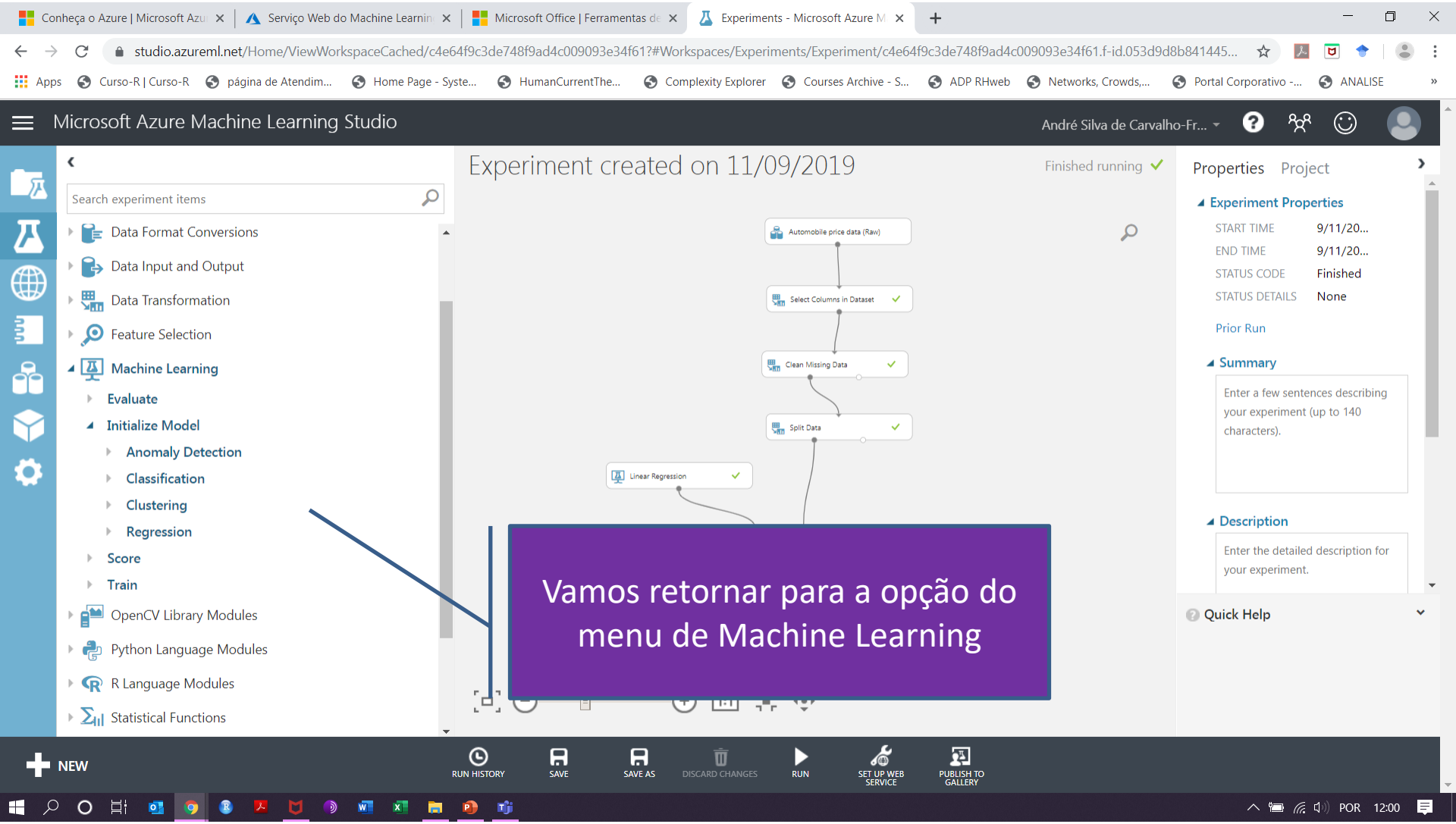
Todas as funções com o símbolos

Azure ML - Evoluindo o modelo

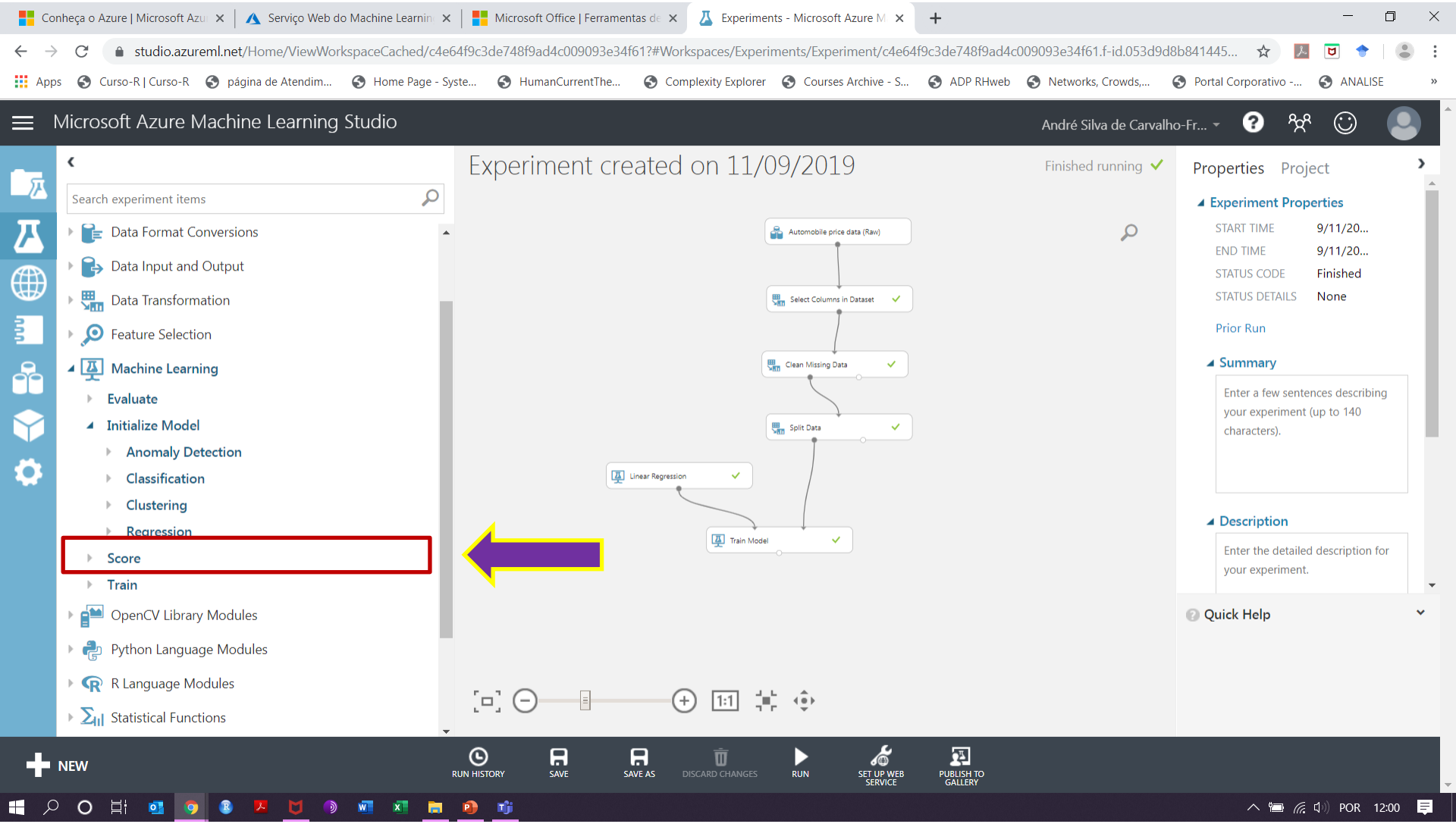


Com o modelo treinado precisamos avaliar o resultado

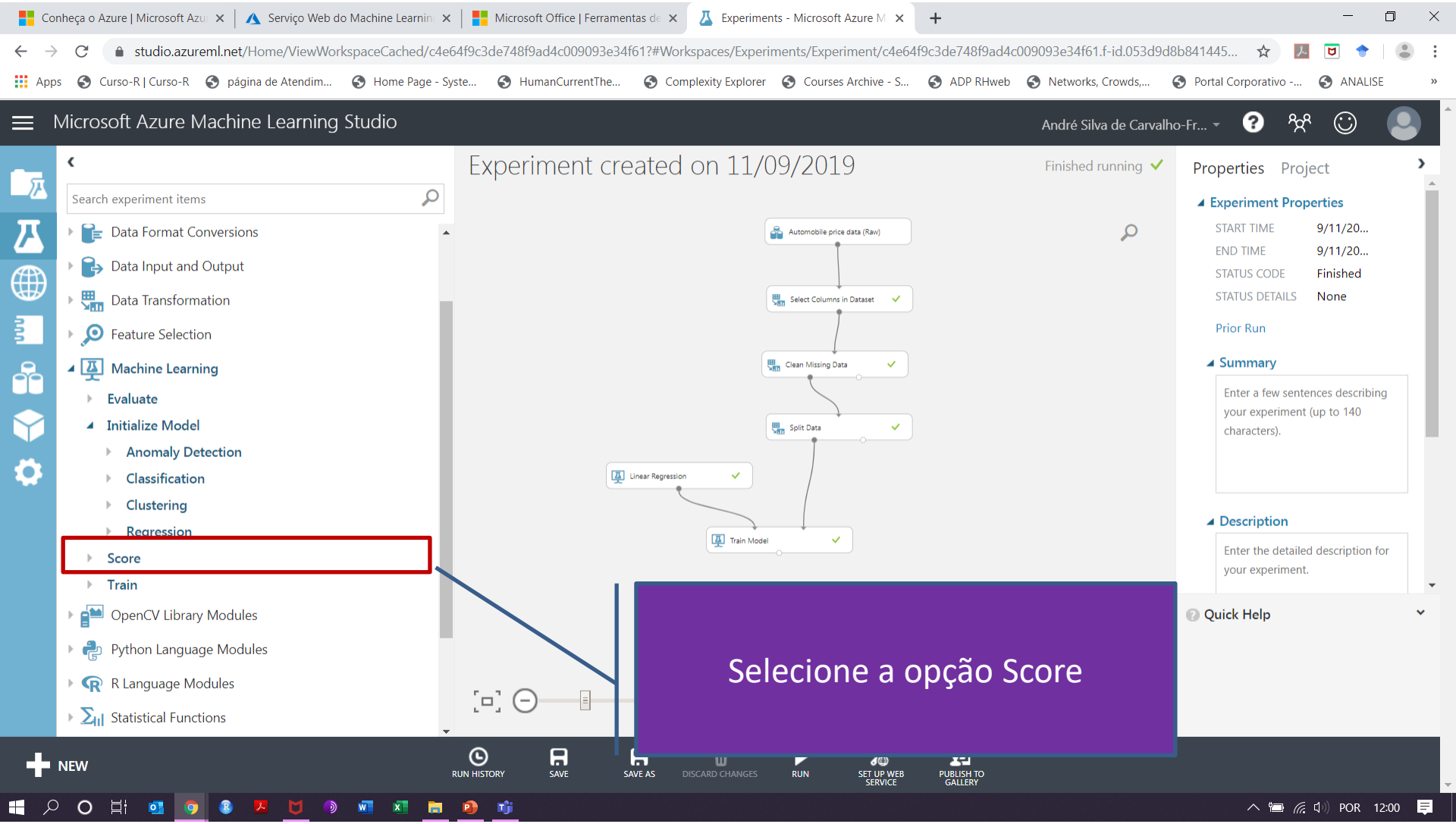
Azure ML - Evoluindo o modelo



