Paving the Way with SAS® Viya®

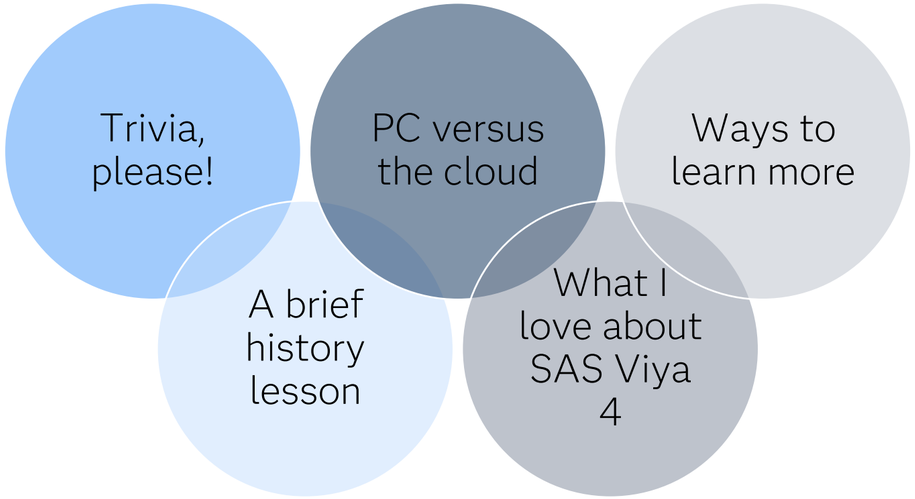
Analytics in the Cloud

Lincoln H. Groves, PhD | SAS Institute, Inc.
Iowa SAS User Group Session | May 13, 2024

Wait. Who is this guy?

And what is this session?

Lincoln H. Groves, PhD

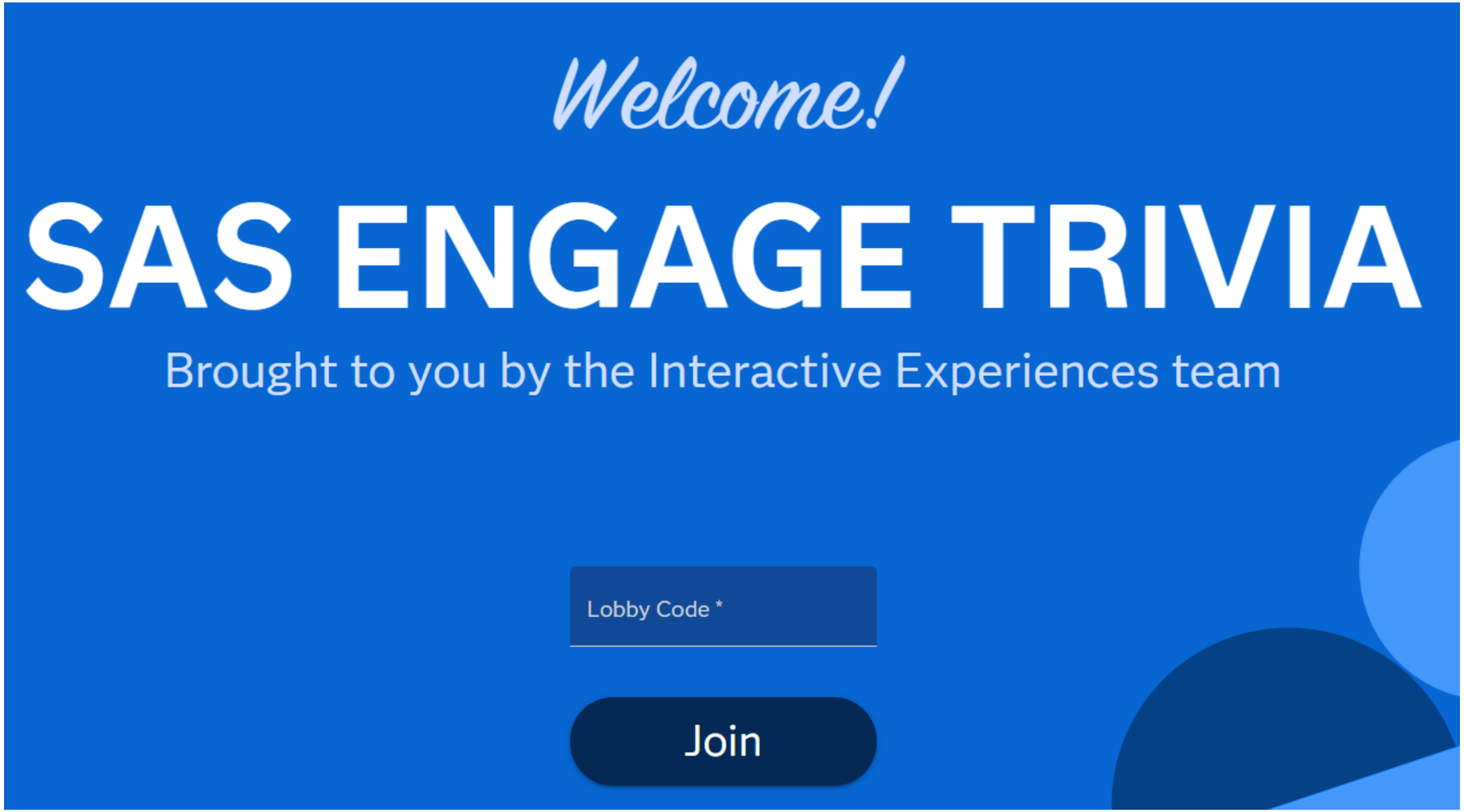


SAS Engage Trivia

10 questions to test your SAS knowledge

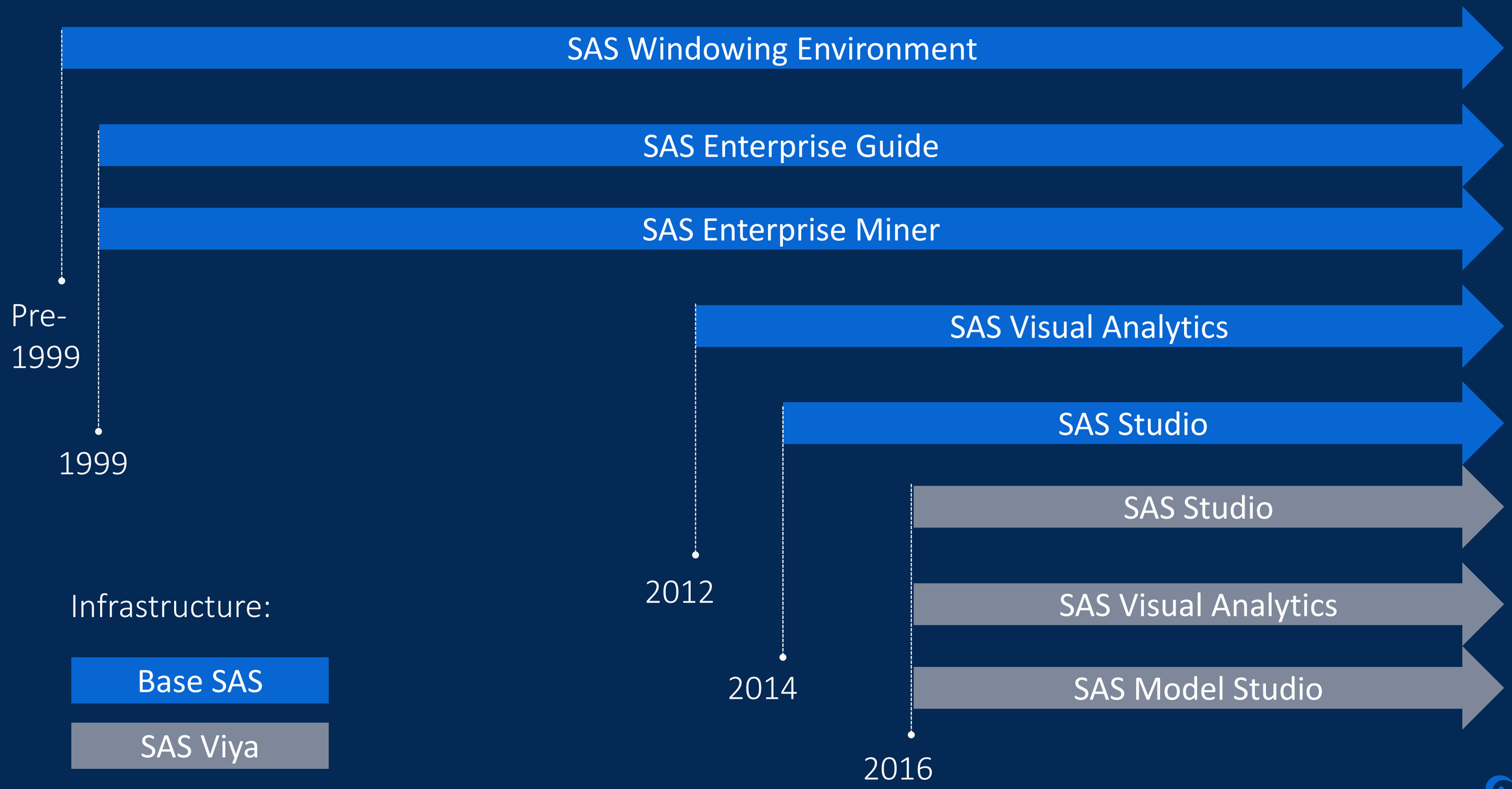
Meet you here: https://si.sas.com

Lobby Code: SUG



SAS Product Timeline(s)

Historical Timeline | Commercial Products



Why are there two platforms?

Key Development Details

Why 2 Platforms?

What is old is new again…

Mainframe

PC

Cloud

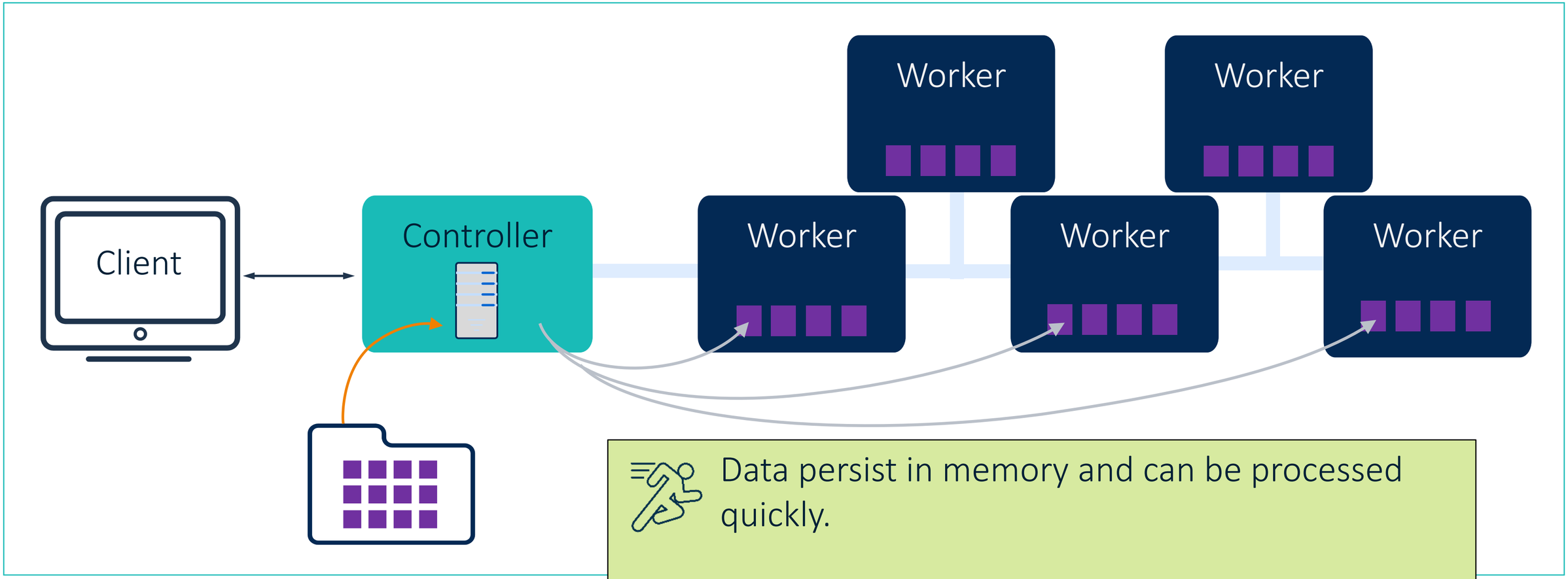
PC versus Cloud

What is the big deal?

