

Lab: Explore a Simple Generative Tool

Estimated time needed: 30 minutes

Overview

Generative AI models have revolutionized how you interact with technology, enabling you to create new content, generate realistic images, and translate languages with remarkable accuracy.

In this lab, you will gain hands-on experience with a simple generative AI tool, DataRobot, exploring its capabilities and applications.

Learning Objectives

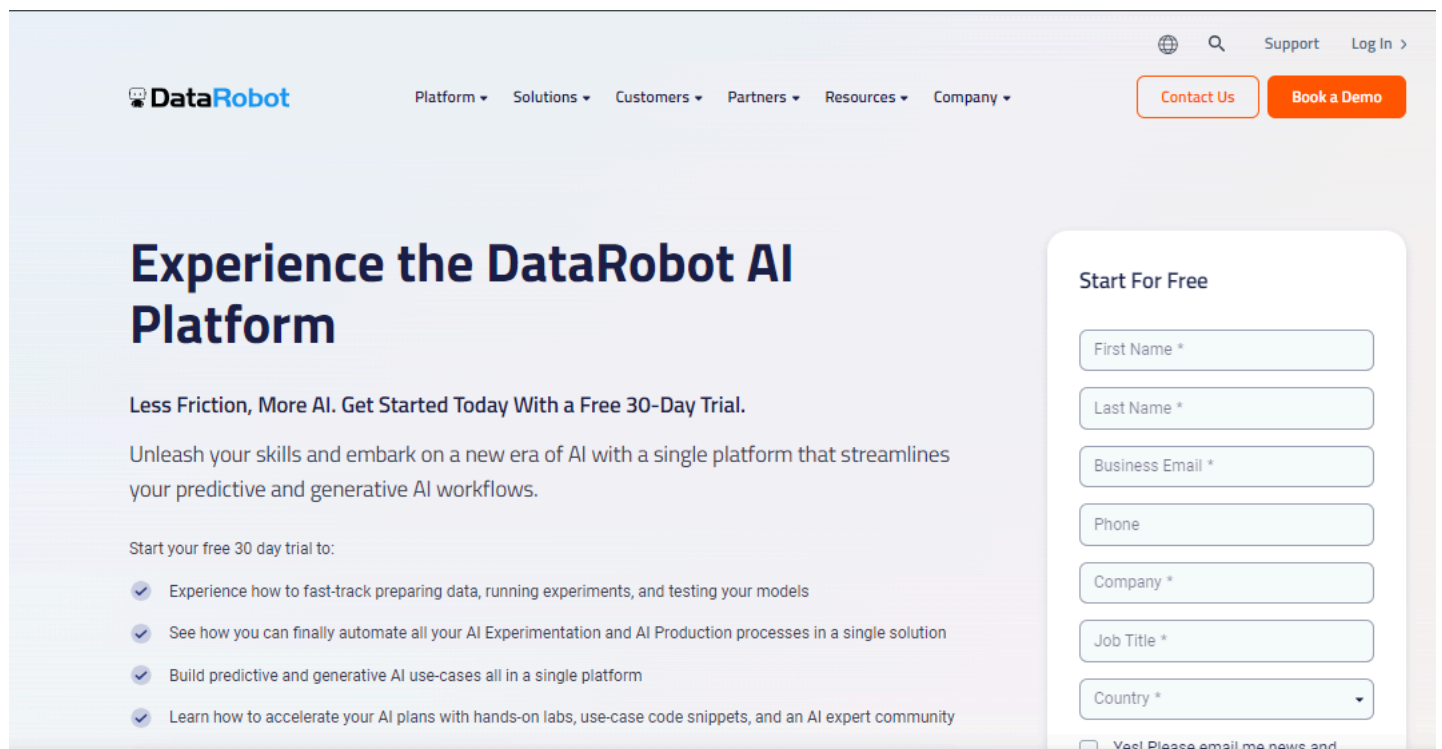
After completing this lab, you will be able to:

- Sign up in DataRobot
- Add a data set to the use case
- Work on model building

Task 1: Sign-up in DataRobot

Step 1: Click www.datarobot.com

Step 2: Fill in the required information under the "Start for free" section and create an account.



The screenshot shows the DataRobot website's homepage. The header includes the DataRobot logo, navigation links (Platform, Solutions, Customers, Partners, Resources, Company), and buttons for 'Contact Us' and 'Book a Demo'. The main content area features the headline 'Experience the DataRobot AI Platform' and a sub-headline 'Less Friction, More AI. Get Started Today With a Free 30-Day Trial.' Below this, a list of benefits for the free trial is provided. On the right side, there is a 'Start For Free' form with input fields for First Name, Last Name, Business Email, Phone, Company, Job Title, and Country, along with a checkbox for 'Yes! Please email me news and'.

Experience the DataRobot AI Platform

Less Friction, More AI. Get Started Today With a Free 30-Day Trial.

Unleash your skills and embark on a new era of AI with a single platform that streamlines your predictive and generative AI workflows.