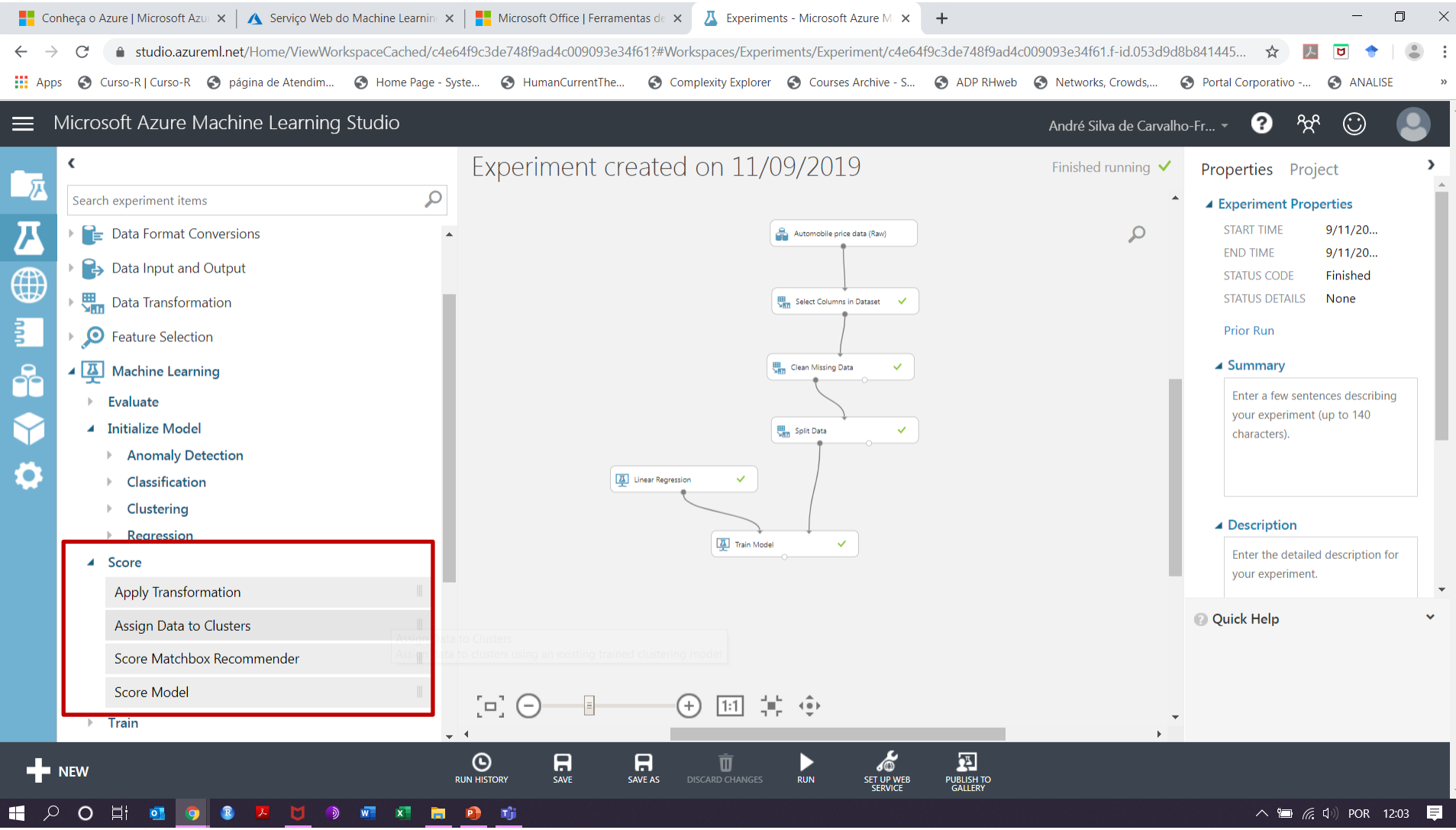
Azure ML - Evoluindo o modelo



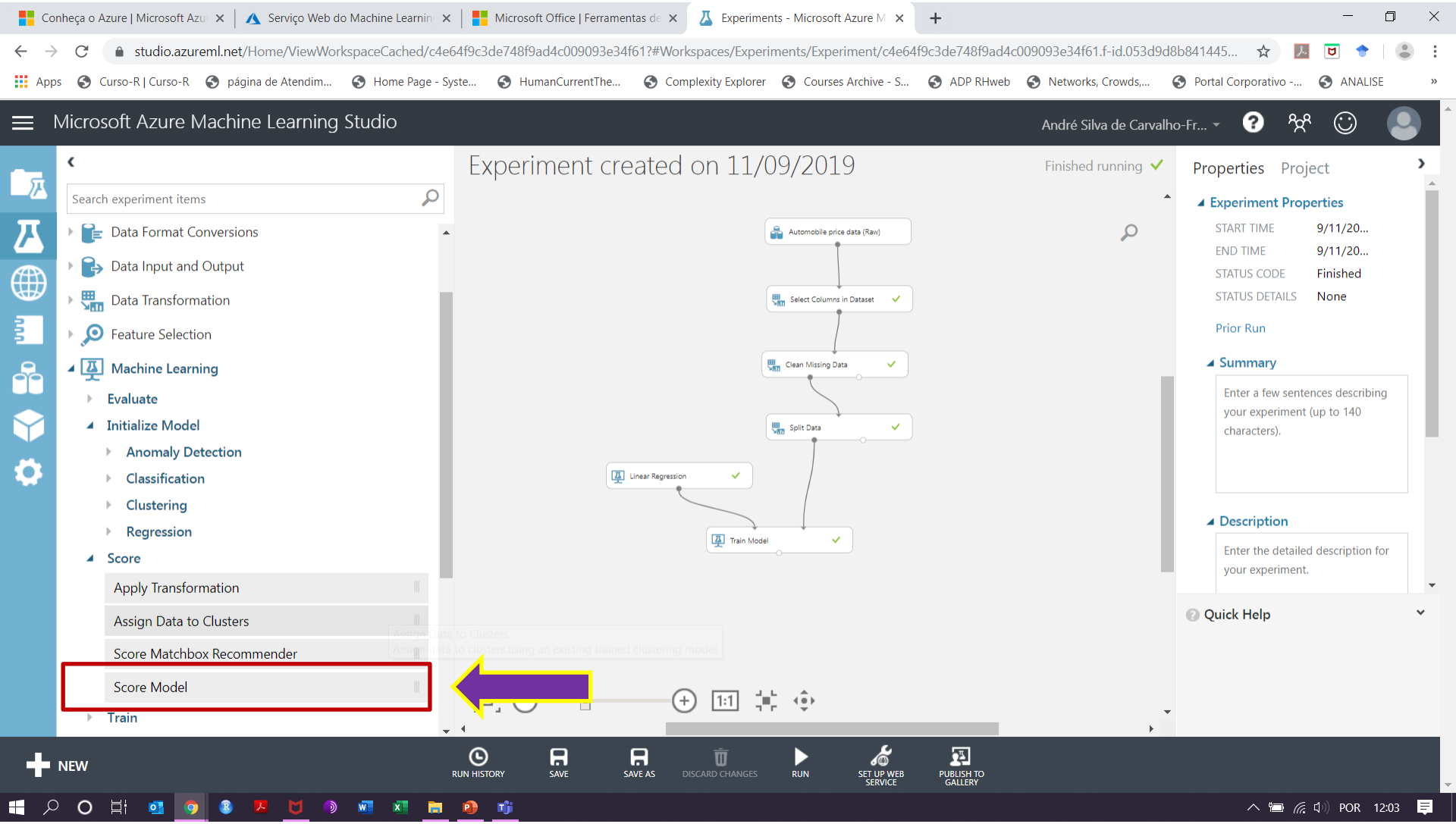
Azure ML - Evoluindo o modelo



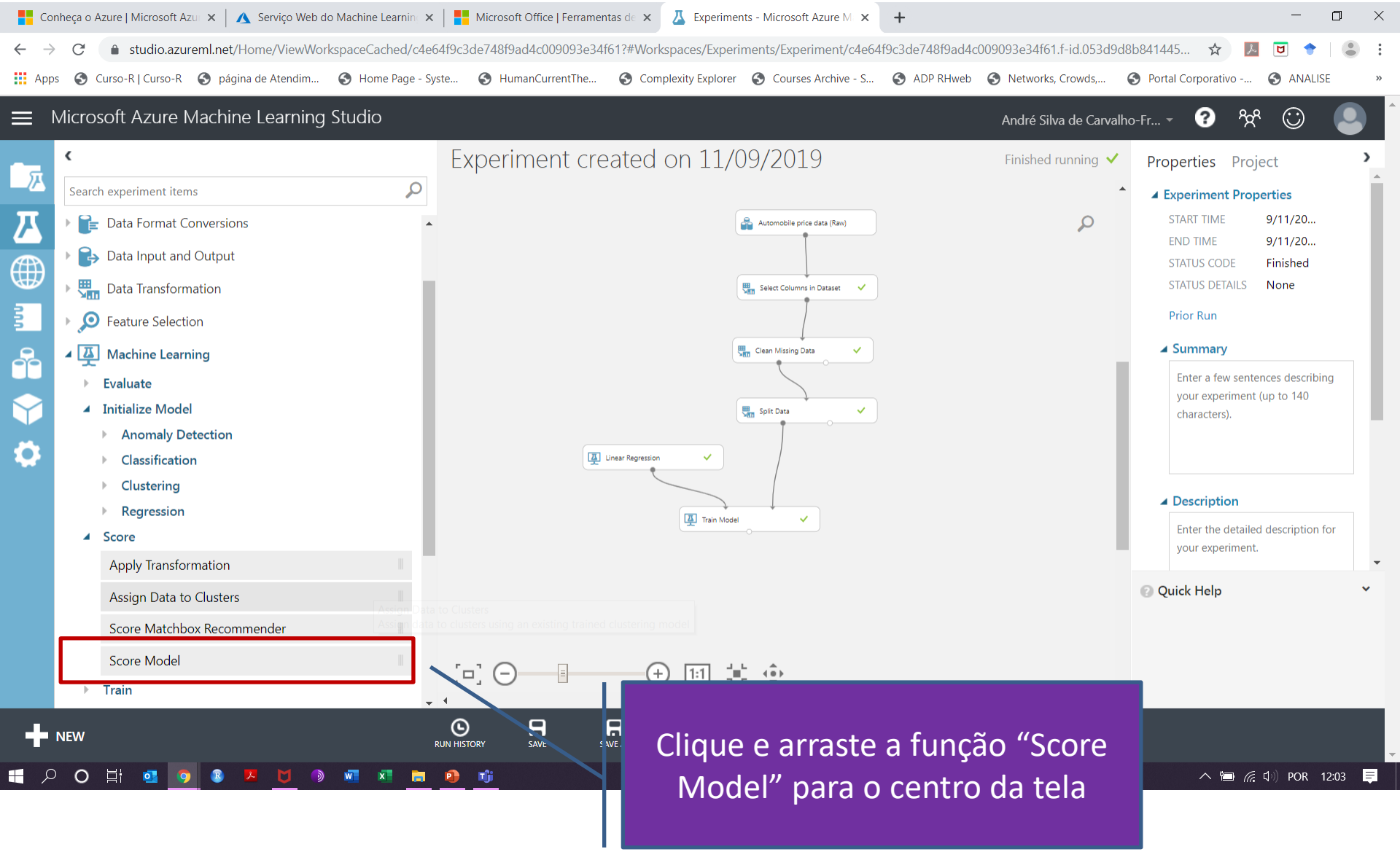
Azure ML - Evoluindo o modelo



Azure ML - Evoluindo o modelo

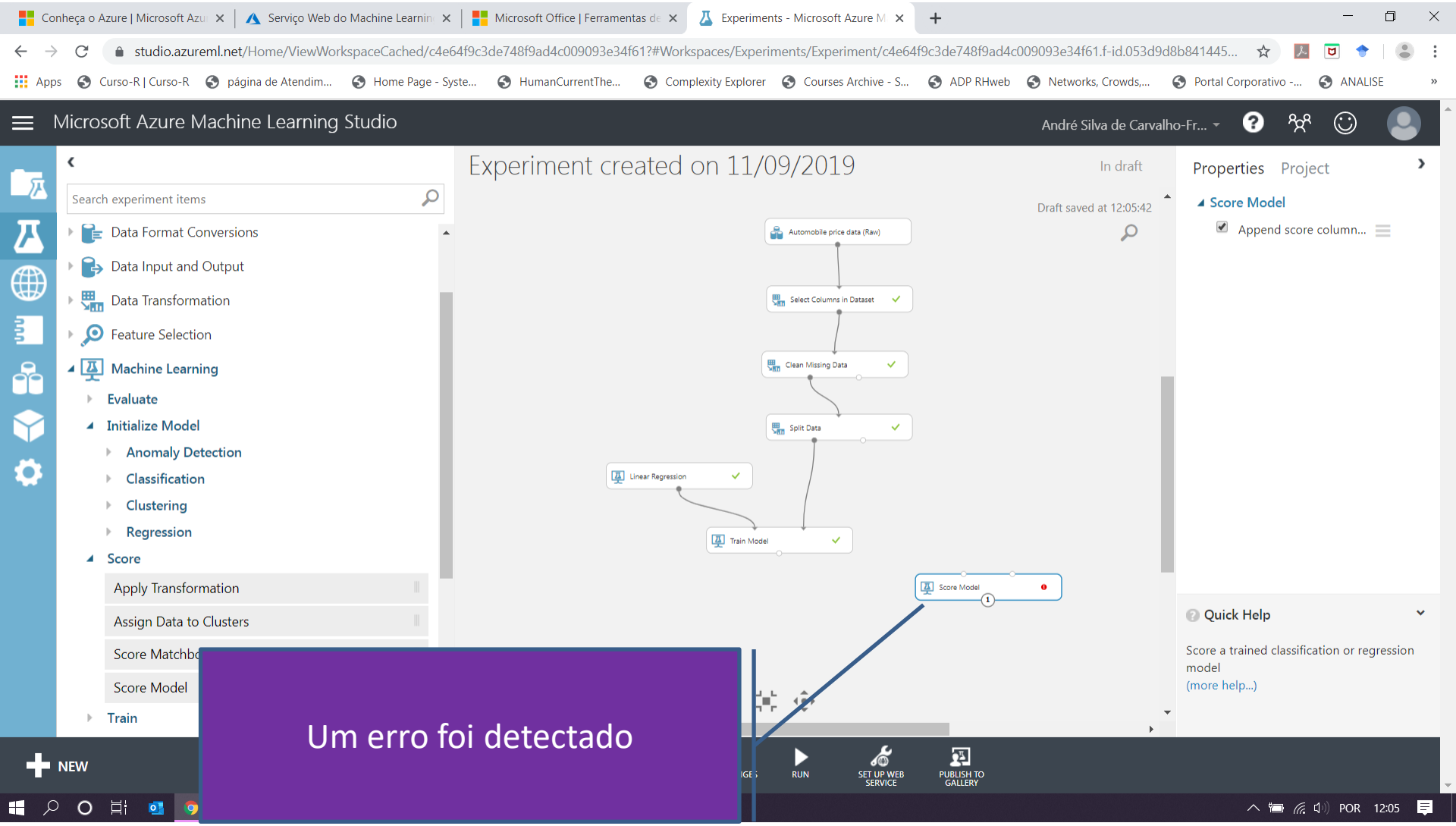