Versus

CAS Distributed Environment

Big Deal, Part I



Data persist in memory and can be processed quickly.

SAS Viya algorithms are designed for distributed environments.

Distributed Processing and SAS

A bit more history…

SAS High-Performance Analytics

SAS®9

- In-memory data load per action
- Action distribution

SAS LASR Analytics Server

SAS®9

- In-memory data retain across actions
- Action distribution

Cloud Analytic Services (CAS)

SAS® Viya®

- In-memory data retain across actions
- Action distribution
- Parallel loading
- High availability
- Open, scalable
- Shared libraries

SAS Grid and CAS

Both

- Disk I/O
- High availability
- Workload management
- Job distribution
- Open (Python)
- Scalable

Main Takeaways from SAS Cloud Analytics Services (CAS)
Cause that last slide was a lot…

SAS Platform

SAS Viya

- an open, cloud-enabled, analytic run-time environment

SAS Cloud Analytic Services (CAS)

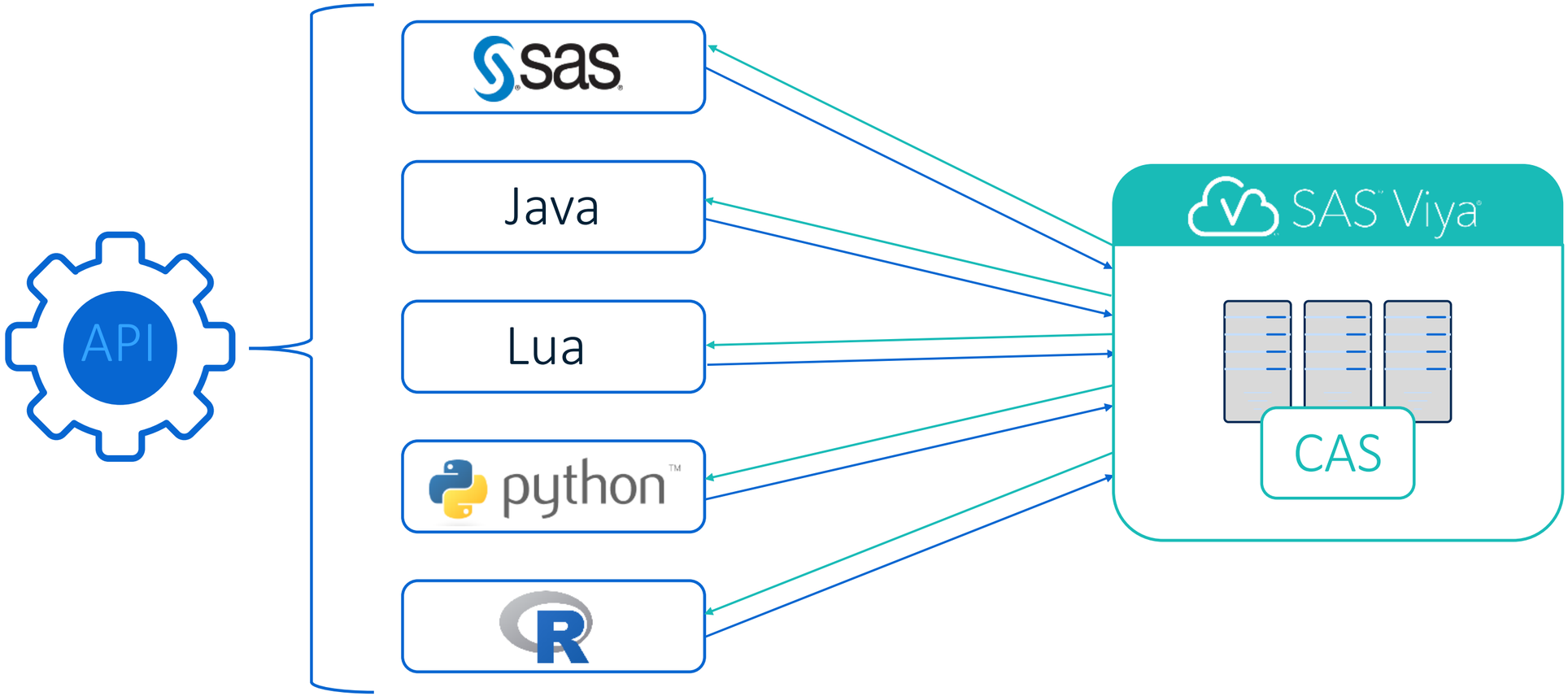
in-memory engine

fast processing

data of
any size

SAS Viya is truly open

Big Deal, Part 2



Why SAS Viya?

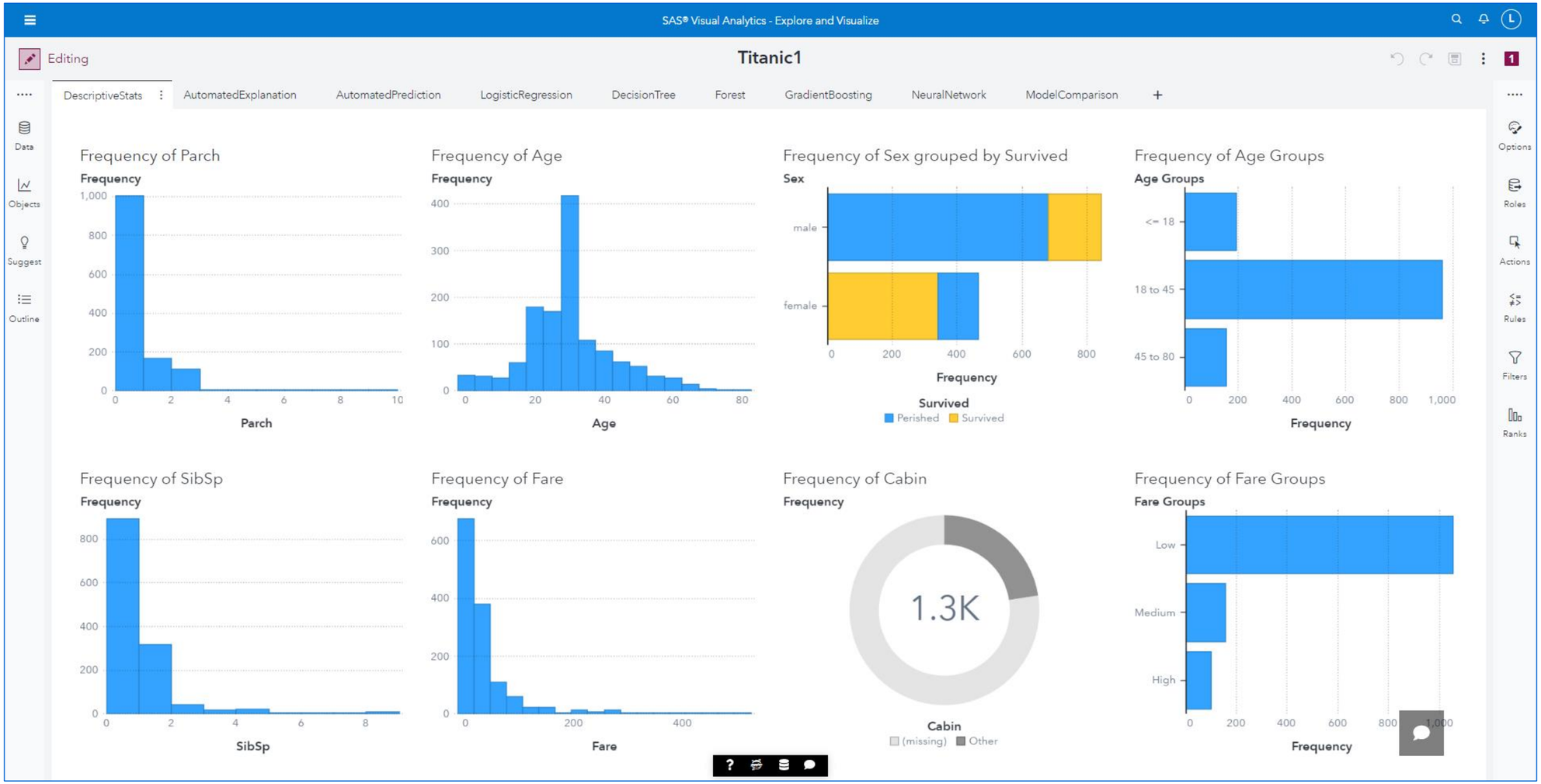
i.e., the top things I love about it… by product

