

AD03 : SAS Custom Step & R-Runner

Develop any application you can dream about

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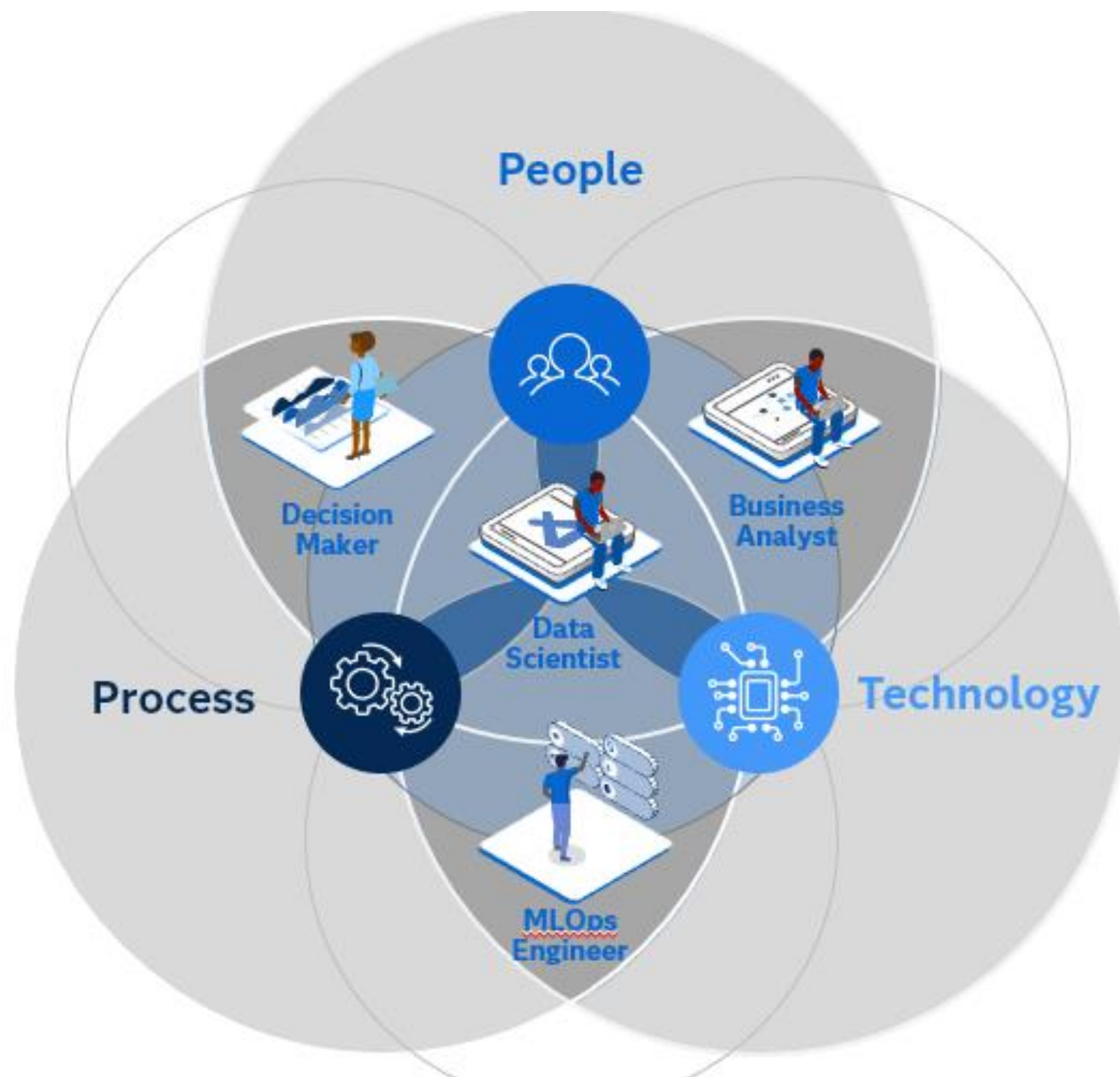
Comparing the Performance of Propensity Score Matching Algorithms from Multiple Programming Languages

By Catherine Briggs & Sherrine Eid
February 26, 2024



https://phuse.s3.eu-central-1.amazonaws.com/Archive/2024/Connect/US/Bethesda/PRE_RE04.pdf