Azure ML - Evoluindo o modelo

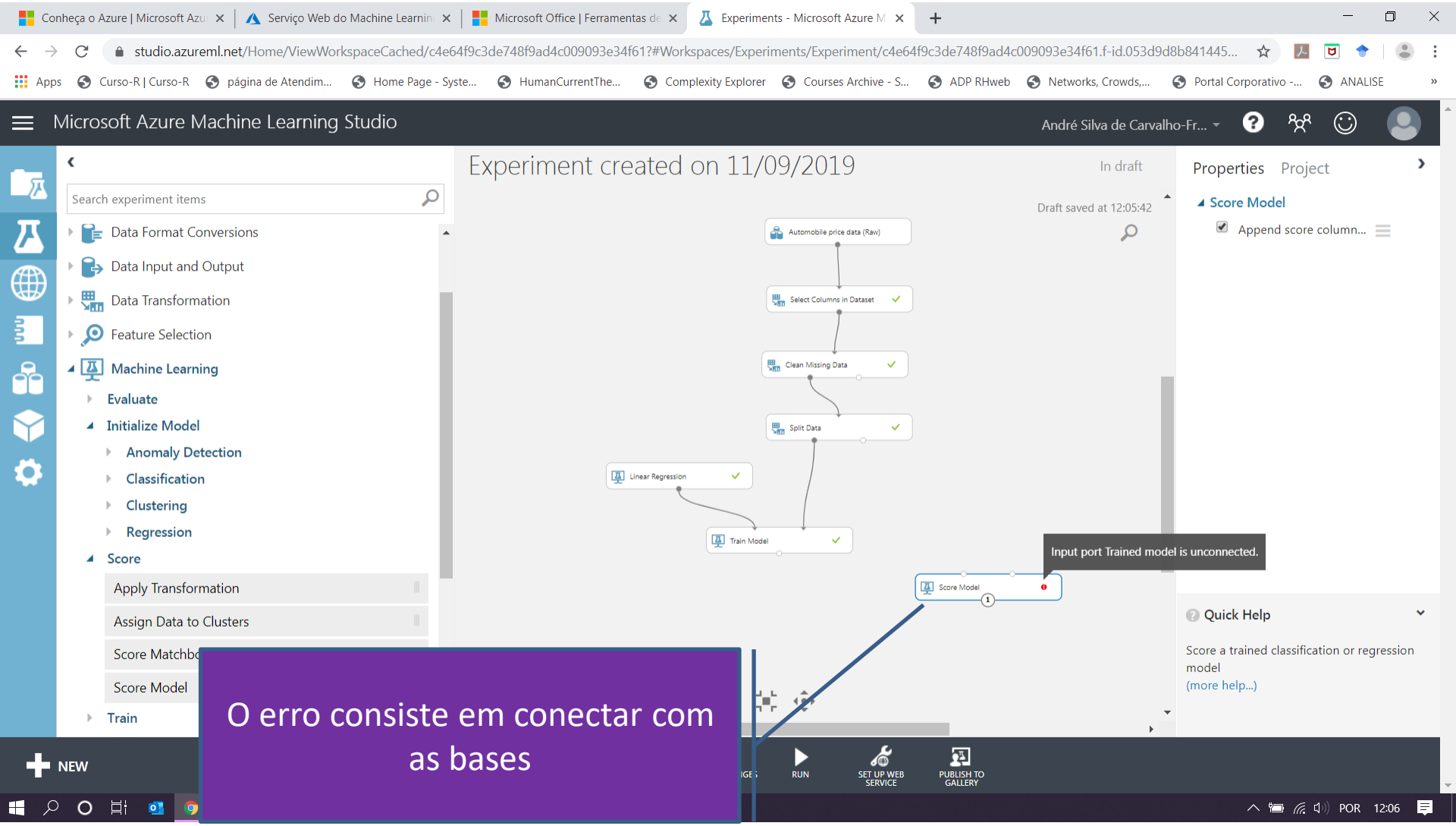


Clique e arraste a função “Score Model” para o centro da tela

Azure ML - Evoluindo o modelo

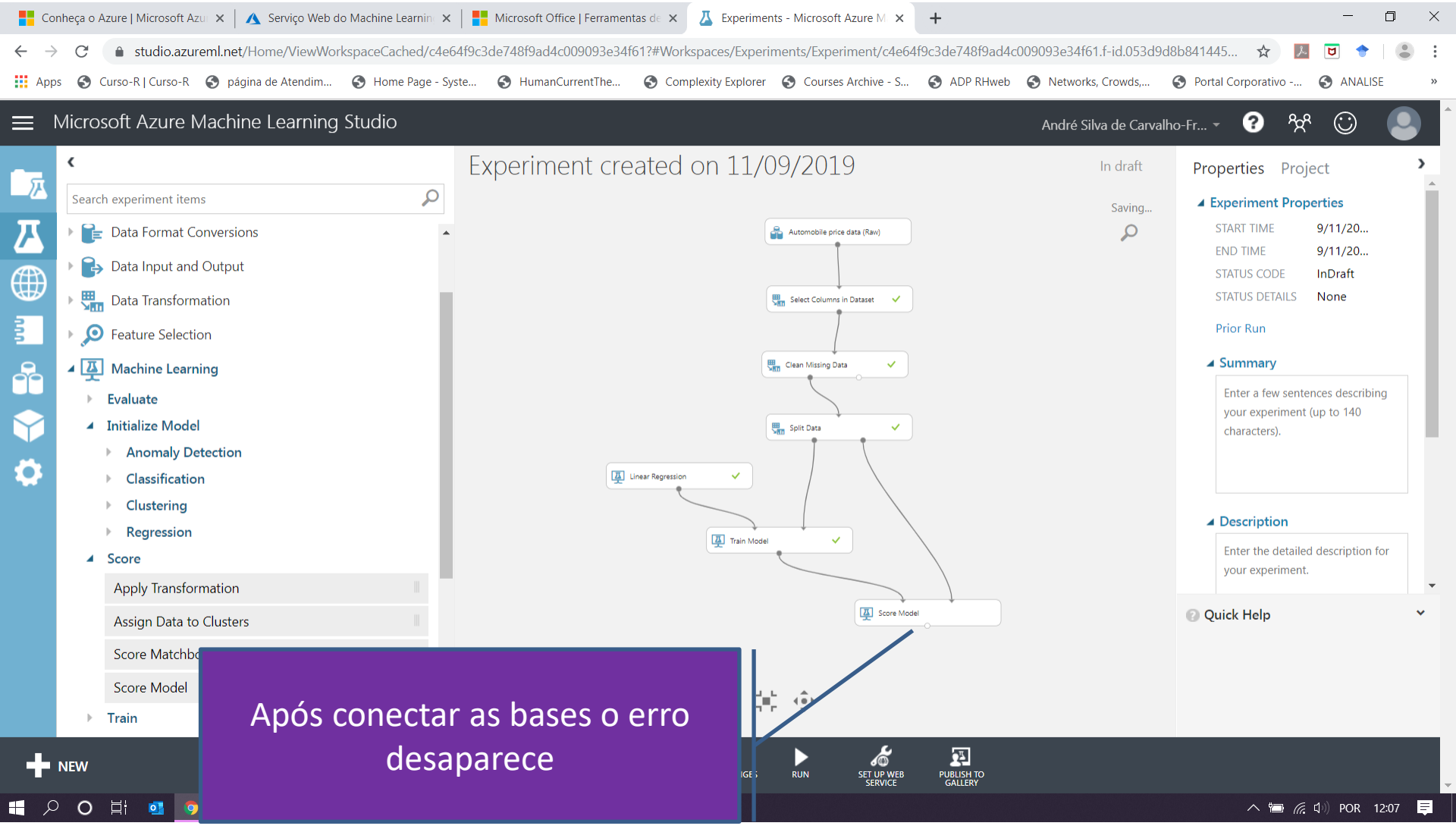


Azure ML - Evoluindo o modelo