SAS Visual Analytics

Dashboarding approach to analytics = analytics for all

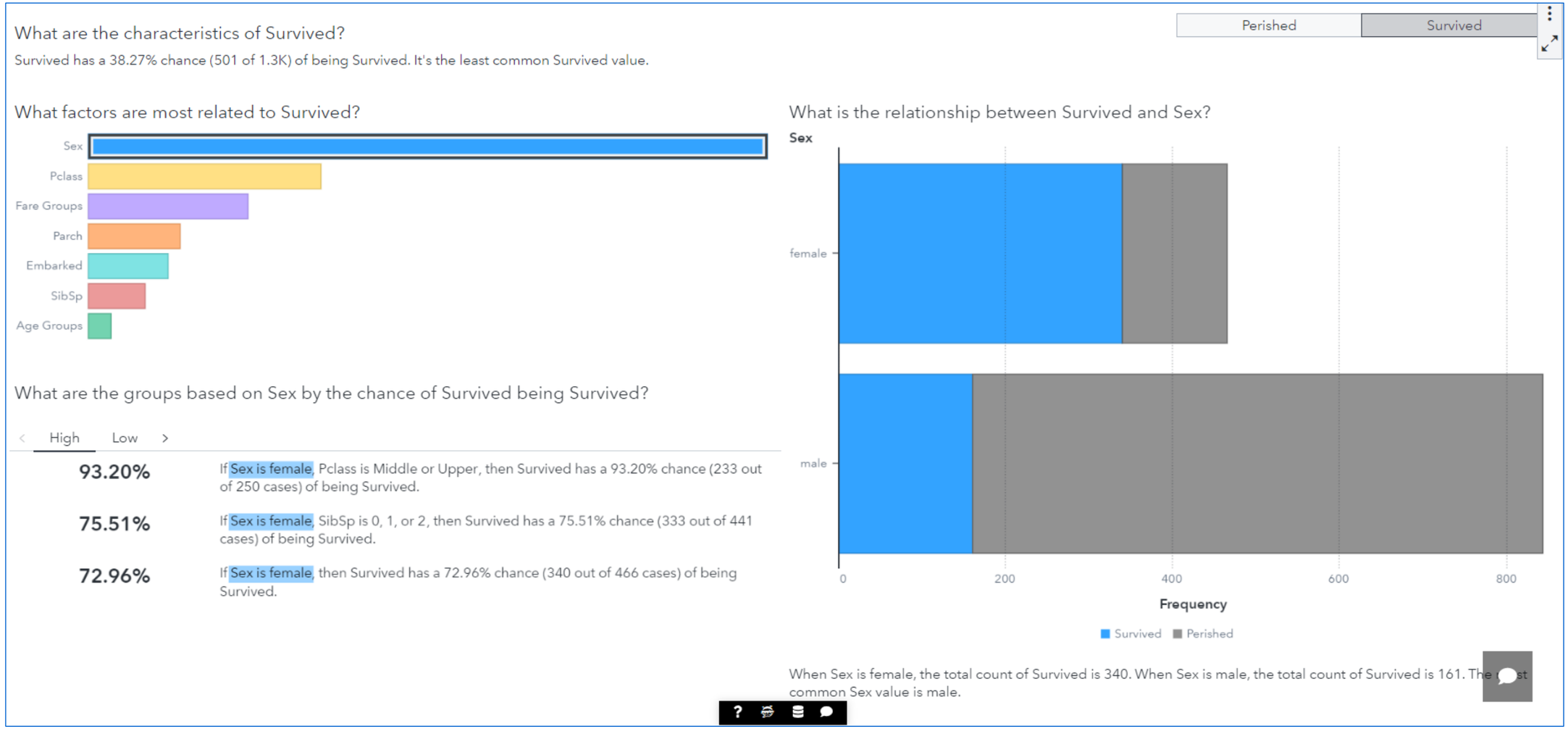
SAS Visual Analytics

Utilize dynamic dashboards to help with storytelling



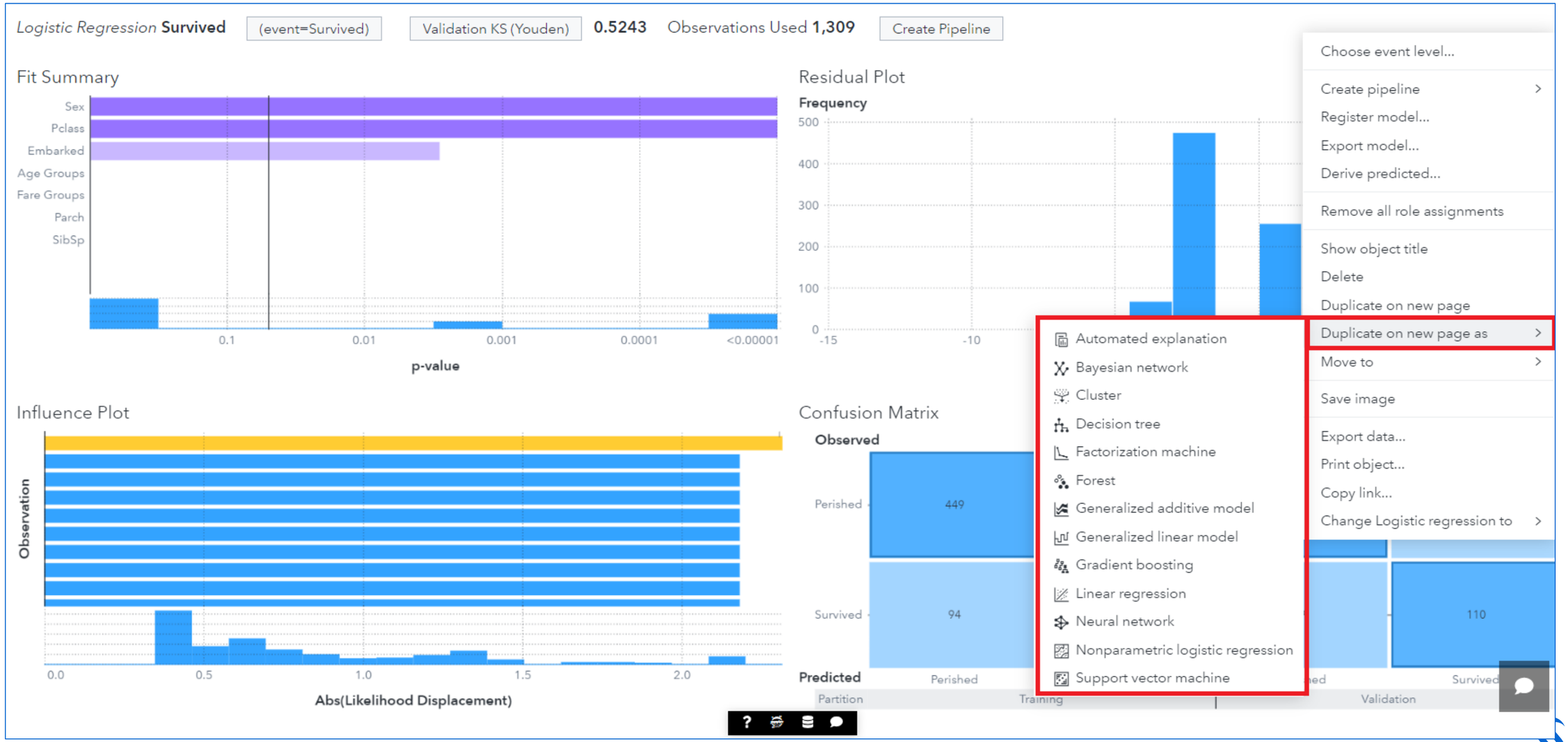
SAS Visual Analytics

Access AI Insights | Automated Explanation



SAS Visual Analytics

Run new models with the click of a button | Duplicate on new page as...