AI/Analytics Democratization



Working with the language of your choice – interoperability is key



PHUSE Single Day Events



Brussels, Belgium

Monday 23 September 2024

UCB Biosciences HQ

Custom Steps

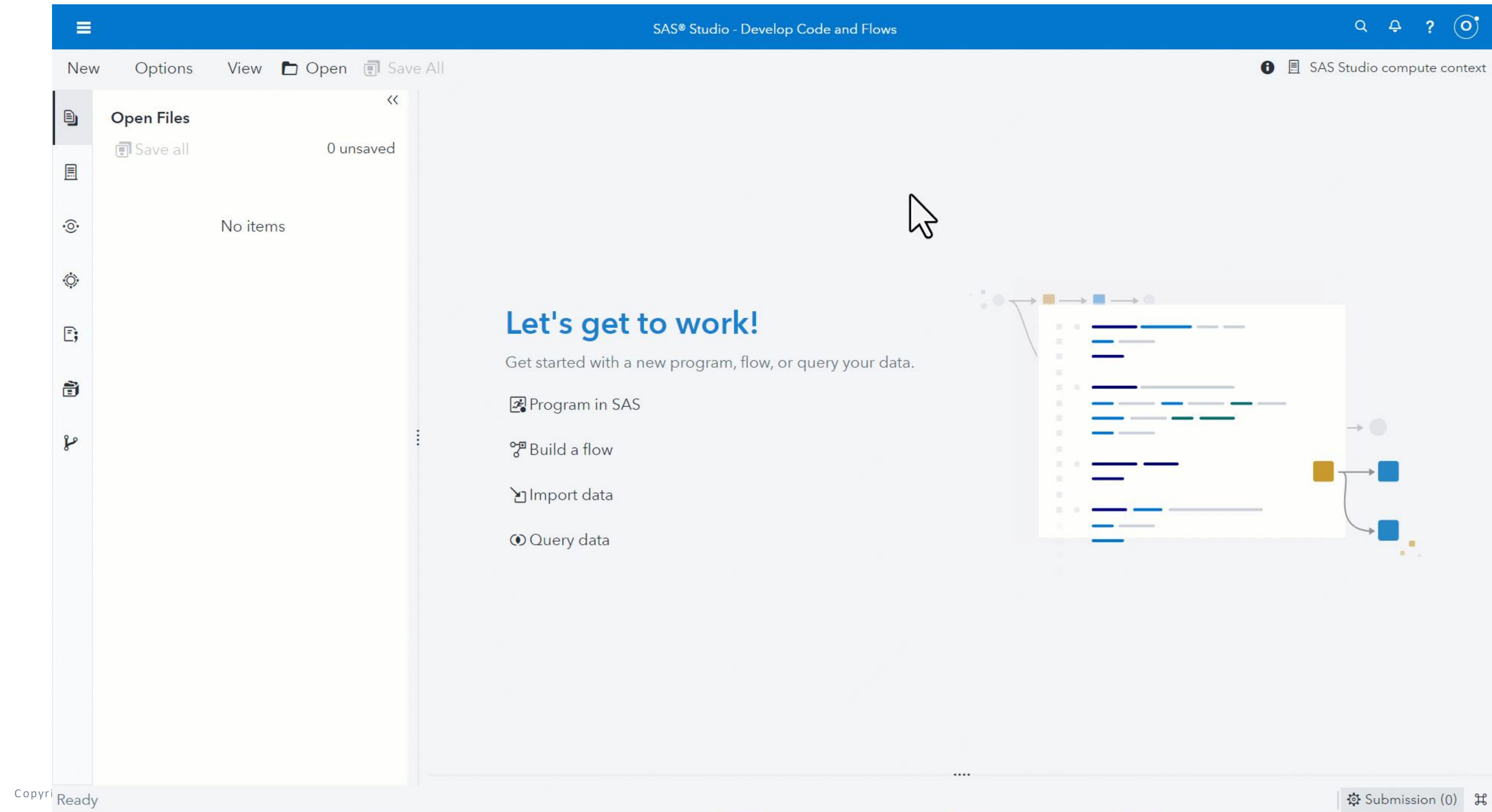
If a user does not have permission to access a specific folder in **SAS Content**, another user can share a step in that folder with them. The shared step will only appear in the Steps pane, providing access to the user without granting them permission to the entire folder. The **Shared** tab in **SAS Studio** lists all the custom steps in **SAS Content** that the user can see, including any steps authored by them or shared with them by others.