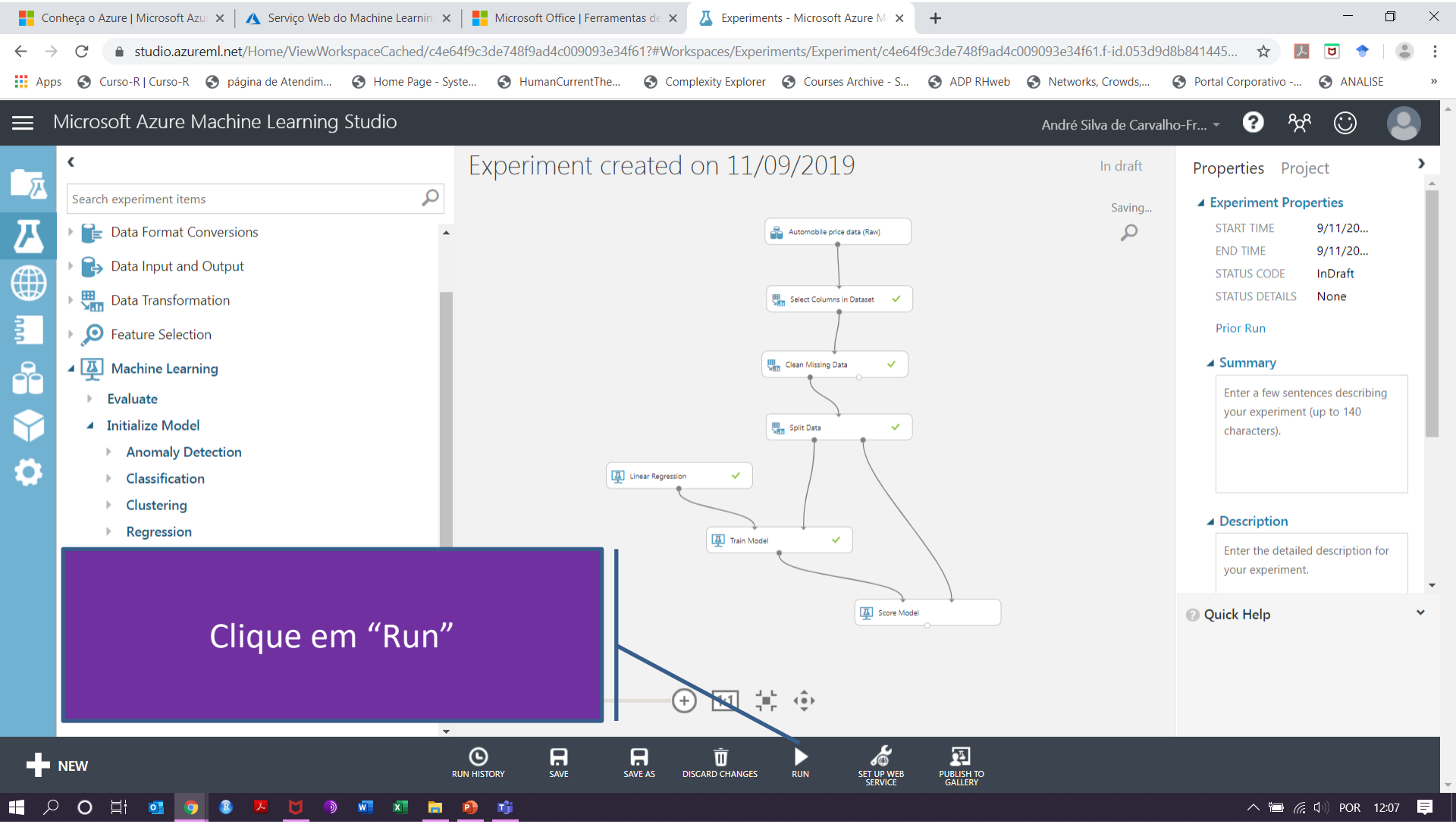


O erro consiste em conectar com as bases

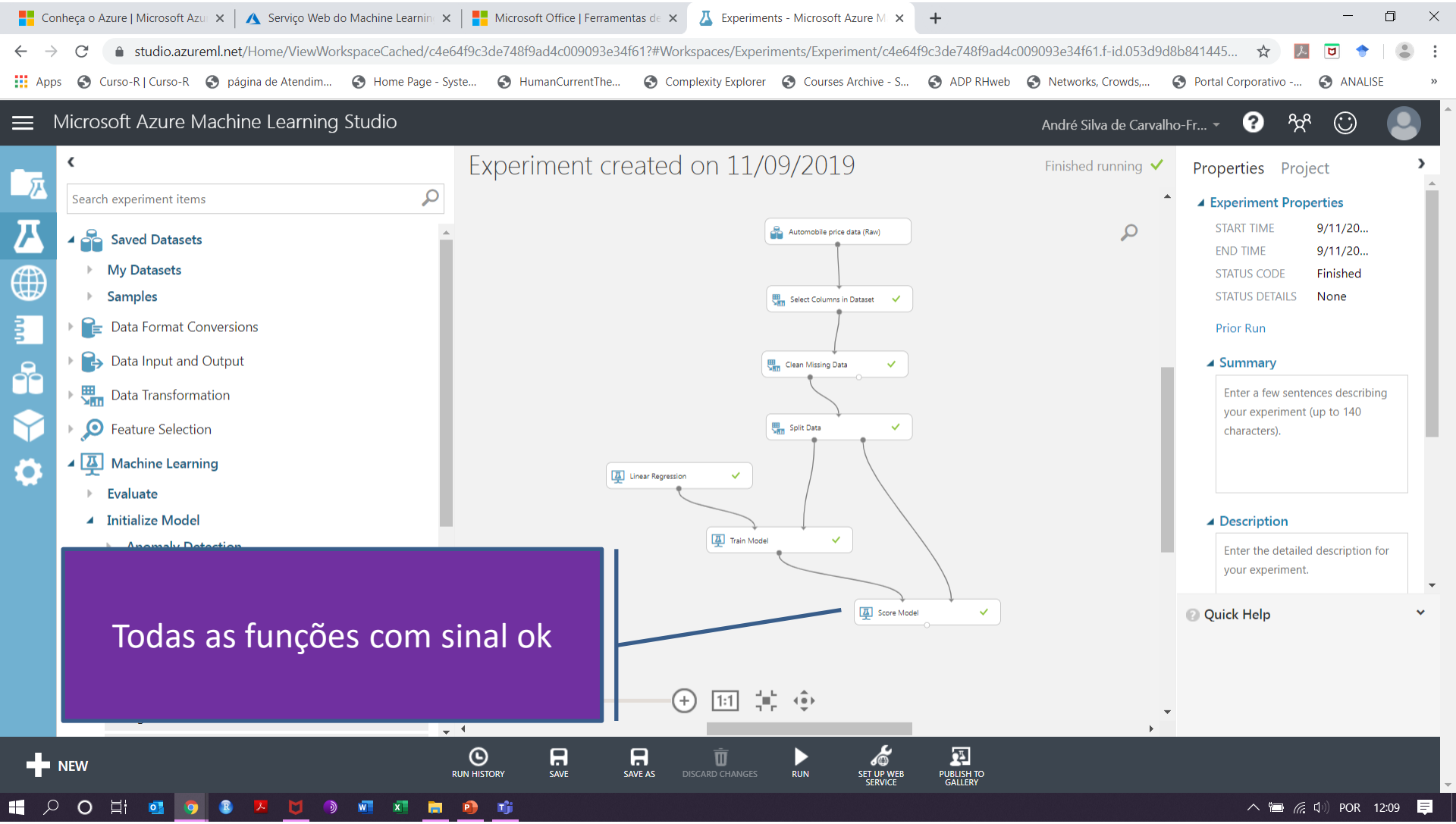
Azure ML - Evoluindo o modelo



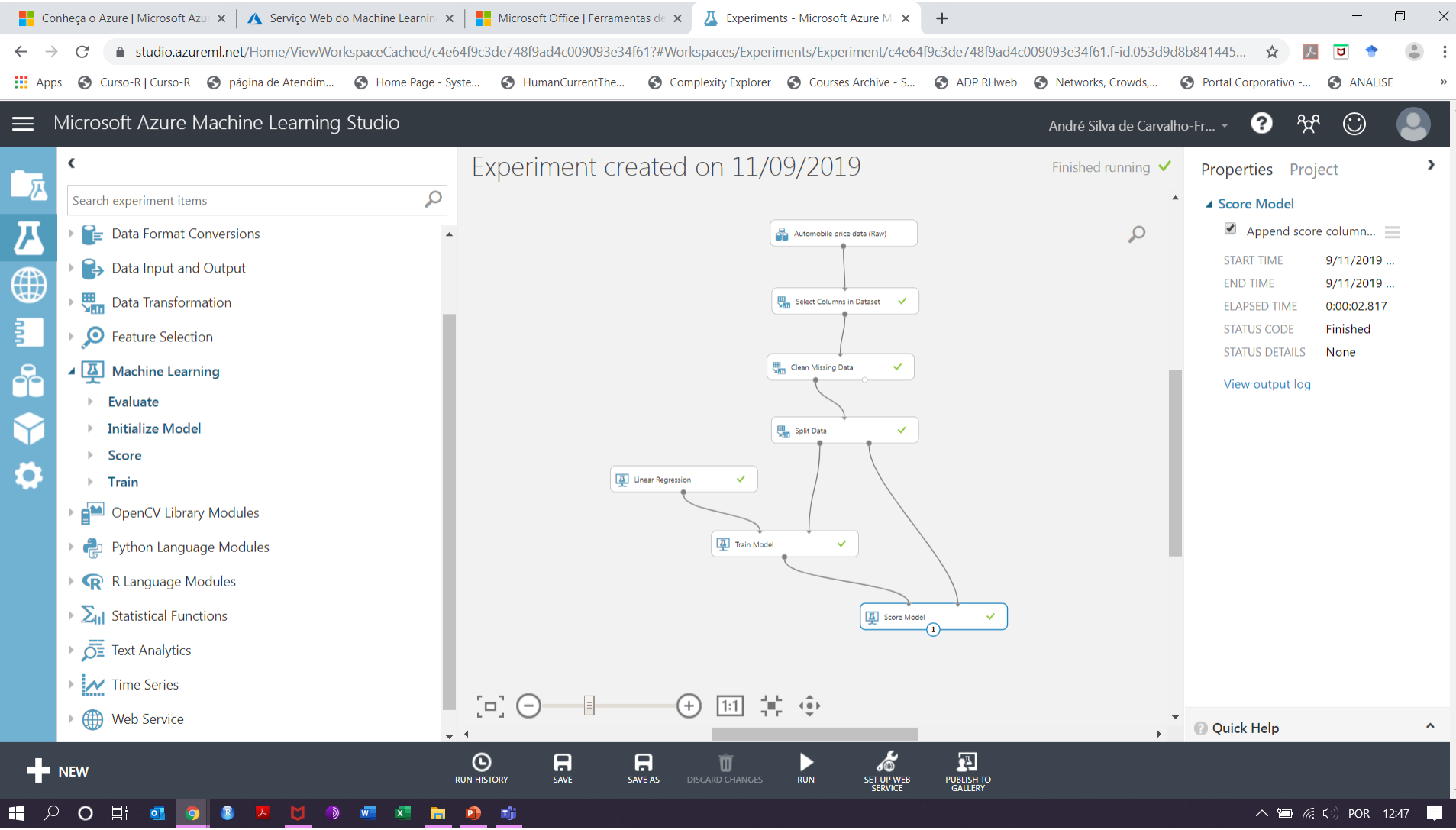
Azure ML - Evoluindo o modelo



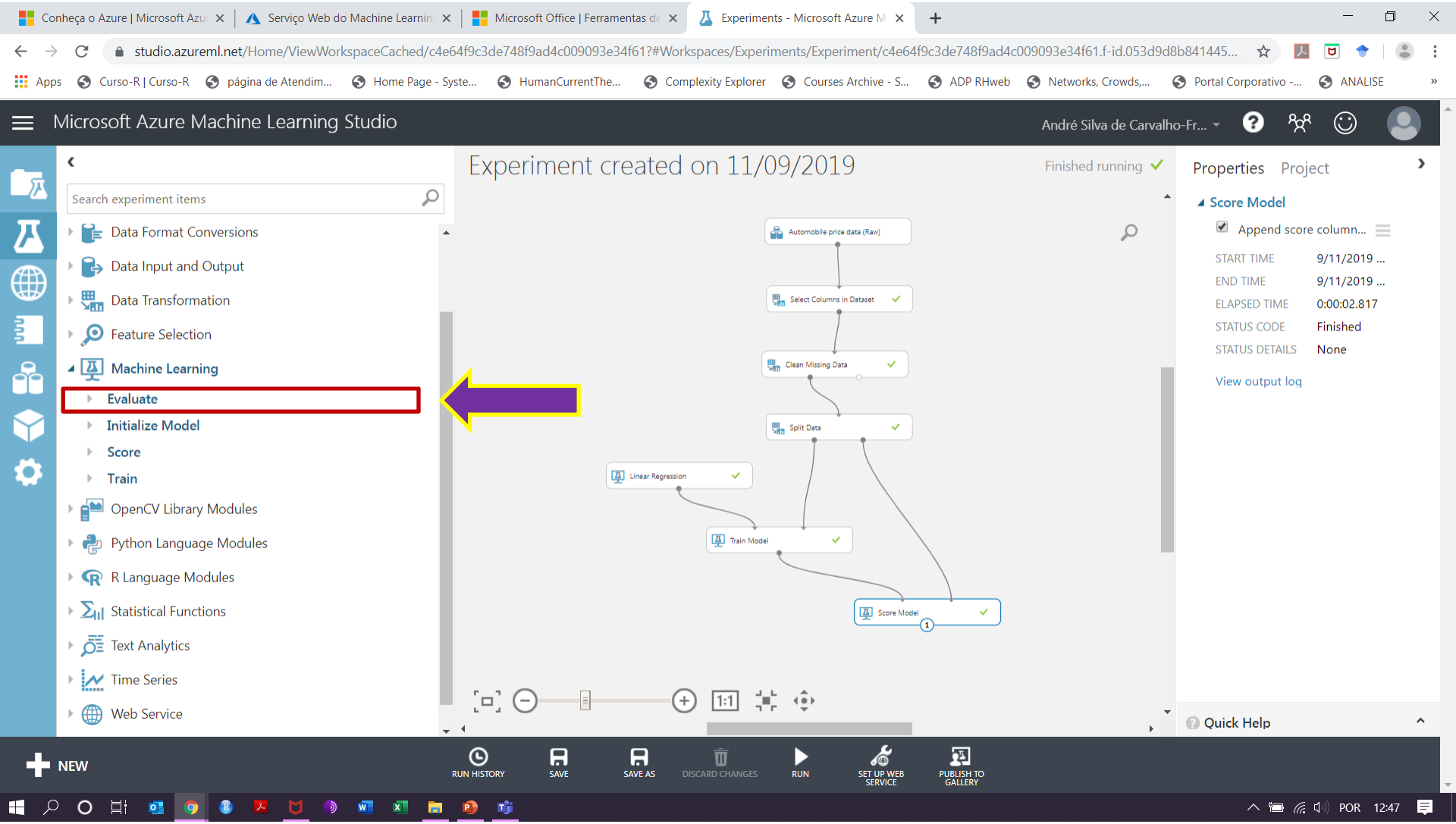
Azure ML - Evoluindo o modelo



