Linear Statistical Modeling Methods with SAS

SAS Viya Model Manager

Xuemao Zhang
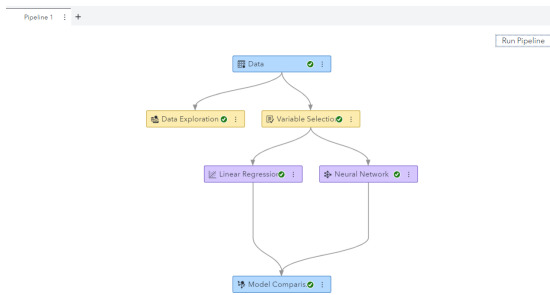East Stroudsburg University

April 19, 2024

Outline

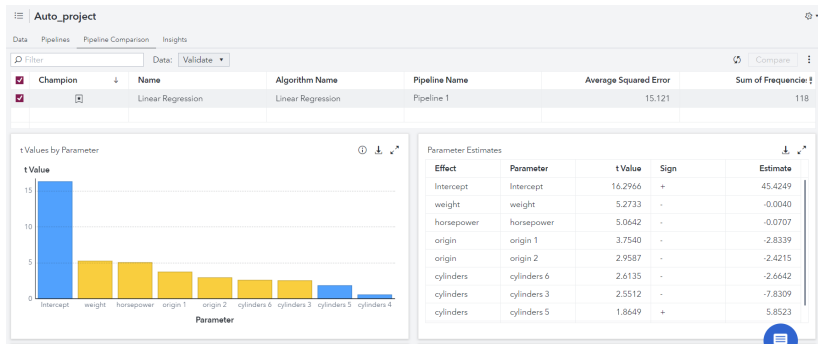- Registering the Champion Model
- SAS Model Manager

Registering the Champion Model

- We had one model only in the last lecture
- Let's add another model using `Neural Network` with 1 hidden layer
  - ▶ Hidden layer activation function is set to `Identity`
  - ▶ You do not need to have more than 1 model in the pipeline to register a model
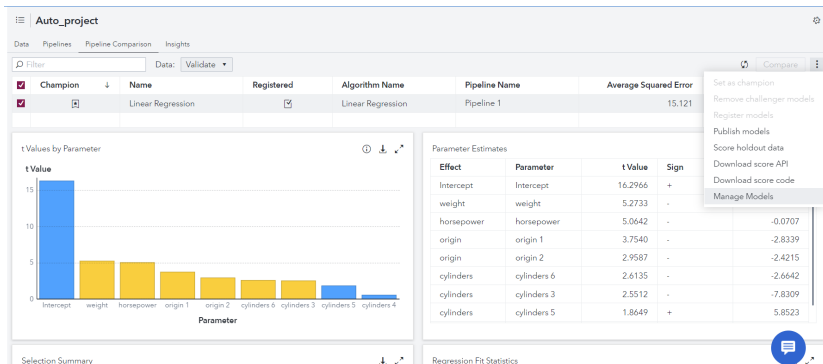
Registering the Champion Model

- It is not surprising that linear regression model is still the champion model
- On the `Pipeline Comparison` tab, click the Project Pipeline menu in the upper right corner and select Register models.
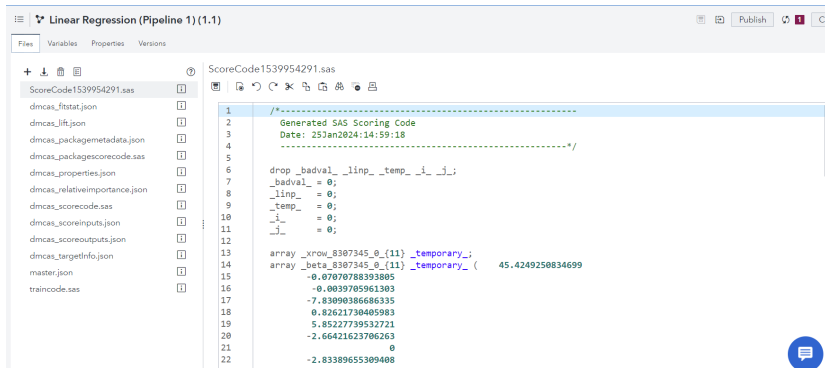
Registering the Champion Model

- The new column, Registered, indicating that the model has been registered.
  - After the model is registered, we can view and use it in SAS Model Manager.