Creating a **Custom Step** in **SAS Studio** can be done in several ways, depending on the user's level of expertise. For non-programmers or users of **SAS Studio Basic**, custom steps can be created by adding JSON code to the Prompt UI tab. In **SAS Studio Analyst** and **SAS Studio Engineer**, users can use the Designer tab to quickly create **Custom Steps** with a graphical interface. These features provide users with flexibility and ease of use when creating custom steps, enabling them to optimize their workflows and increase productivity.

Develop from Scratch

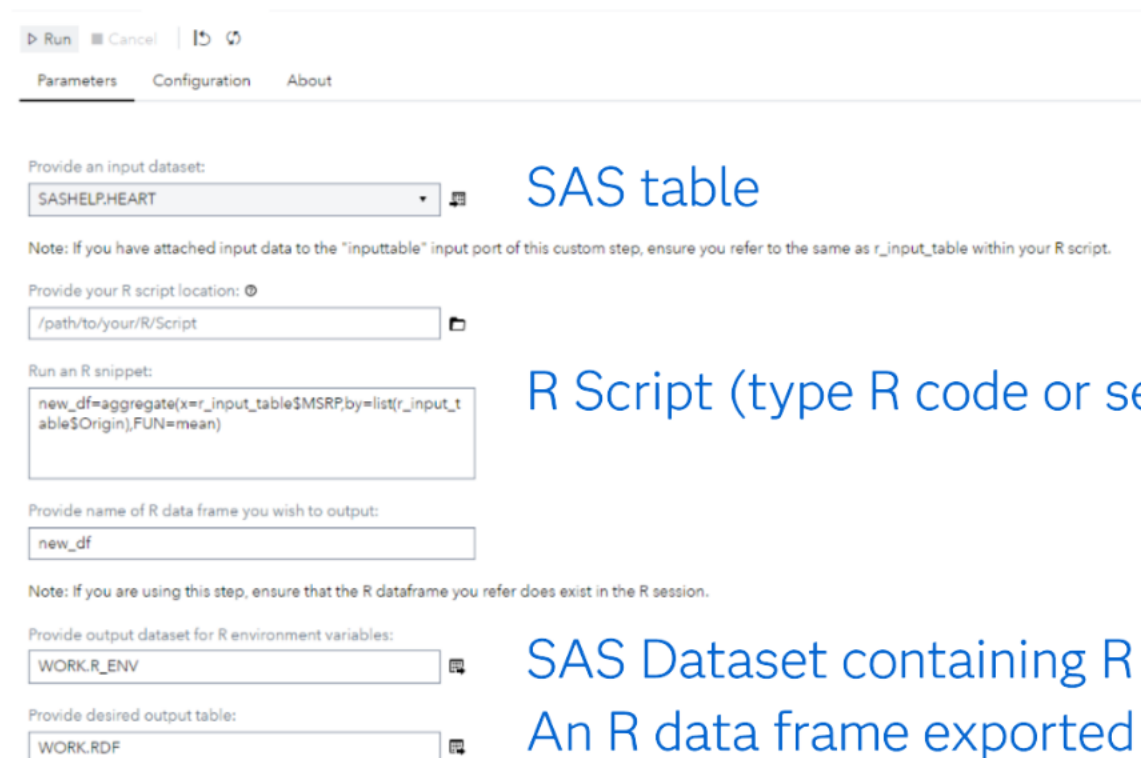
Believe me or not...