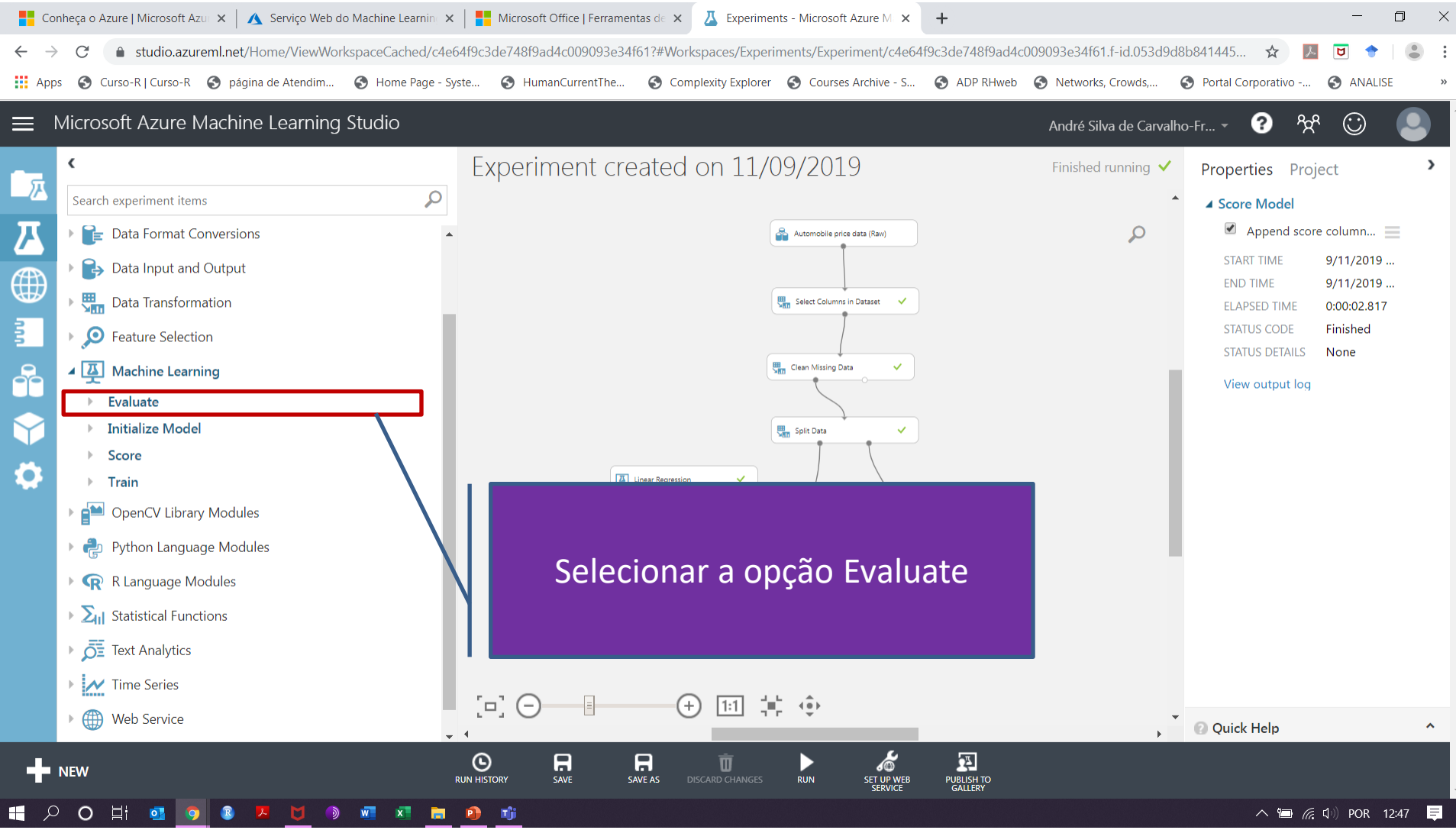
Azure ML - Avaliando o modelo



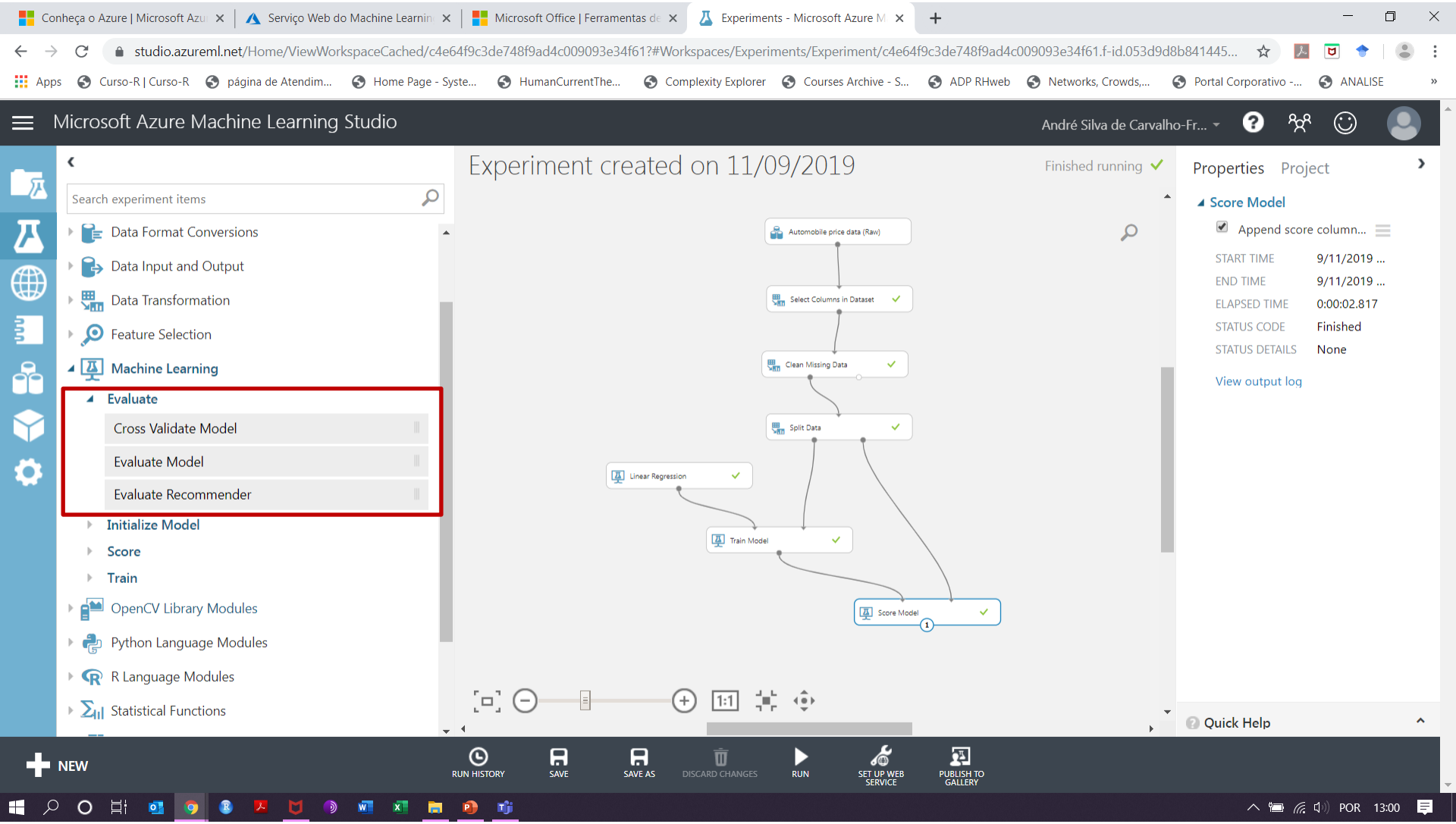
Azure ML - Avaliando o modelo



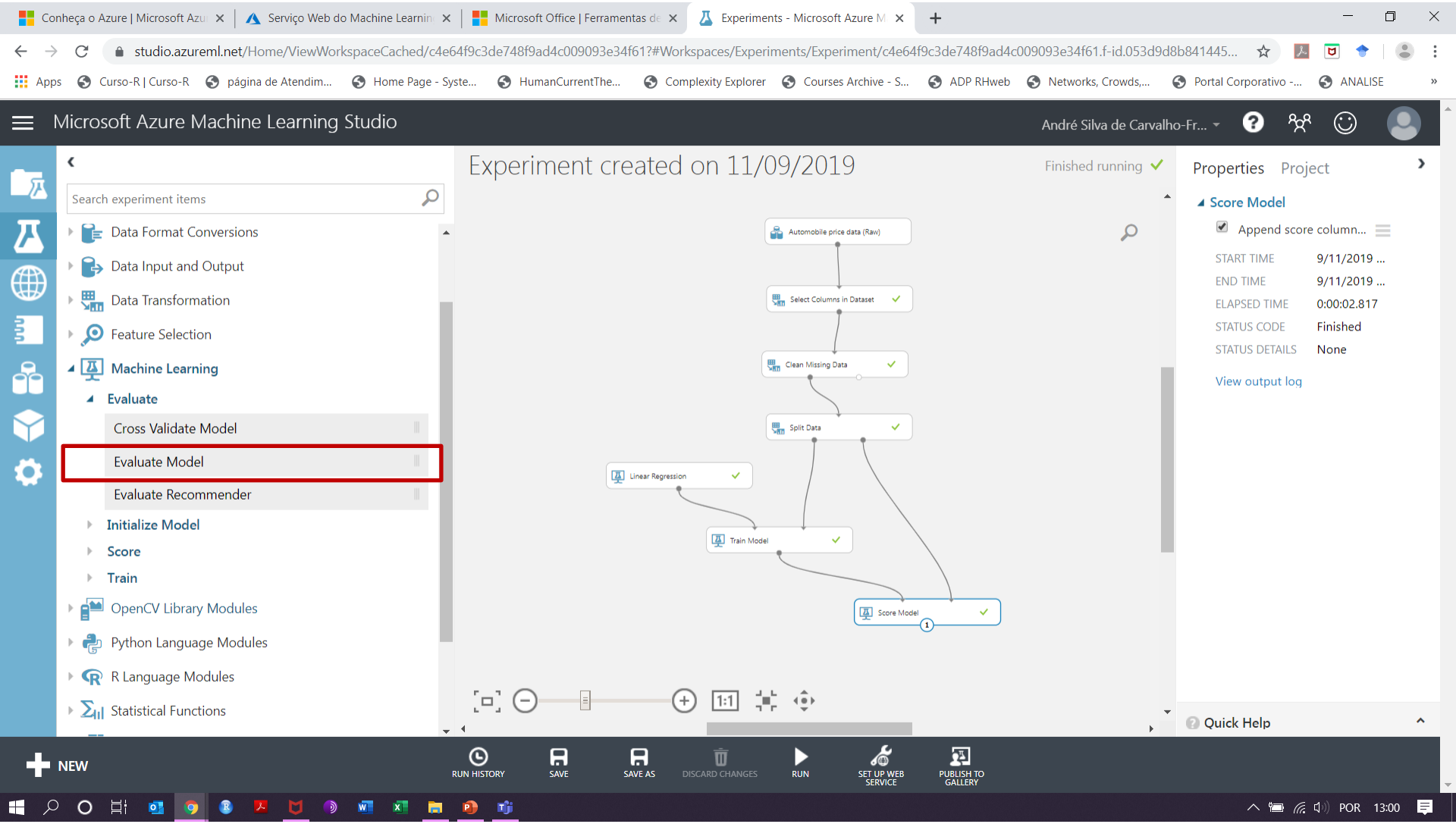
Azure ML - Avaliando o modelo



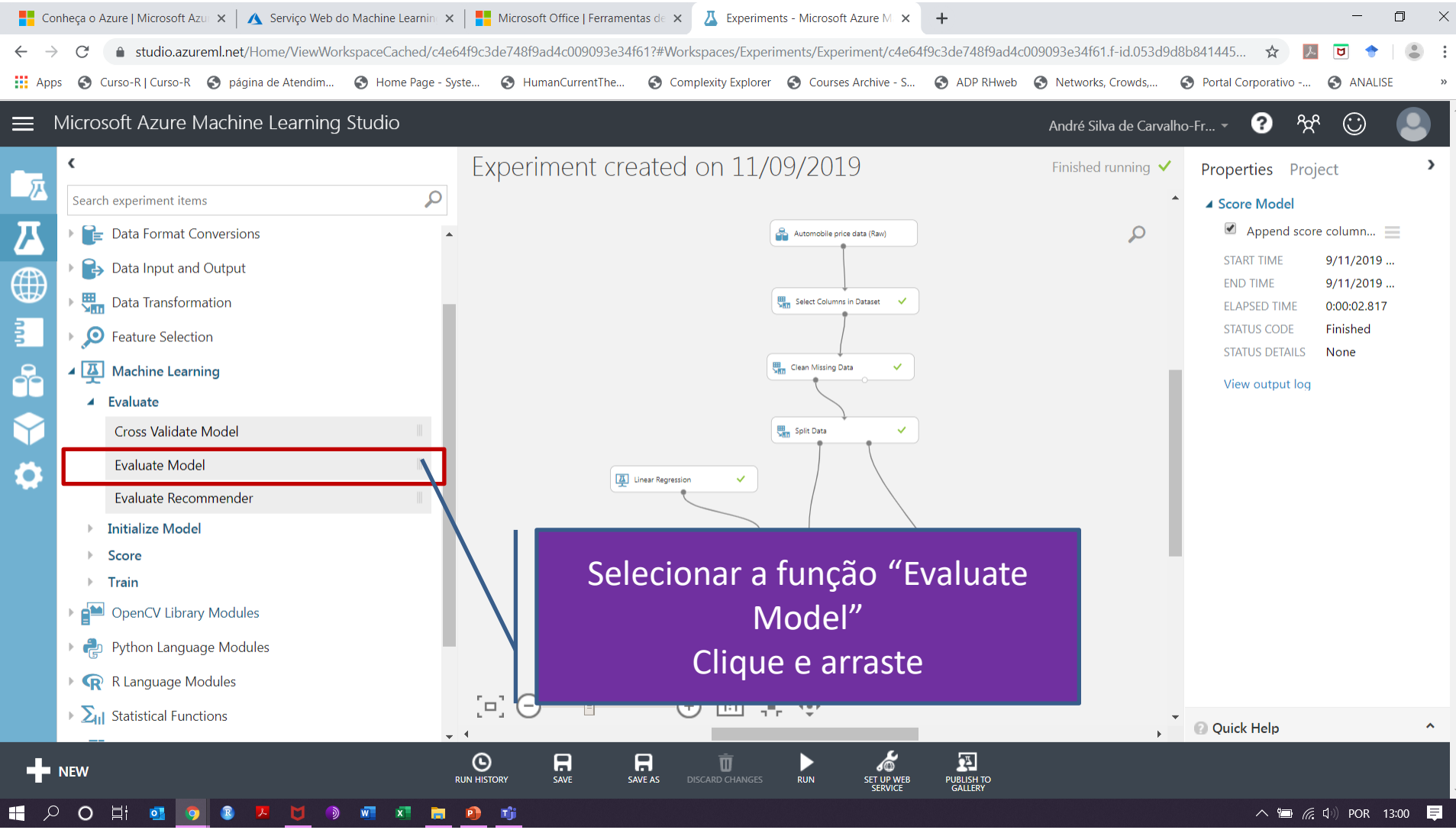