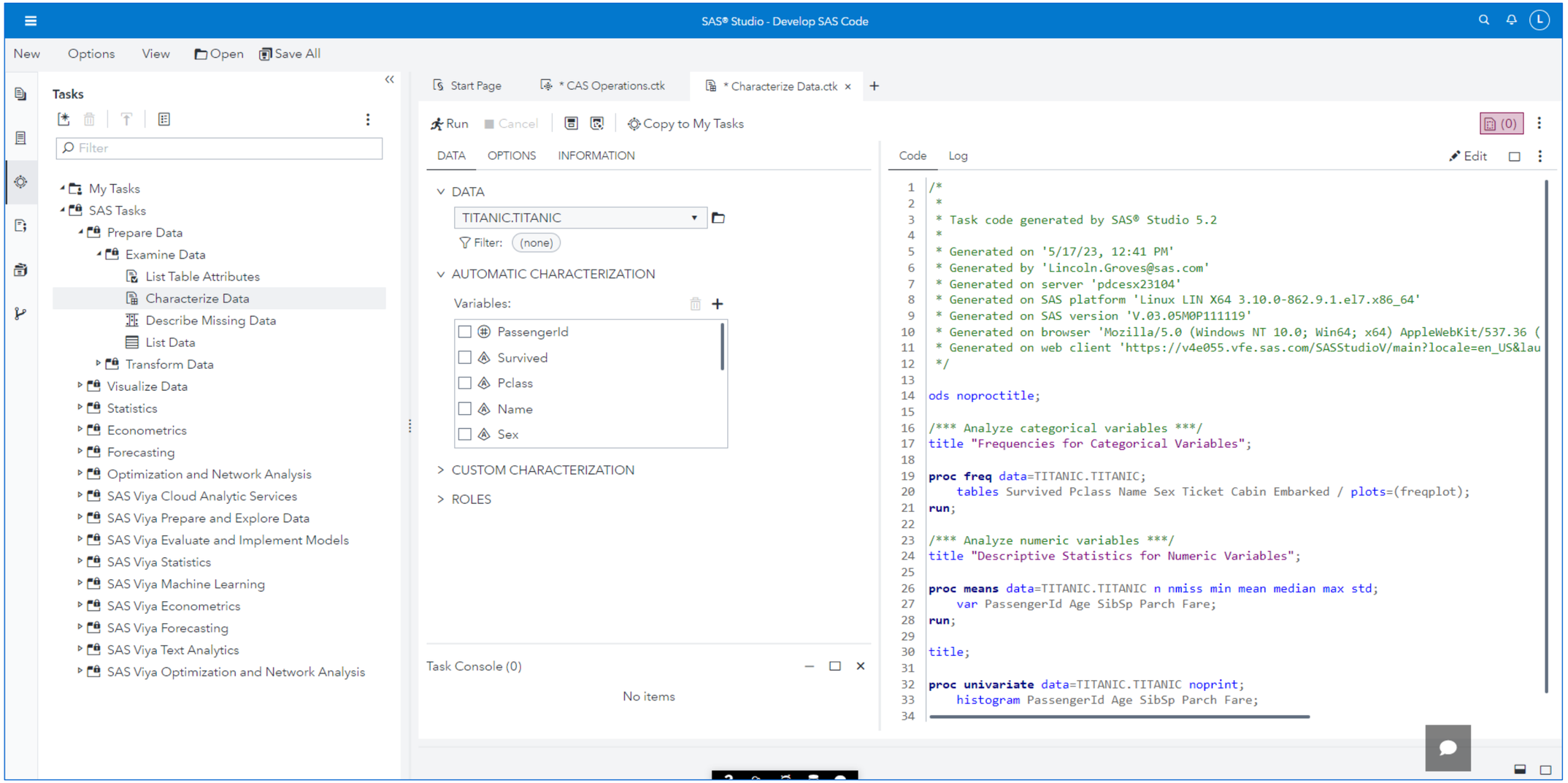


SAS Studio

Programmers guide to analytics

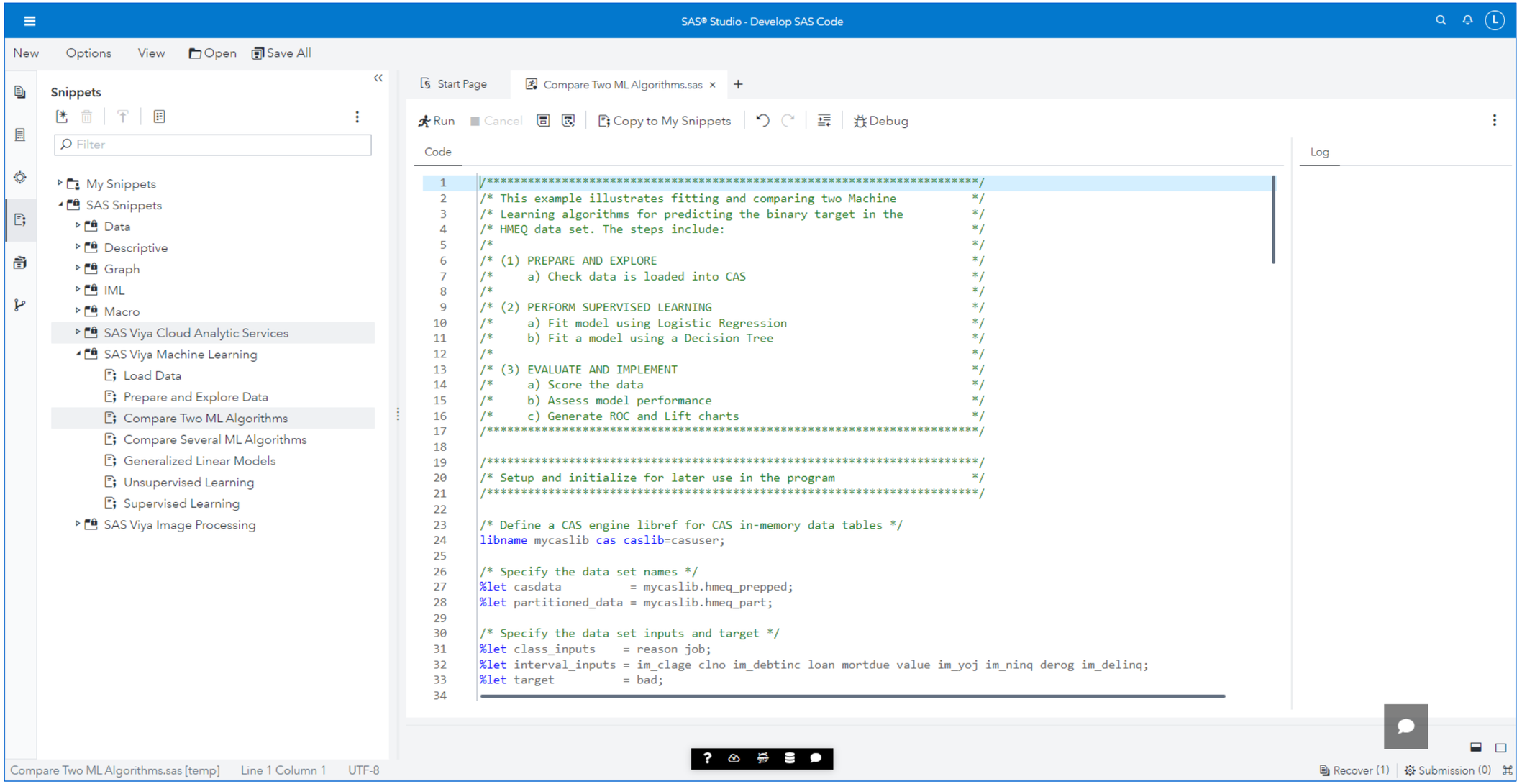
SAS Studio

Learn to code, Part 1: Tasks



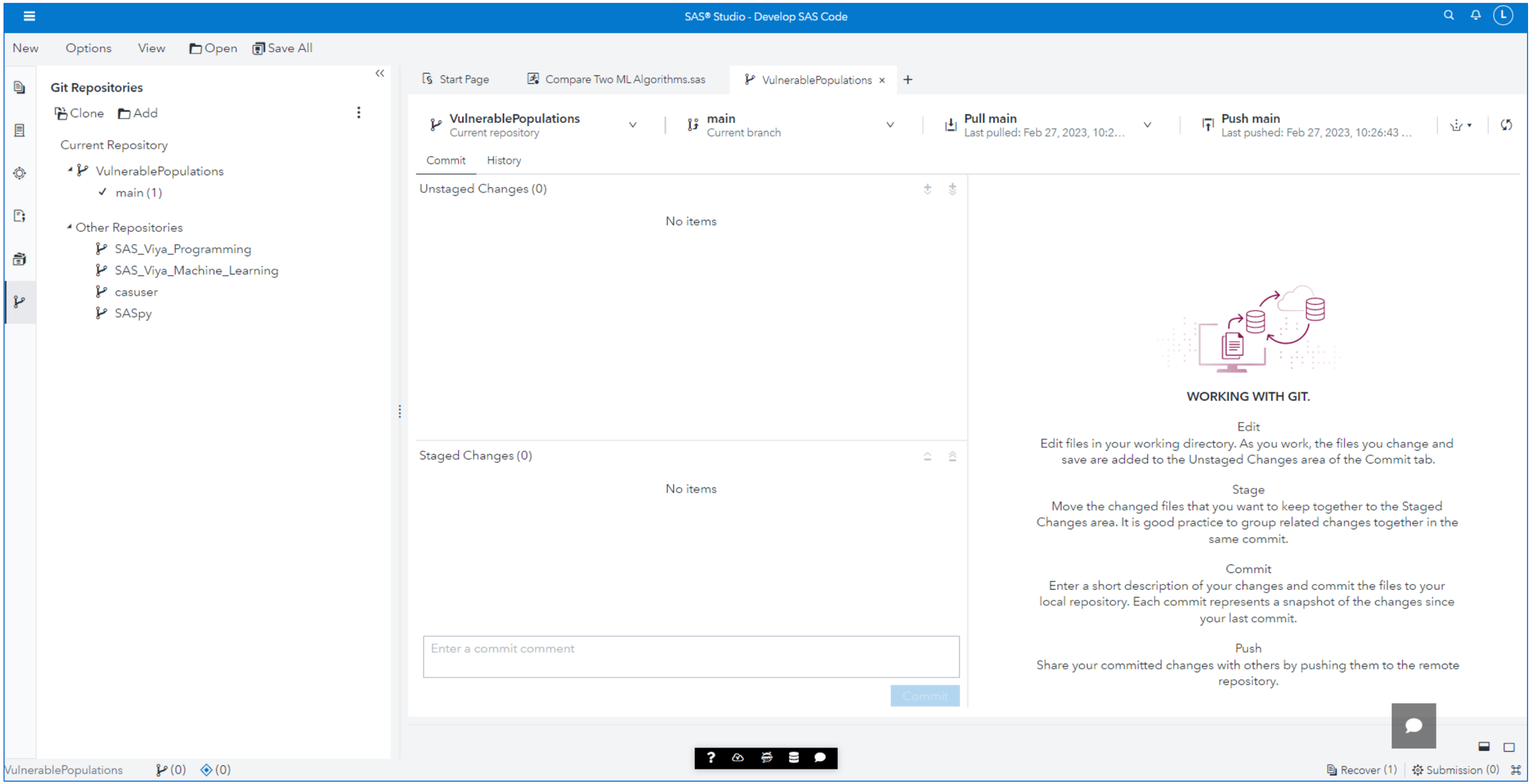
SAS Studio

Learn to code, Part 2: Snippets



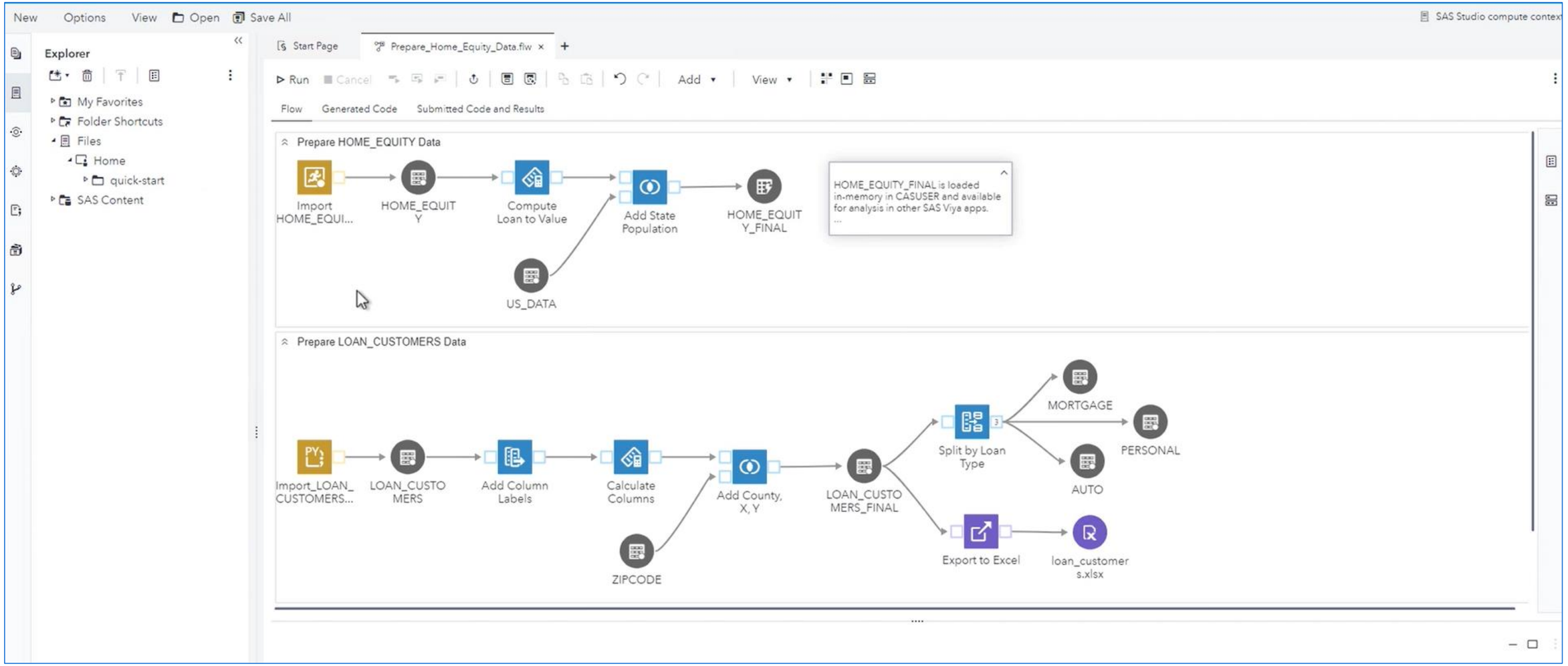
SAS Studio

Learn to Code, Part 3 | GitHub Integration



SAS Studio