... let's build a R Ggplot into SAS



R-Runner – What's in it

Advantages & Limitation



The screenshot shows the SAS R-Runner configuration window. At the top, there are buttons for 'Run', 'Cancel', and a refresh icon. Below these are tabs for 'Parameters', 'Configuration', and 'About'. The 'Parameters' tab is active. It contains several input fields and labels:

- Provide an input dataset:** A dropdown menu with 'SASHELP.HEART' selected. To its right is the label 'SAS table' in blue.
- Note:** A small text note below the first field: 'Note: If you have attached input data to the "inputtable" input port of this custom step, ensure you refer to the same as r_input_table within your R script.'
- Provide your R script location:** A text field with '/path/to/your/R/Script' and a folder icon to its right.
- Run an R snippet:** A text area containing the R code: `new_df=aggregate(x=r_input_table$MSRP,by=list(r_input_table$Origin),FUN=mean)`. To its right is the label 'R Script (type R code or select your R file)' in blue.
- Provide name of R data frame you wish to output:** A text field with 'new_df'.
- Note:** A small text note below the third field: 'Note: If you are using this step, ensure that the R dataframe you refer does exist in the R session.'
- Provide output dataset for R environment variables:** A text field with 'WORK.R_ENV'. To its right is the label 'SAS Dataset containing R variables' in blue.
- Provide desired output table:** A text field with 'WORK.RDF'. To its right is the label 'An R data frame exported as SAS table' in blue.

- You just copy paste your R Code
- You can integrate it in a SAS Flow
- This is not a R-Editor
- There won't be syntax checks, highlighting or other convenience like in R-Studio
- It works as fast as a « normal R » : mono-threaded
- More advanced version : **CAS - Submit Python and R Code**
 - Multi-threaded using CAS Engine
 - Helpful for Modeling and Testing
 - Can process Millions of records in Seconds

How this could look like?

SeperatePrompts

Inputs : Matching Results

Obs	Role	Inputs
1	Input Dataset	CASUSER.REFL3
2	Treatment Variable	cohort
3	Treatment Group	oploid
4	Reference Group	nonoploid
5	Outcome Variable	BPIPain_LOCF
6	Numerical Matching Variables	BMI_B BPIPain_B BPIInterf_B PHQ8_B PhysicalSymp_B FIQ_B GAD7_B MFipf_B MFImf_B CPFQ_B ISIX_B SDS_B Age
7	Class Matching Variables	Gender Race Dr_Rheum Dr_PrimCare

Obs	Role	Inputs
1	Distance Metric	Logit Propensity Score
2	Mahalanobis Distance Metric	NA
3	Mahalanobis Distance Variable	NA
4	Exact Match on Specific Variables	No
5	Exact Match Variables to Match	NA
6	Use a caliper width	No
7	Caliper width	.
8	Matching Method	Optimal
9	Number of Control Matches	1
10	Max number of control Matches	1
11	Weighting Type	Inverse probability of treatment weighting (IPTW)

Obs	Role	Inputs
1	Return treatment effect results	No
2	Estimation Model	NA
3	Number of iterations for Complex Bootstrapping	NA

Model Name: Model Language (SAS/R/Python):

Don't reinvent the Wheel,

The Community is there to Accelerate what you need...

sassoftware / sas-studio-custom-steps

Public

<> Code

Issues 1

Pull requests 5

Actions

Projects

Security

Insights

main

1 Branch

0 Tags

Go to file

<> Code

snlwih

Update CUSTOM_STEPS_LIST.md

acb33ec · 2 weeks ago

1,109 Commits

.github	Update issue templates, added bug template	9 months ago
Airflow - Generate DAG	Removed zip files from various contributions	5 months ago
Anonymize and Mask Data	Removed zip files from various contributions	5 months ago
Append Table	Fixed some text	2 years ago
CAS - Convert Char to Varchar	Update CAS - Convert Char to Varchar	last year
CAS - Generate Unique ID	WH changes requested in PR # 80	last year
CAS - Load Tables from Folders in Filesystem	Updated Screenshot	2 years ago
CAS - Submit Python and R Code	Update README.md	8 months ago

... Or your colleague could have already developed some IP

Steps

* | ↺

Type to filter list

SAS Steps

Shared

AndersonDarling

CAR -Pull Data

CAS - Generate Unique ID

Cascading Prompts - Advanced1

Ch6_Matching_Multipage

Create Listing Of Directory CLOD

Custom Step Example

CustomStepChooseVars

CustomStepPSM

CustomStepTreatmentEffect

Data Pull

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Conclusion

With Custom Step....

- ... Build any Business Application you would like to apply AI/Analytics on Data you know & have access to.
- ... Use JSON or Drag&Drop Capabilities depending on your skills
- ... Expand the capabilities of your SAS Platform by collaborating on the Community
- ... Accelerate your daily work by sharing IP with Colleagues.