Azure ML - Avaliando o modelo



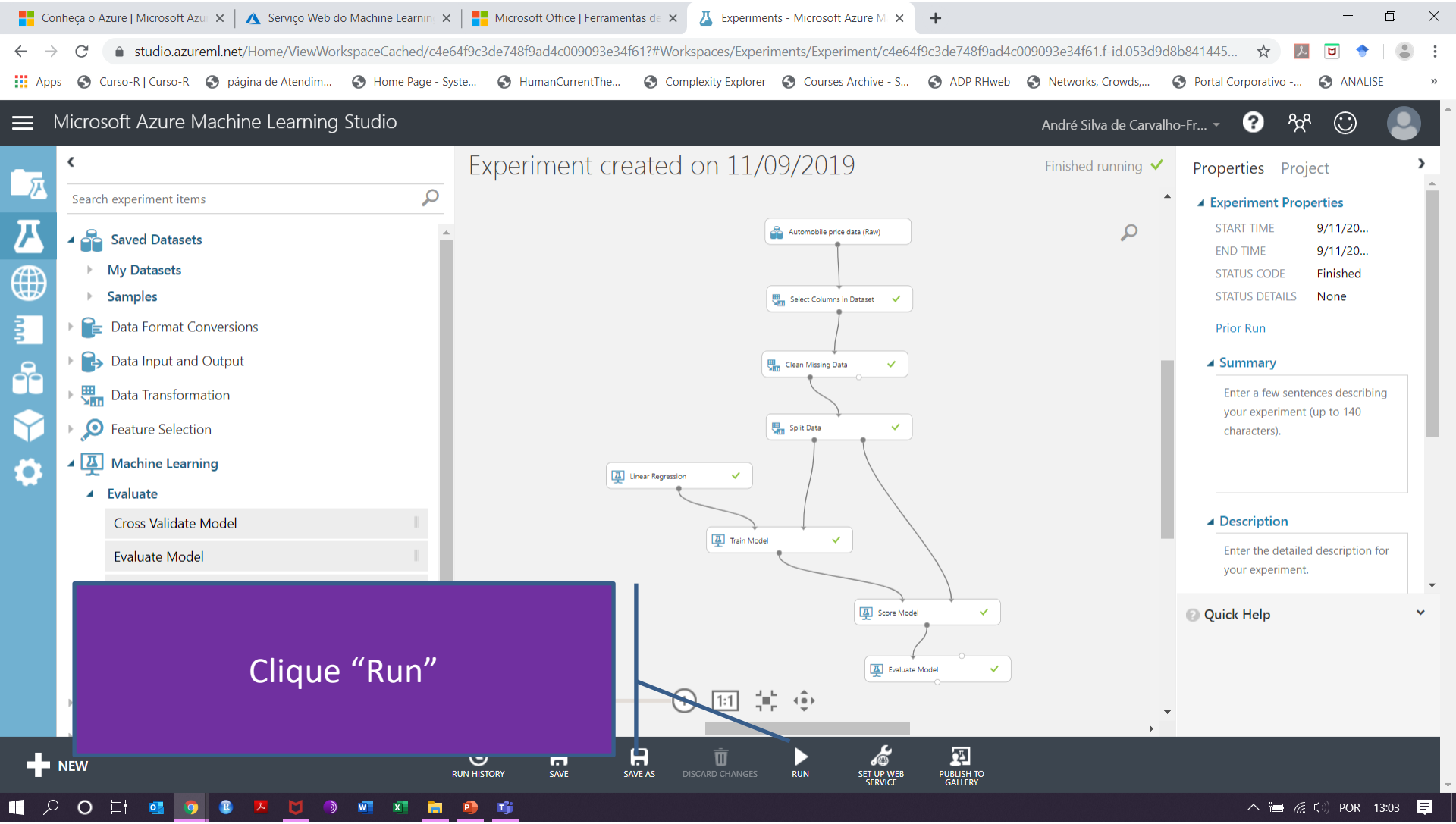
Azure ML - Avaliando o modelo



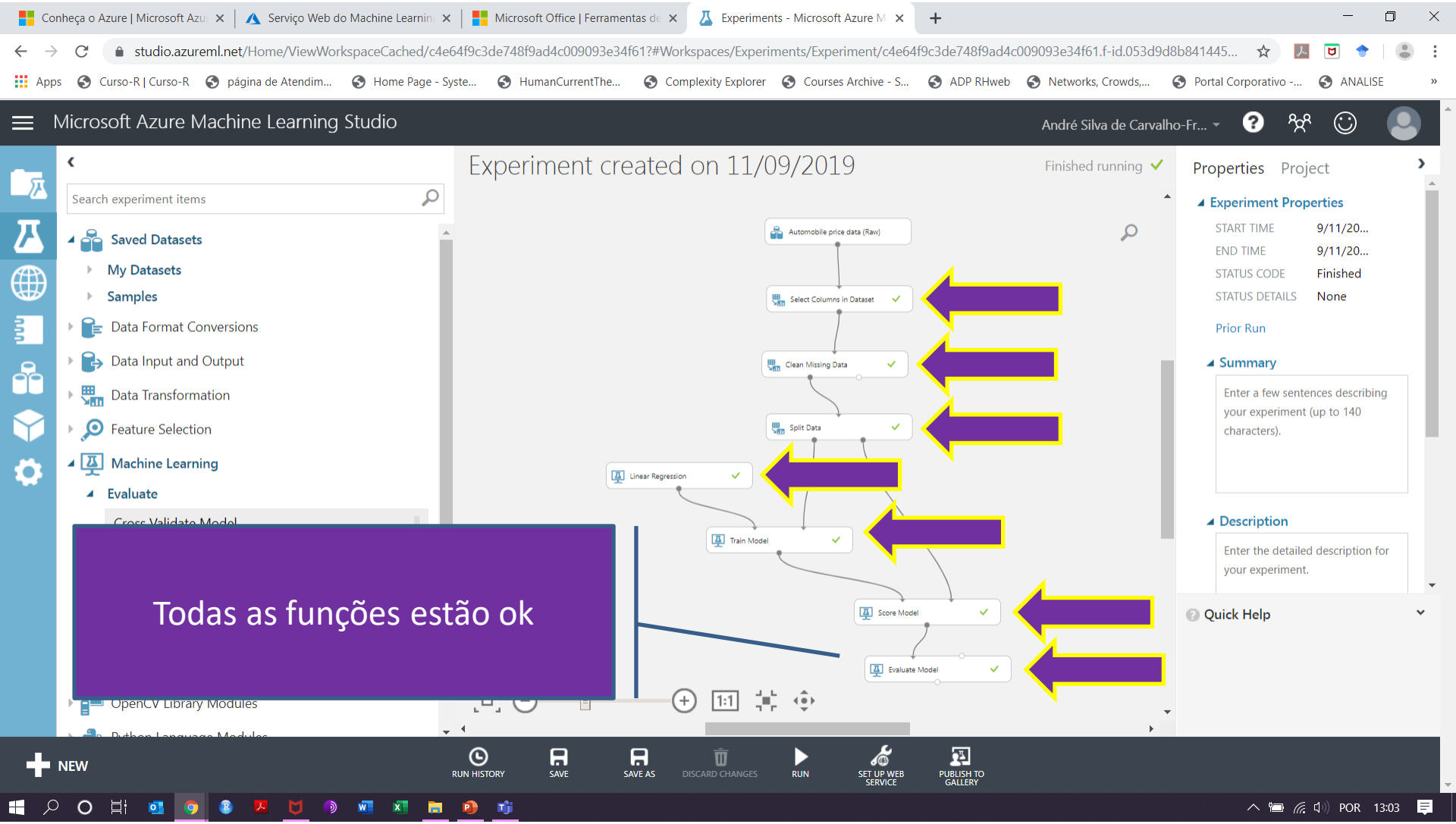
Azure ML - Avaliando o modelo



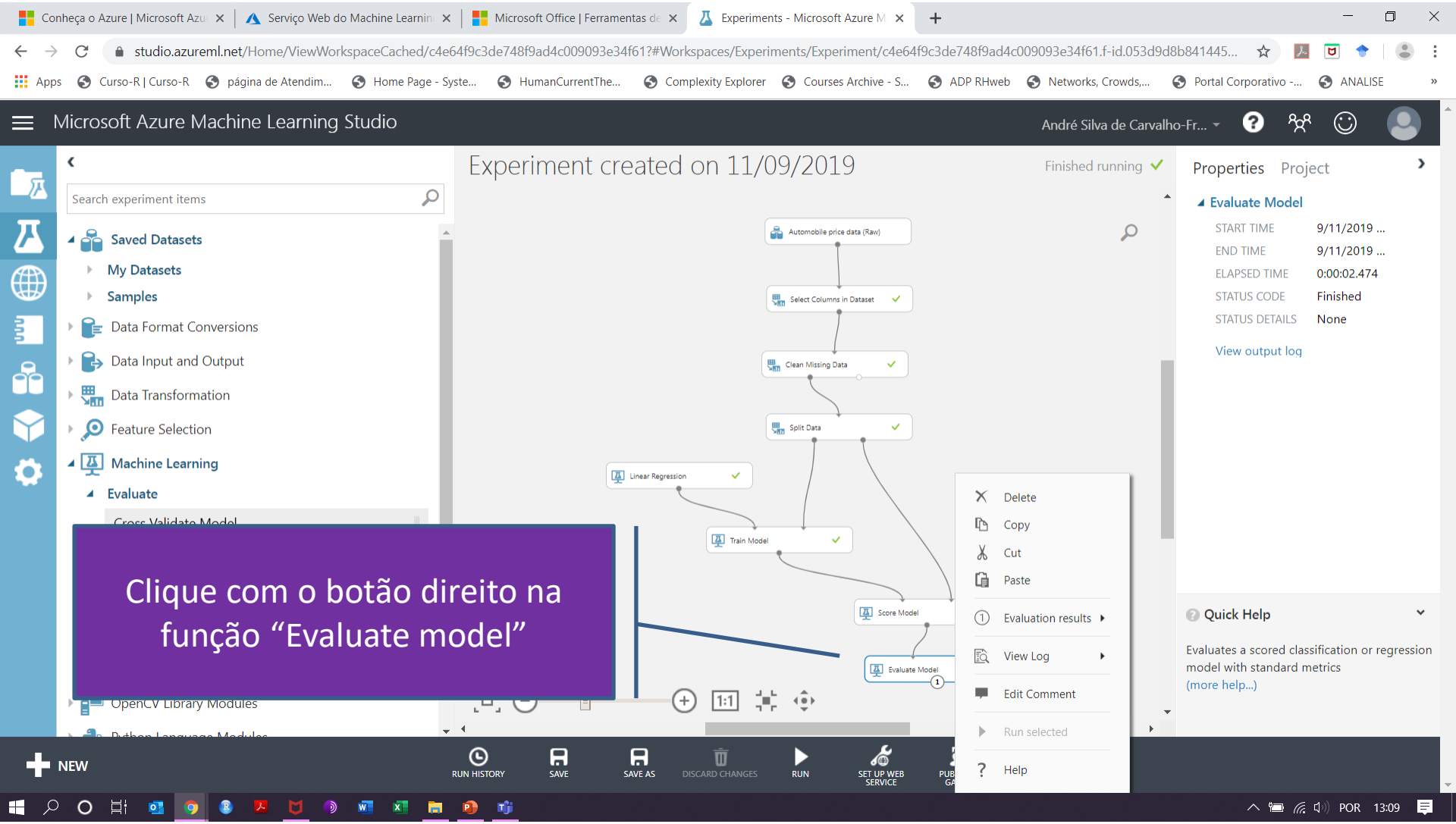
Azure ML - Avaliando o modelo



Azure ML - Avaliando o modelo