New frontiers: Custom Steps + SAS Studio Flows

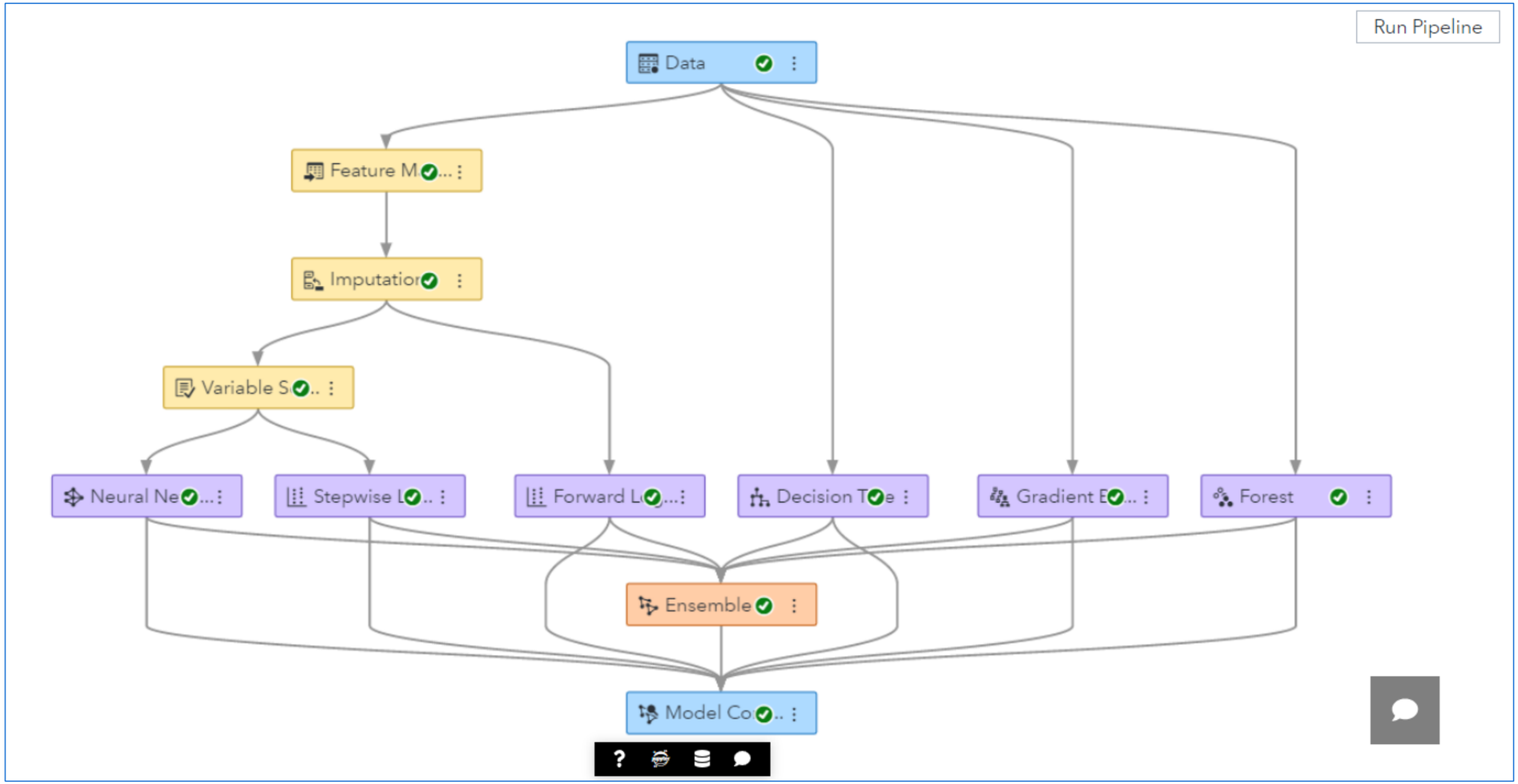


SAS Model Studio

Where machine learning experts hang out

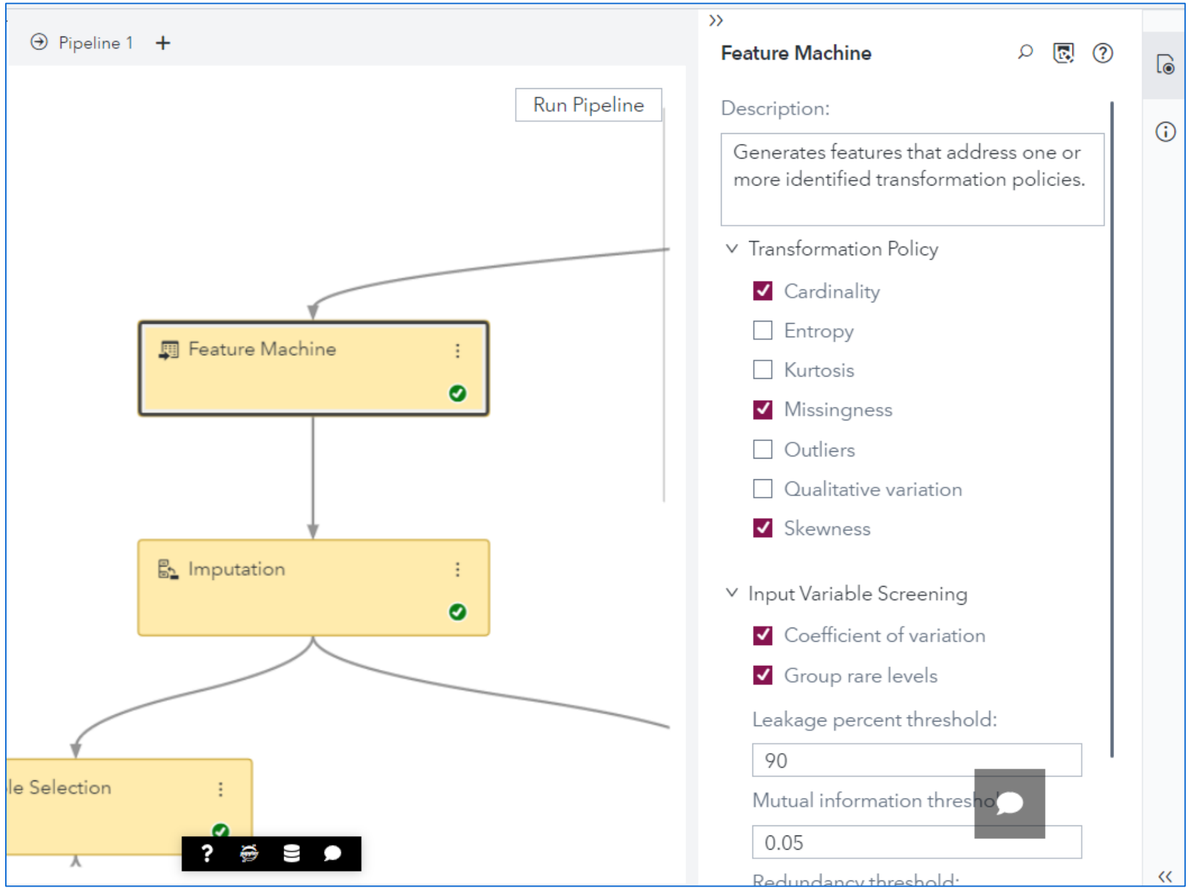
SAS Model Studio

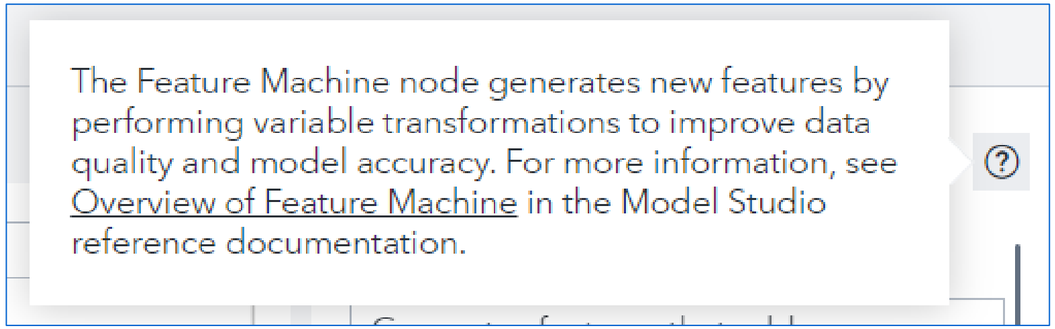
Get to the good stuff faster | Automated Pipelines



SAS Model Studio

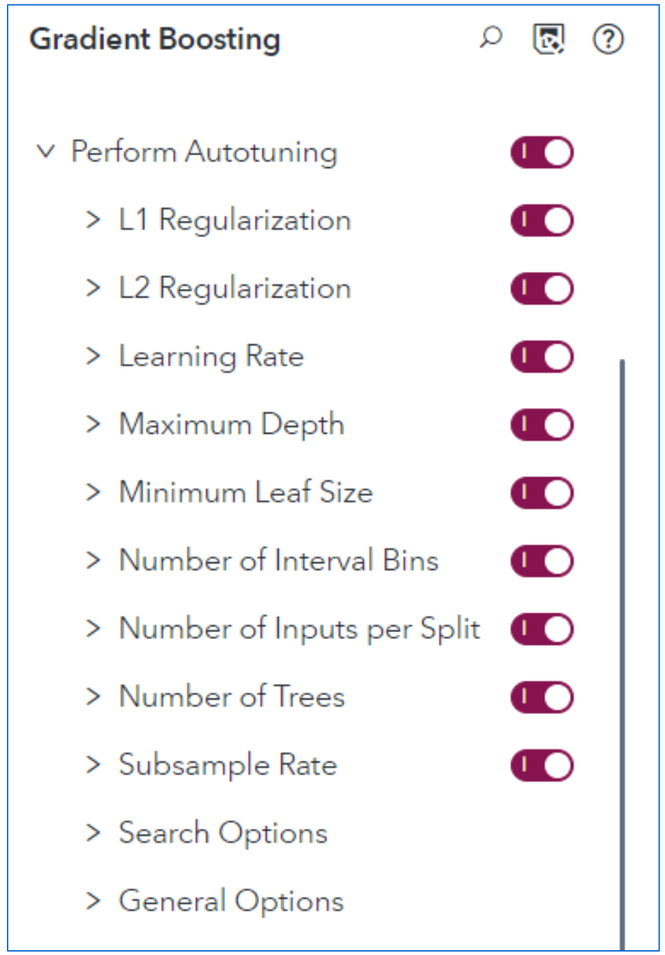
Use an AI friend for data prep| Feature Machine