Registering the Champion Model

- In the Pipeline Comparison window, select the Project Pipeline menu in the upper right corner. The Manage Models option becomes active after at least one model is registered.
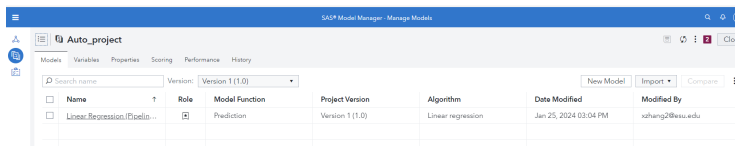 - Select *Manage Models* to access Model Manager.

- Check the scoring code in `dmcas_scorecode.sas`
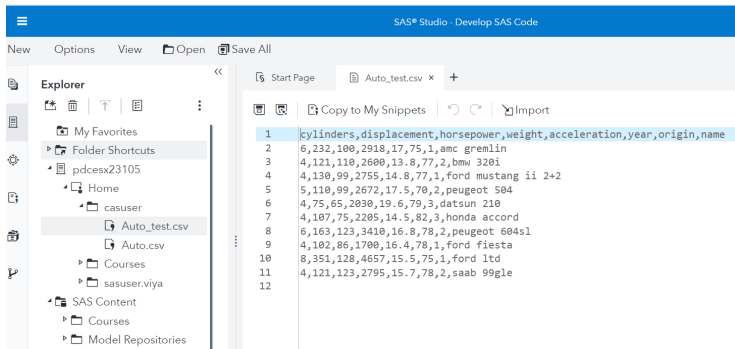
SAS Model Manager

- In the left pane, we can click the `Projects icon`, the second icon from the top, to display the Projects list.
- Select the project to open it.

- Click the `Scoring` tab. On the Tests tab, click `New Test`. In the New Test window, enter a name for the scoring test.
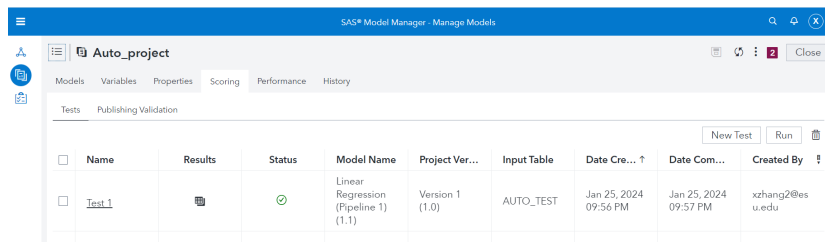
SAS Model Manager

- In the Model field, click Choose Model.
  - In the Choose a Model window, select the champion model.
  - Now we are back at the New Test window, and we are ready to select a future data set to be scored.
    - We use the data `Auto_test` and save the test, `Test 1`.
- The `Auto_test` data:

SAS Model Manager

- Go back to the *Scoring tab* for the project. The scoring test that we just saved is listed, and we select its check box. Then click *Run*.
- When the run is finished, the Status column has a green check mark, and a table icon appears in the Results column.

SAS Model Manager

- To open the results, click the table icon in the Results column.
  - In the left pane, under Test Results, click Output.

- If we want, we can reduce the number of columns or rearrange columns in the output table.
- Just click the *Options icon* in the upper right corner and select **Manage columns**.

SAS Model Manager

- **Question:** Was the full data used to fit the model for predictions?
- In the champion model, only the variables `weight`, `horsepower`, `origin 1`, `origin 2`, `cylinders 3`, `cylinders 4`, `cylinders 5`, `cylinders 6` are selected. Let's use SAS to verify. Some SAS code is already available in Lecture 16.

License

This work is licensed under a Creative Commons
Attribution-NonCommercial-ShareAlike 4.0 International License.