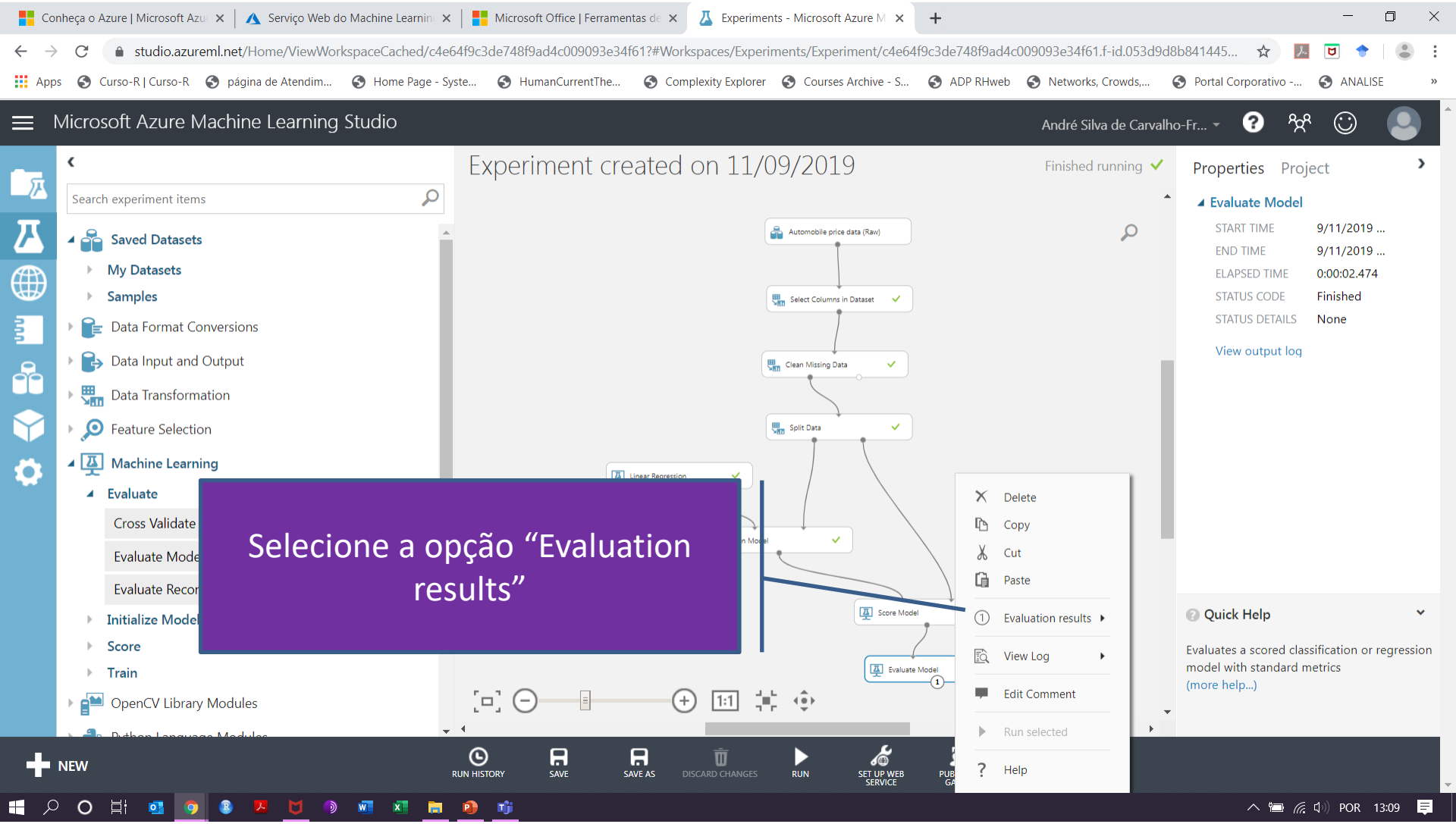


Azure ML - Avaliando o modelo



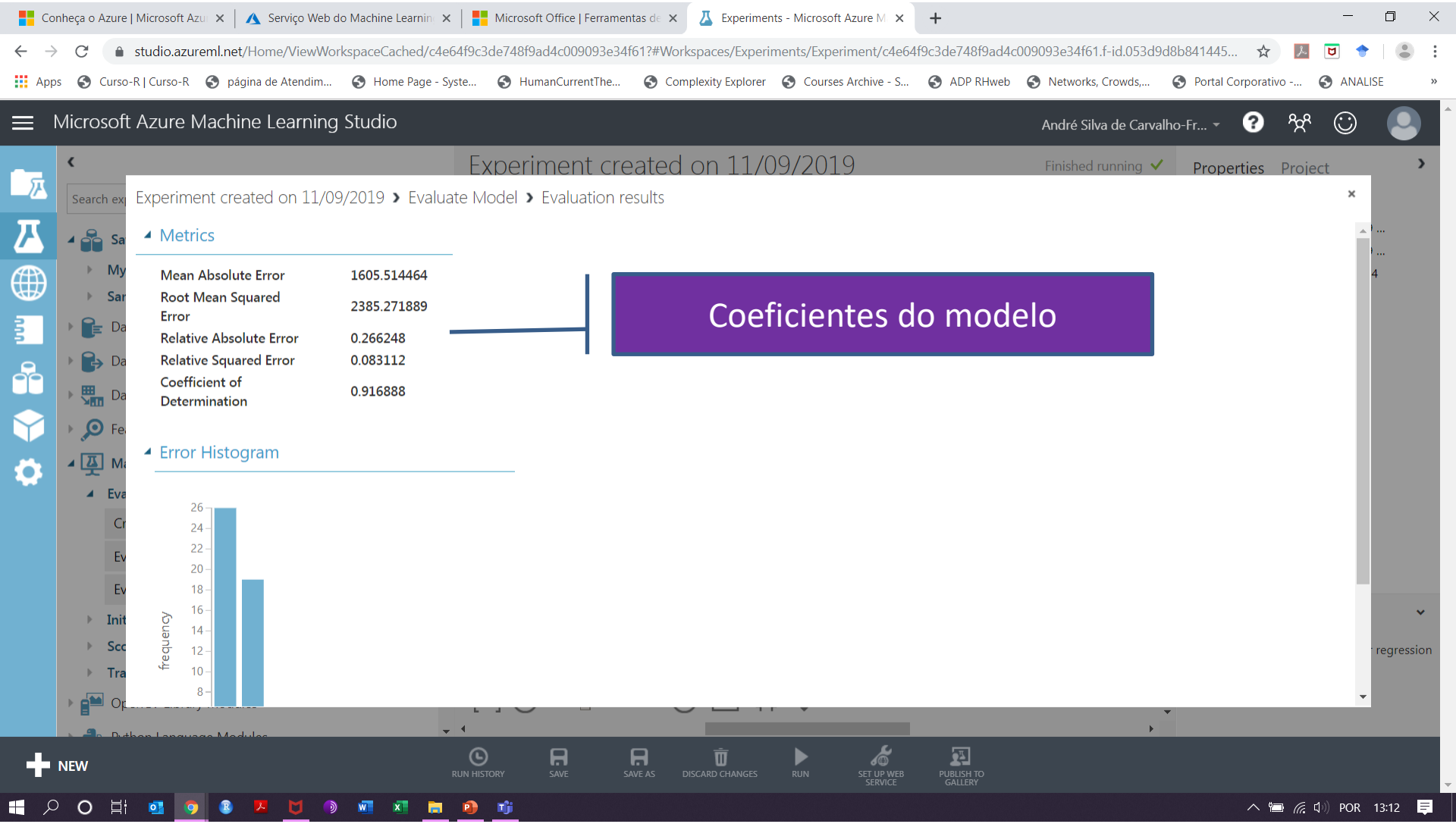
Clique com o botão direito na função “Evaluate model”

Azure ML - Avaliando o modelo

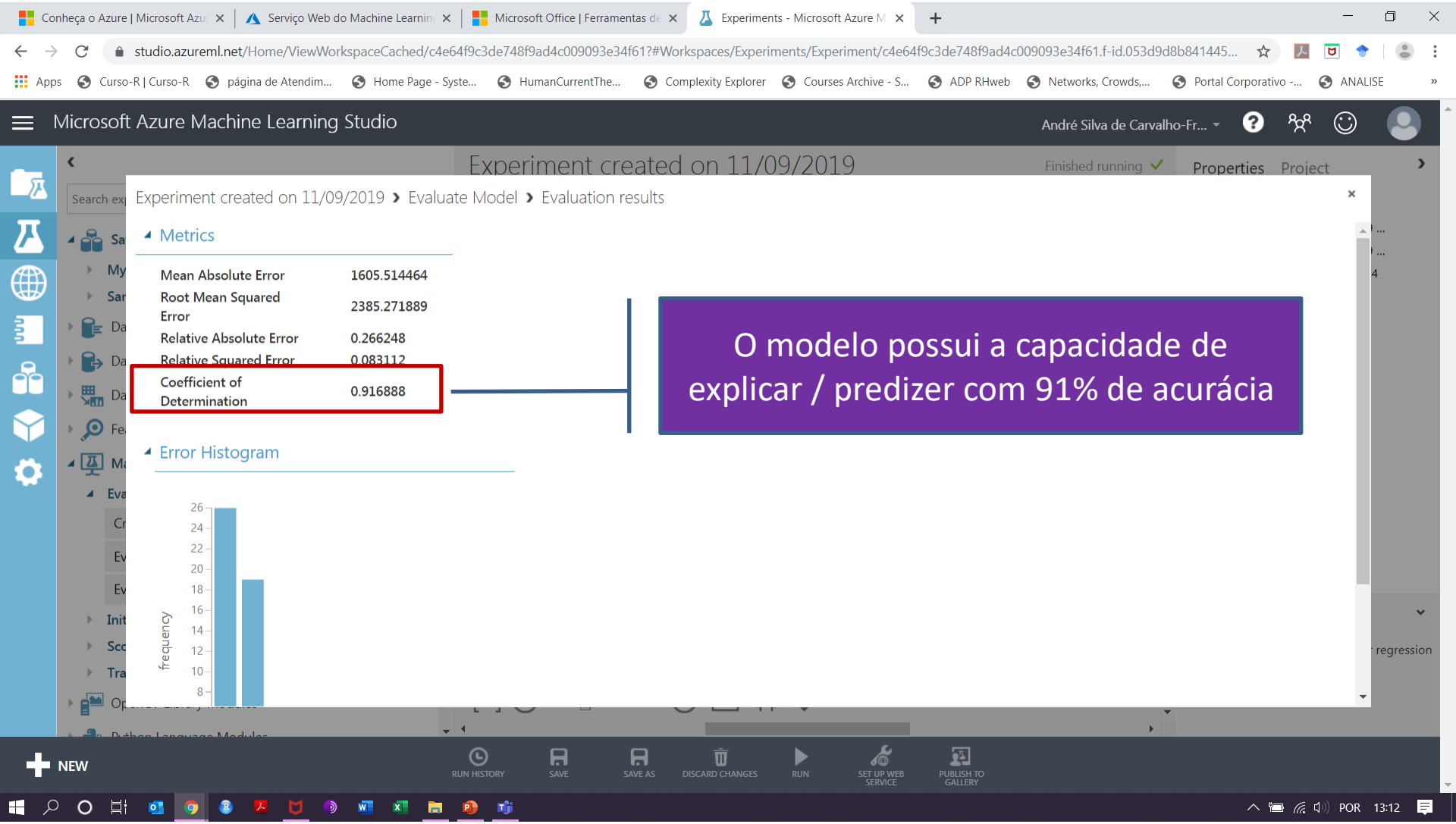


Selecione a opção “Evaluation results”