SAS Model Studio

Automatically tune those hyperparameters, Part 1 | single node

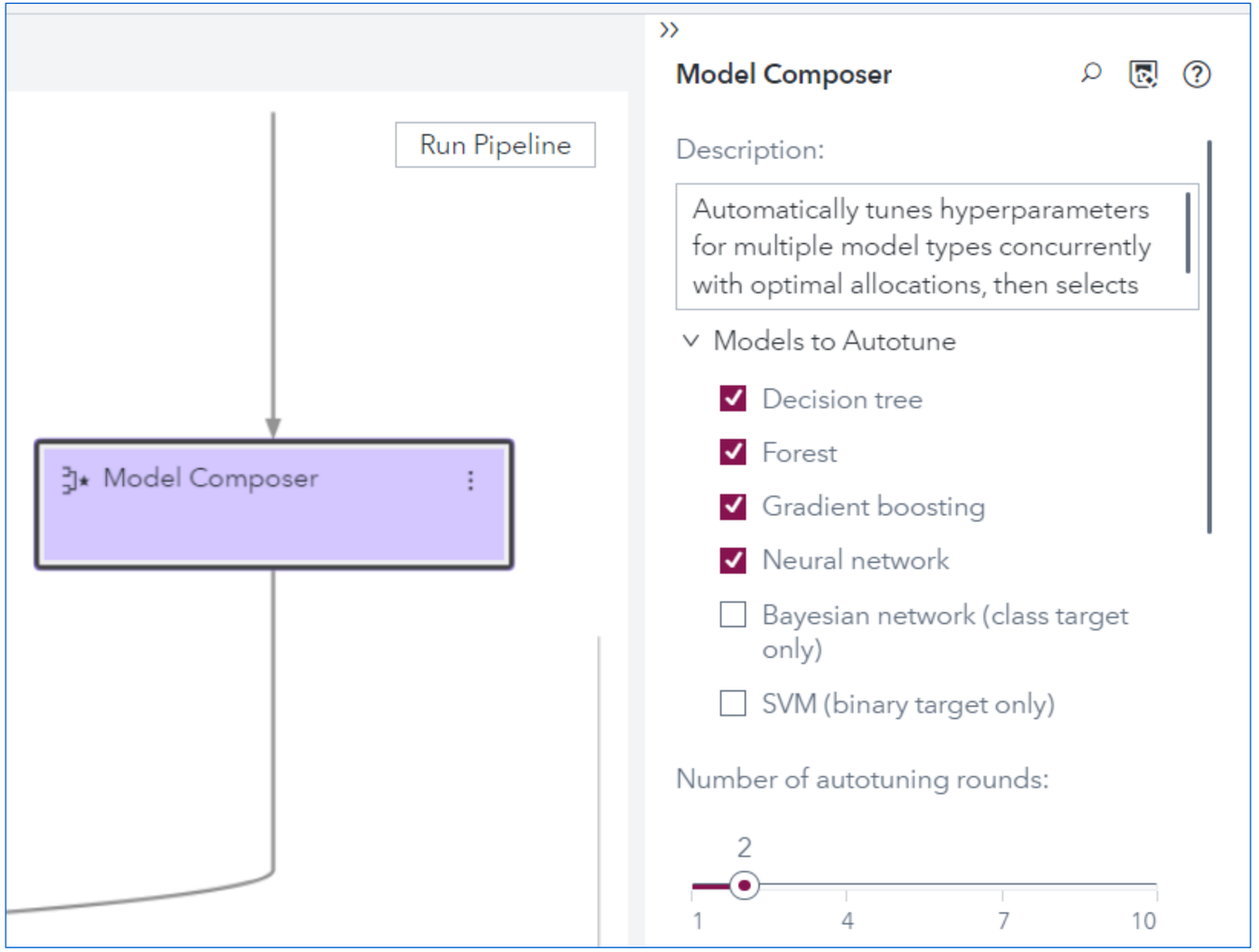


Model Comparison

Cham... ↓	Name	Algorithm Name	KS (Youden)
★	Gradient Boosting (Autotuning)	Gradient Boosting	0.5866
	Decision Tree (Autotuning)	Decision Tree	0.5385
	Ensemble	Ensemble	0.5775
	Forest (Autotuning)	Forest	0.5665
	Forward Logistic Regression (Autotuning)	Logistic Regression	0.5450
	Stepwise Logistic Regression (Autotuning)	Logistic Regression	0.5434

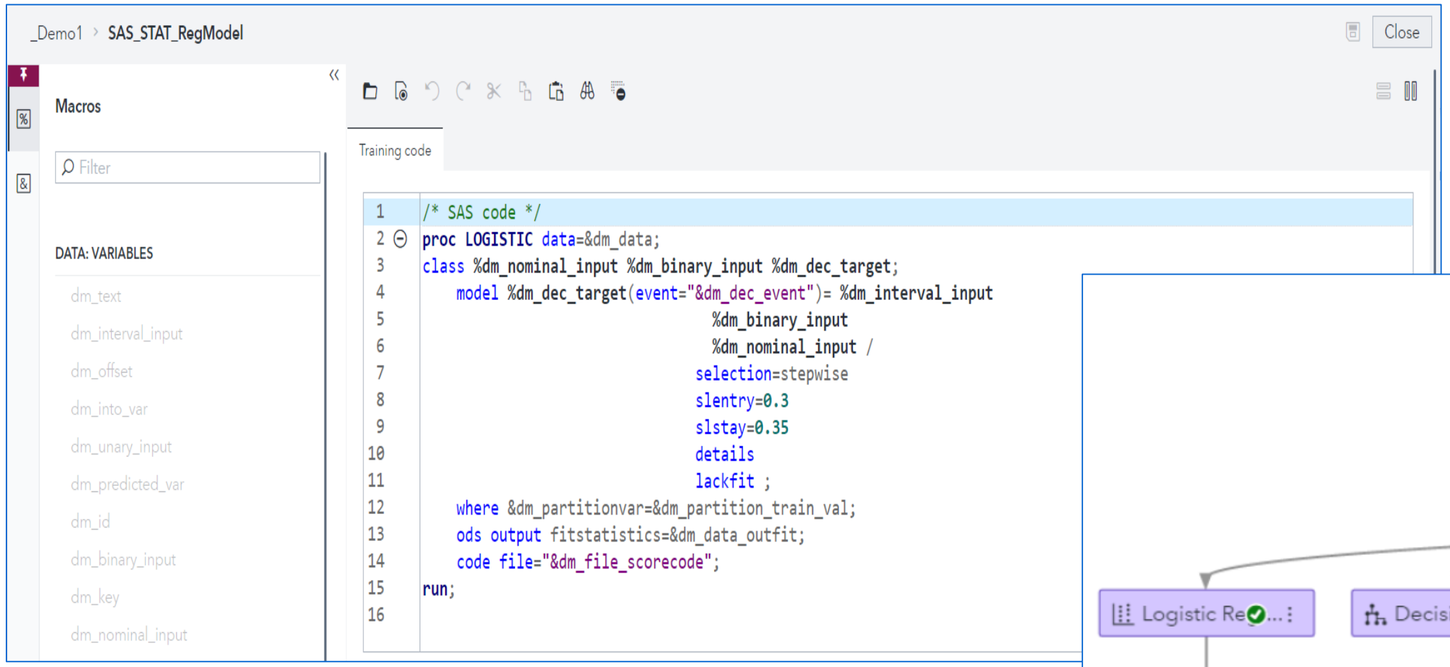
SAS Model Studio

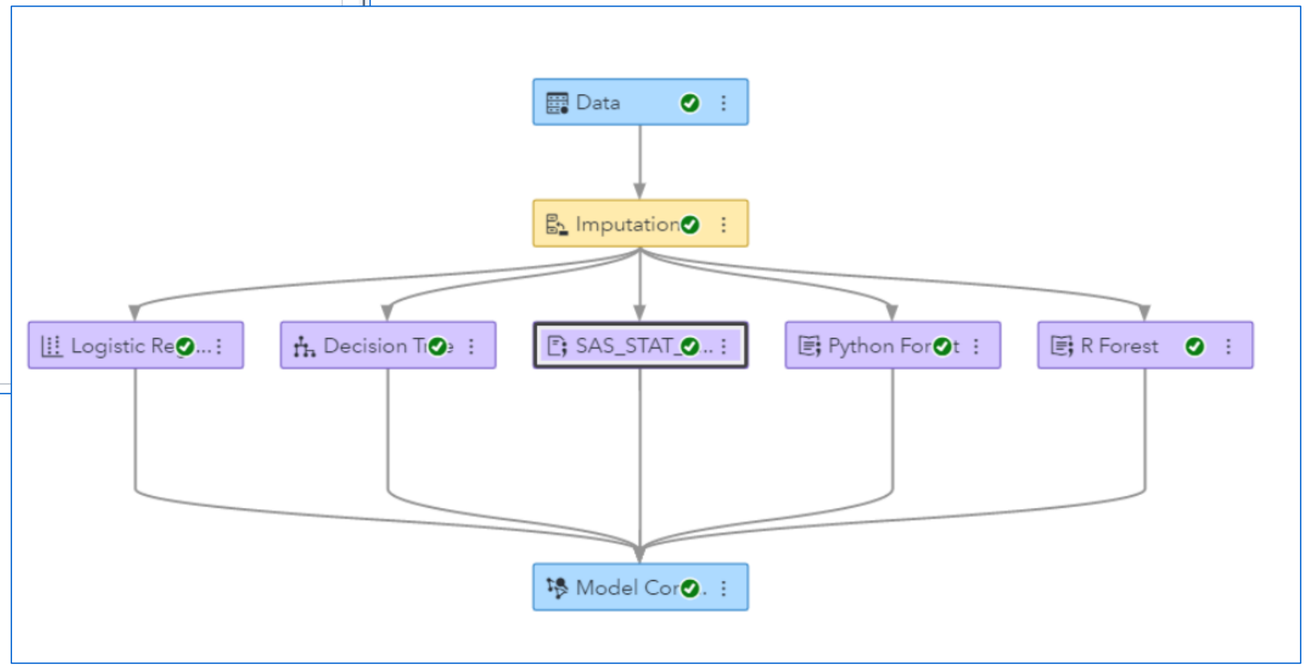
Automatically tune those hyperparameters, Part 2 | Model Composer node