Azure ML - Avaliando o modelo

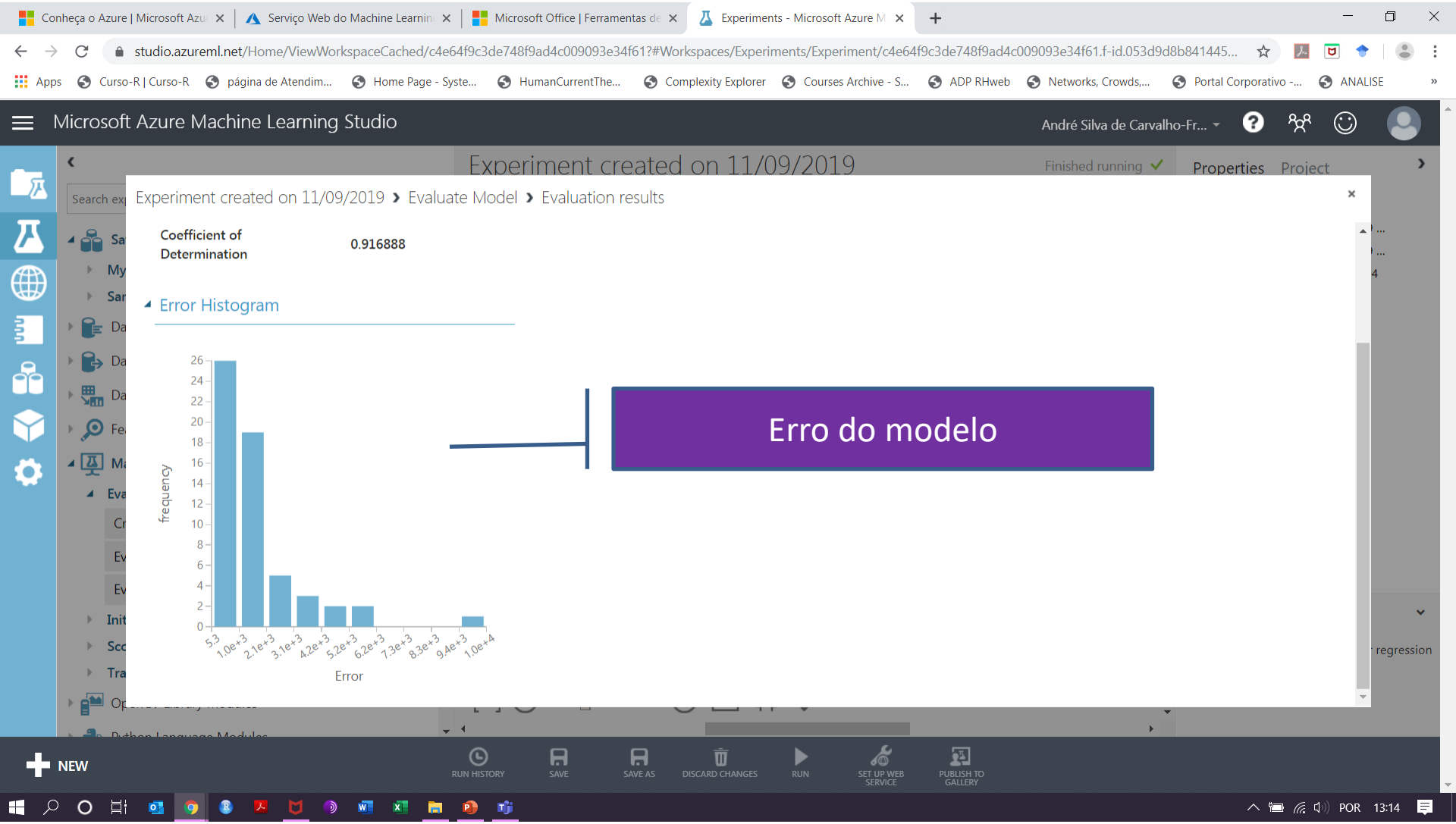


Azure ML - Avaliando o modelo



O modelo possui a capacidade de explicar / predizer com 91% de acurácia

Azure ML - Avaliando o modelo



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