SAS Model Studio

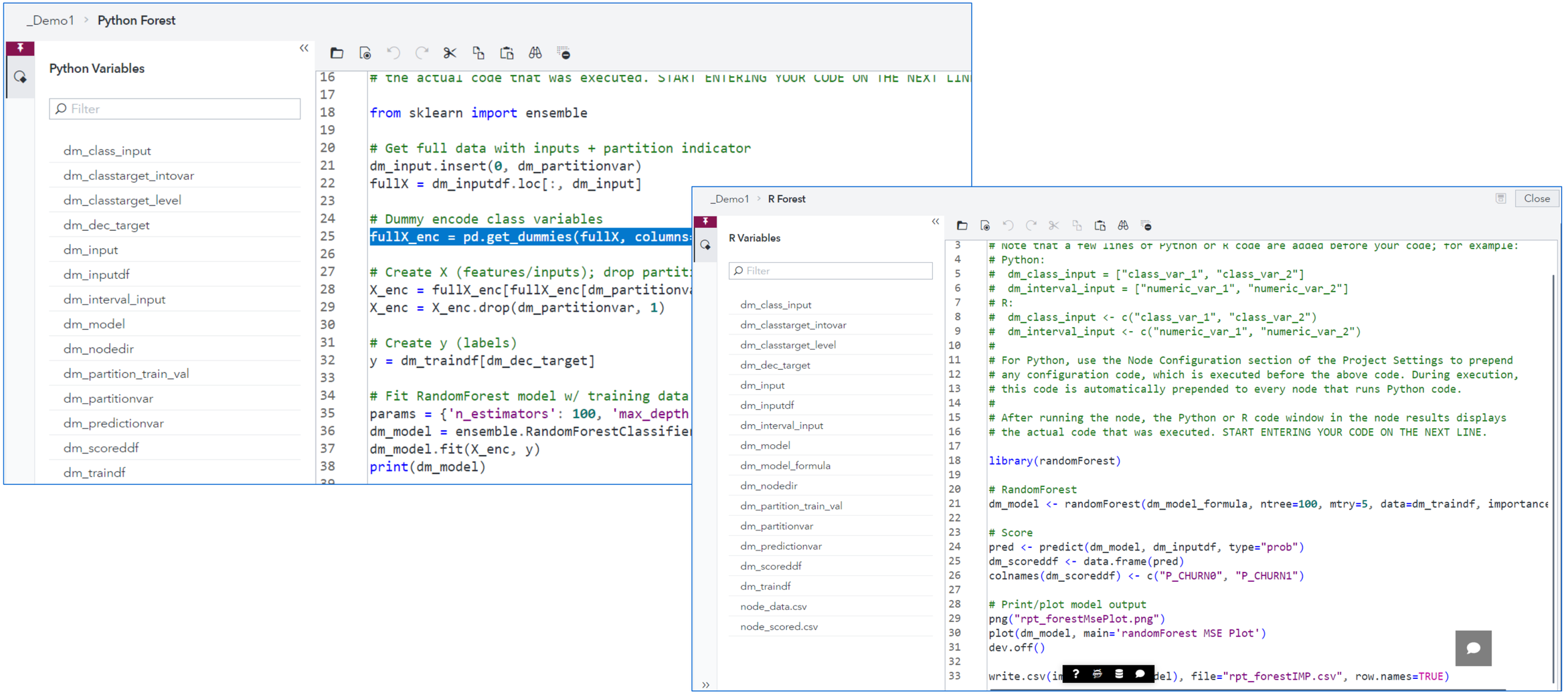
Incorporate SAS 9 Code | SAS Code node





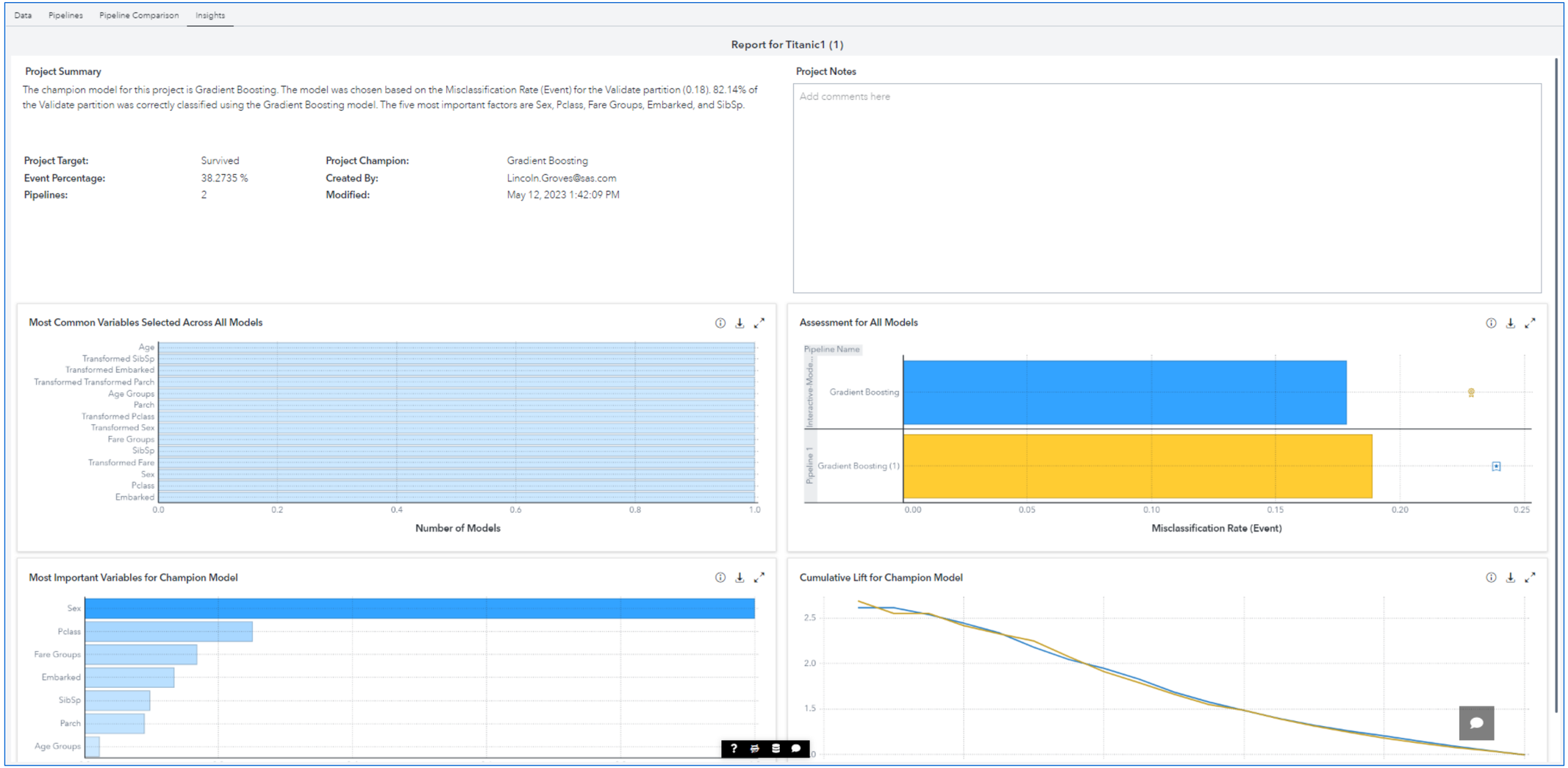
SAS Model Studio

Incorporate R + Python code | Open-Source Code node



SAS Model Studio

Need help with storytelling? | Use AI generated Insights

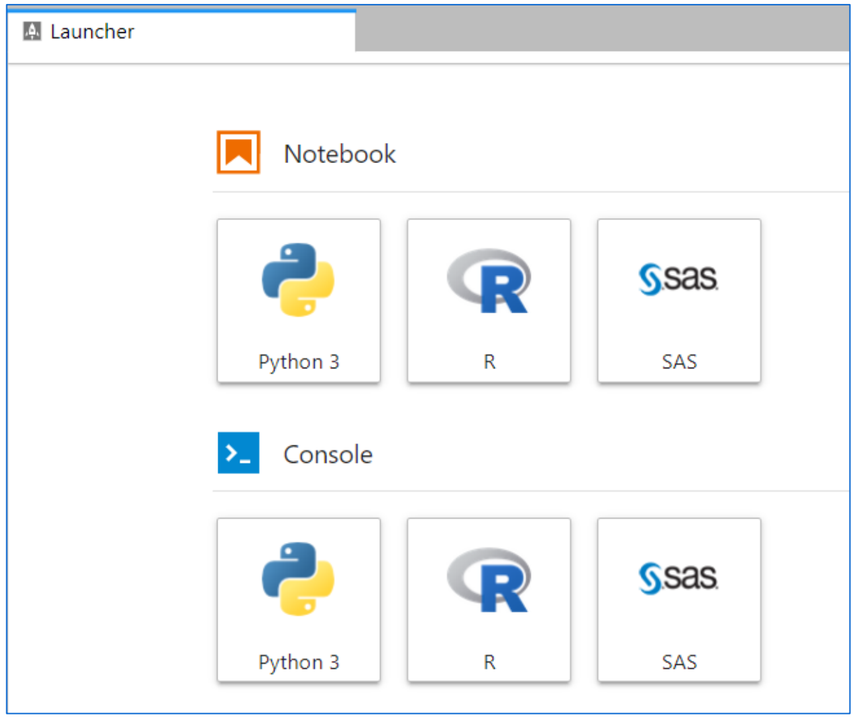


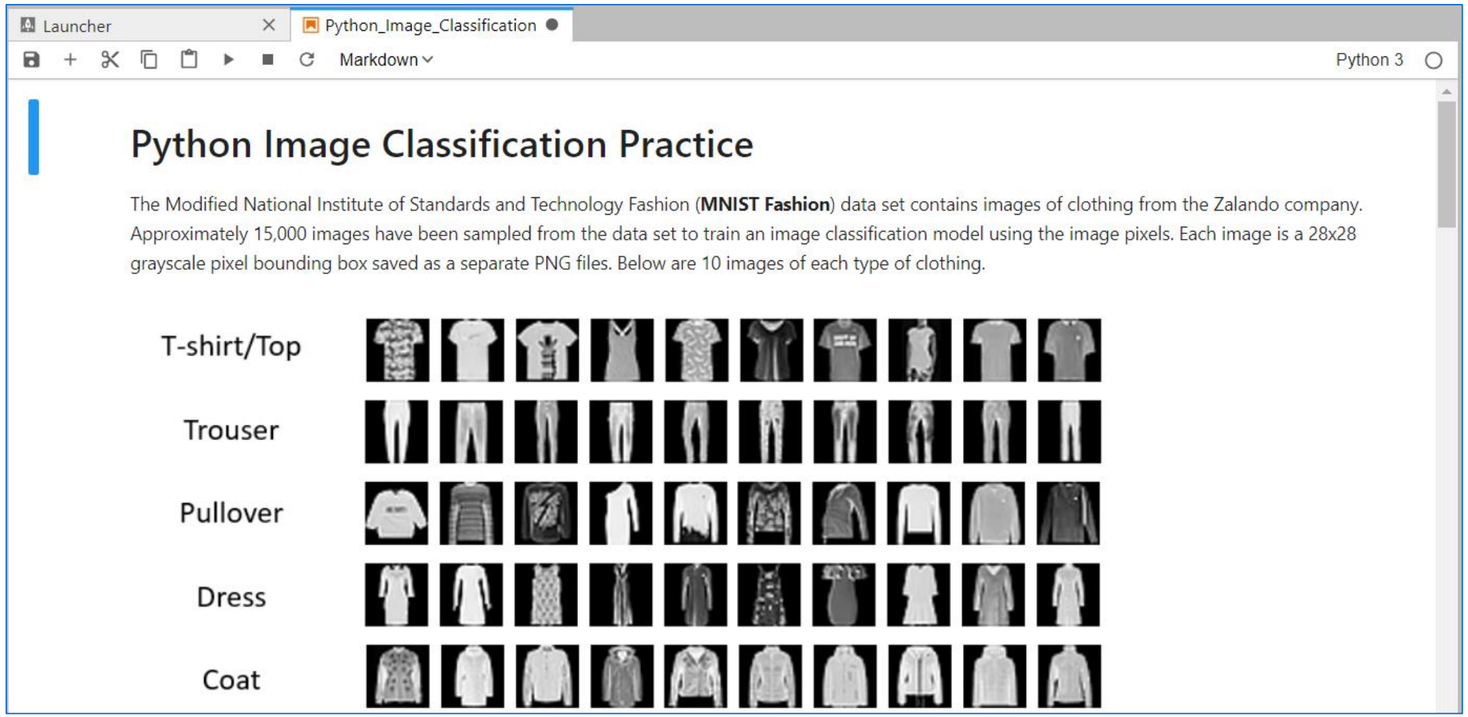
Jupyter

Where to get your open-source fix

Jupyter

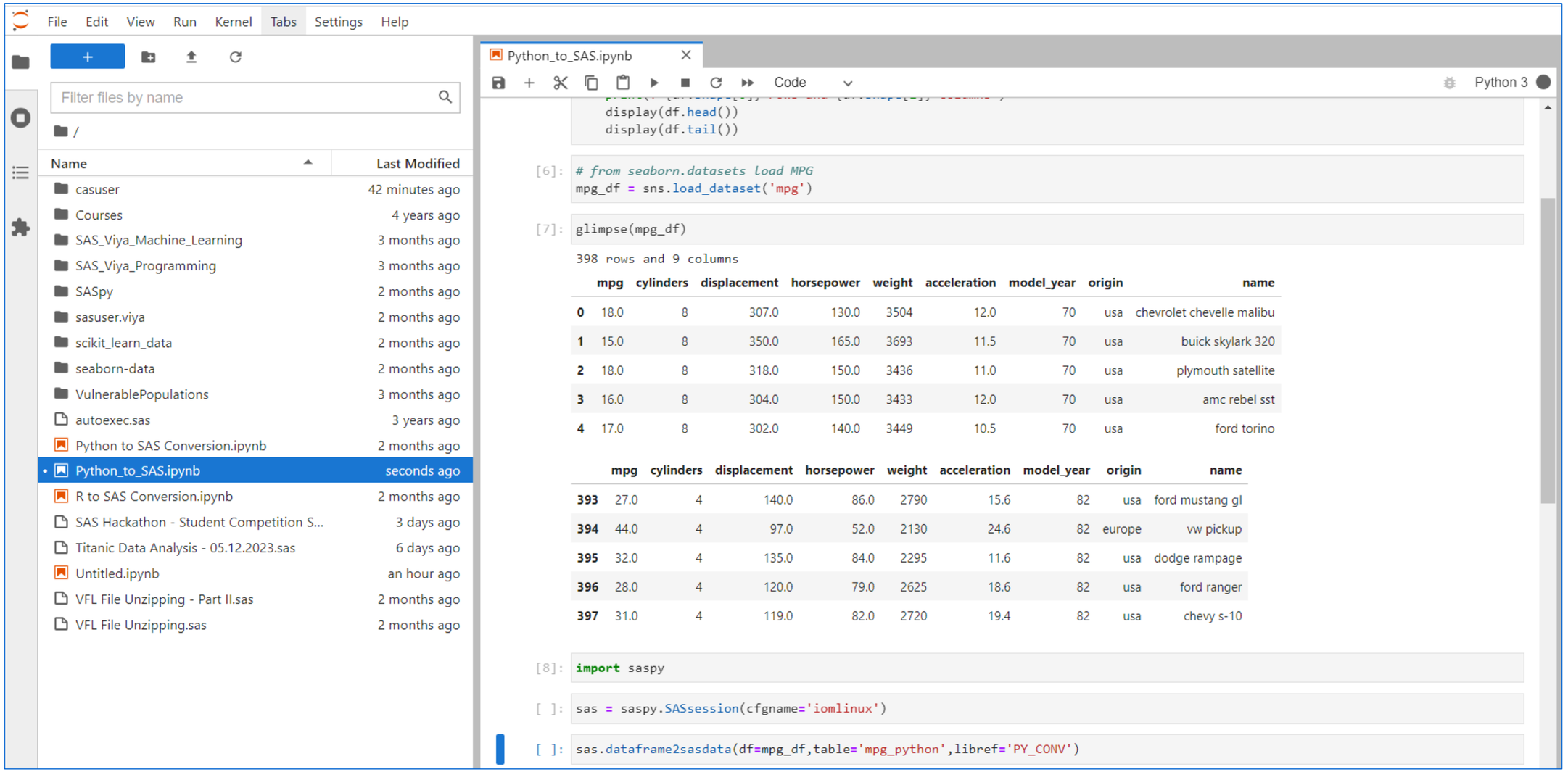
Better together | Run R, Python, and SAS Notebooks





Jupyter

Prefer to wrangle data in open source? | Convert open-source data to SAS



Want to Learn more?

New year = new (analytics) you?

Workshop plug alert!

Join me here at the Iowa SAS Users Group

SAS Viya Tour: What Makes SAS Viya Special

- 2 hour hands-on workshop, from 1:30 to 3:20
- You can explore SAS Studio, SAS Visual Analytics, and SAS Model Studio in SAS Viya 4
- Session 3 in Room E
- Talk to me after this session if you don't already have access to the software!

From Code to No-Code: Alternative Paths for Data Analytics

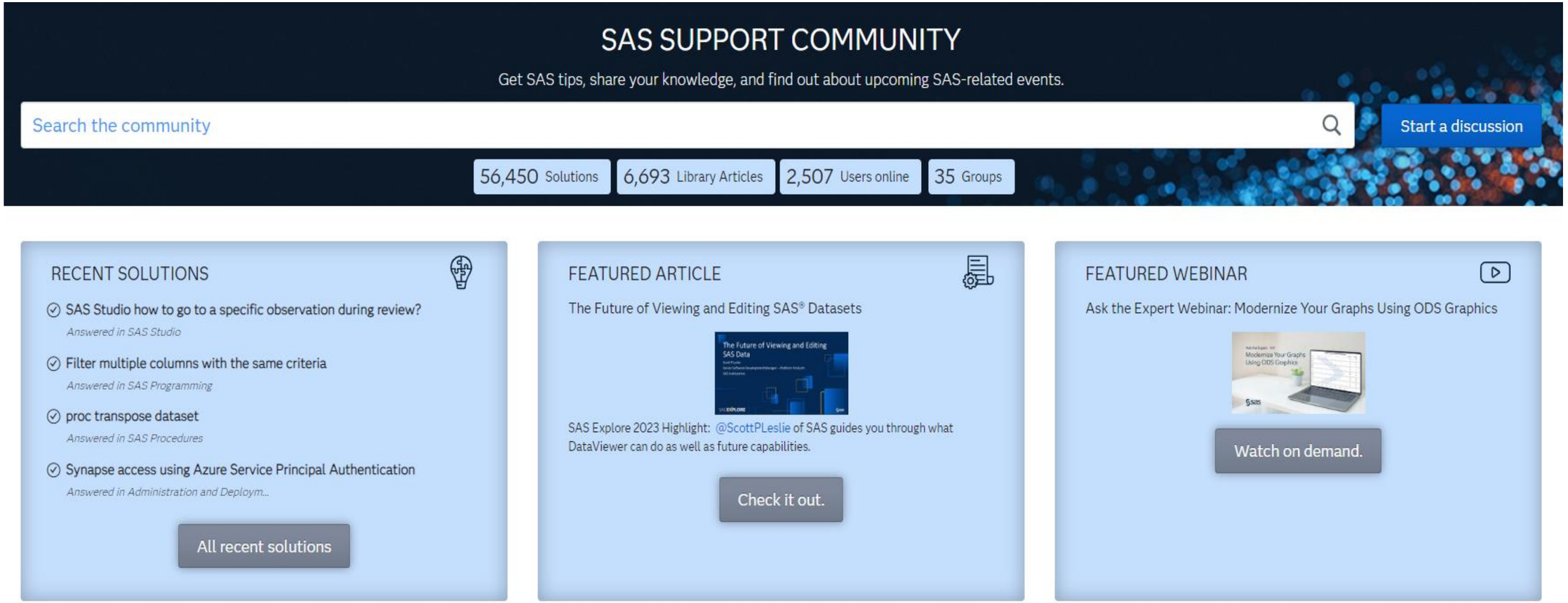
- 3:30 to 4:20
- We'll explore SAS Model Studio together, in detail!
- Session 2 in Room D

Other options: Start with the free stuff!

Part 1: SAS YouTube Channel

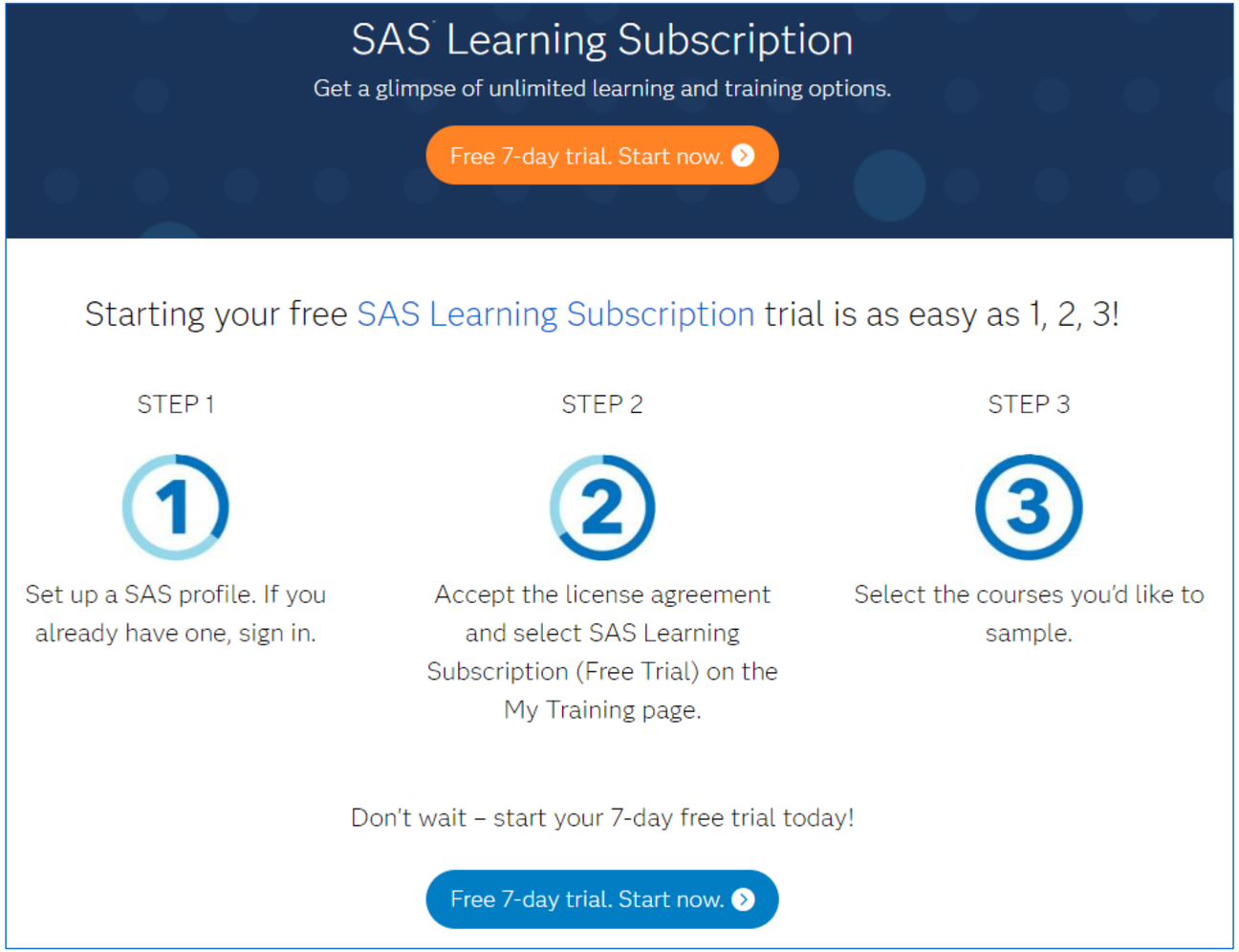
Other options: Start with the free stuff!

Part 2: SAS Communities



Other options: Start with the free stuff!

Part 3: SAS Learning Subscription Trial



Level up to a SAS Learning Subscription

… when it's time

	Learning Subscription	Premium Subscription
200+ On-Demand Courses*	✓	✓
Certification Practice Exams and Prep Guides*	✓	✓
Shareable Digital Badges	✓	✓
Hands-on Lab Hours	✓	✓
Usage Tracking Reports	✓	✓
Unlimited Public Live Web Courses		✓
Academy for Data Science		✓
Custom Dashboard		✓
Training Points		✓
Learning Needs Assessment and Adoption Services		✓

Included in free trial

View discounts and guidelines

Buy now >

START FREE TRIAL

Contact us >

START FREE TRIAL

Last Plug for Learning SAS Viya

Join us in the 2024 SAS Hackathon!

Visit the website
sas.com/hackathon

Engage and Learn

- SAS Innovate in Las Vegas: April 16-19
- SAS Innovate On Tour Boot Camps in 16 global locations

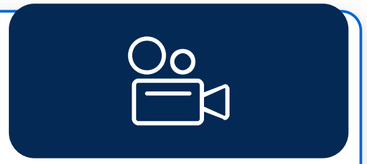
April – June

Kickoff 30 May
Registration
Learning (VLE)

May – August

ONE Month Hack

September 16 – October 11



Record and Upload

October 11-17

Jury Voting

October 18-28

Awards

November

Story Promotion

December

The Results

Thank you!

Connect with me on LinkedIn:

https://www.linkedin.com/in/lincoln-h-groves/