Start your free 30 day trial to:

- ✓ Experience how to fast-track preparing data, running experiments, and testing your models
- ✓ See how you can finally automate all your AI Experimentation and AI Production processes in a single solution
- ✓ Build predictive and generative AI use-cases all in a single platform
- ✓ Learn how to accelerate your AI plans with hands-on labs, use-case code snippets, and an AI expert community

Start For Free

First Name *

Last Name *

Business Email *

Phone

Company *

Job Title *

Country *

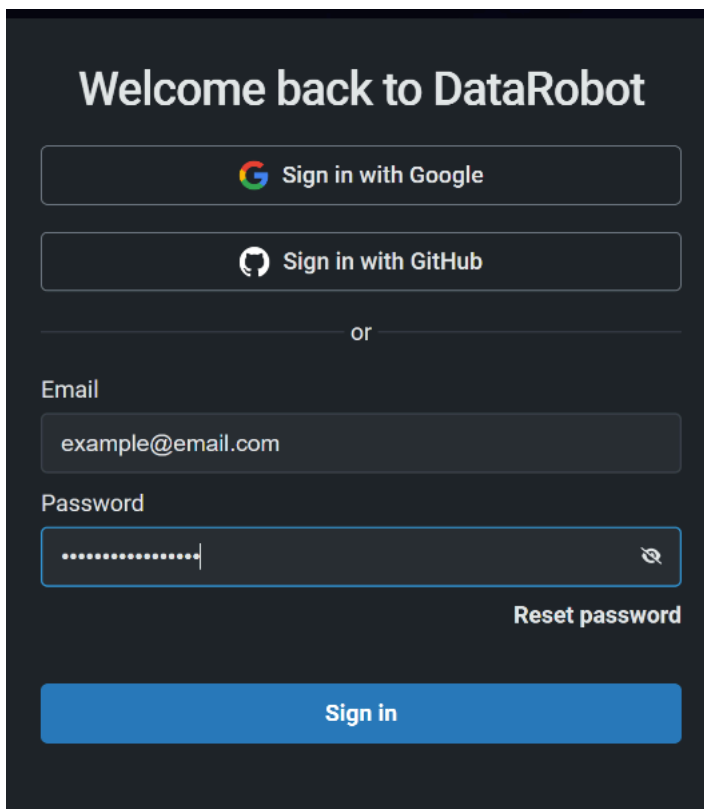
☐ Yes! Please email me news and

Note: To access the DataRobot platform, you must sign up using a work email address. If you do not have a relevant work email, an alternative is to create a GitHub account using your Gmail address. Once registered, you can log in to DataRobot using your GitHub credentials.

For step-by-step guidance on creating a GitHub account, please refer to the following link:

[GitHub Account Setup Guide](#)

Step 4: A new window will open; select the relevant option for signing up.



Welcome back to DataRobot

Sign in with Google

Sign in with GitHub

or

Email

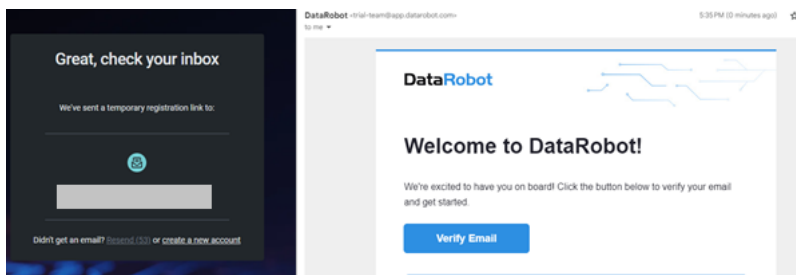
example@email.com

Password

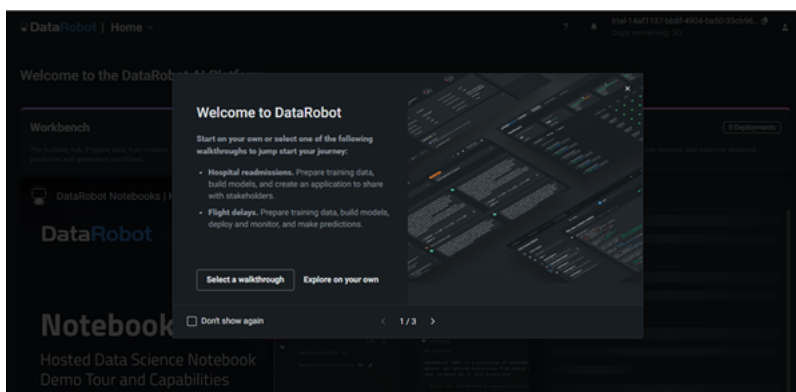
Reset password

Sign in

Step 5: Confirm your email by clicking **Verify Email** in your inbox.

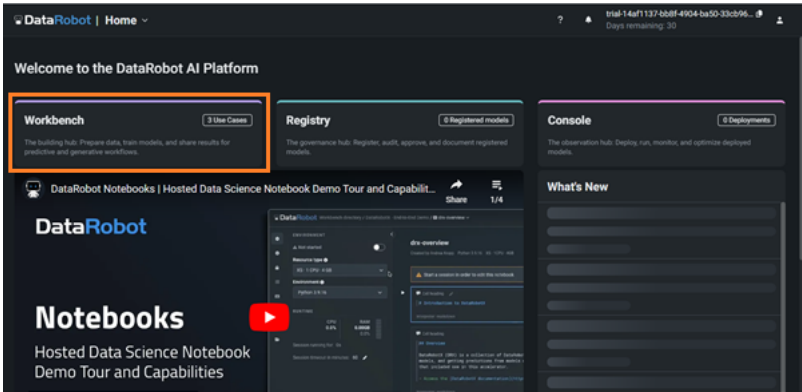


Step 6: Sign up and start your first experience of using the Generative AI tool.
The dashboard will look like the image below. You may like to familiarize yourself with the application by clicking **Select a walkthrough**.

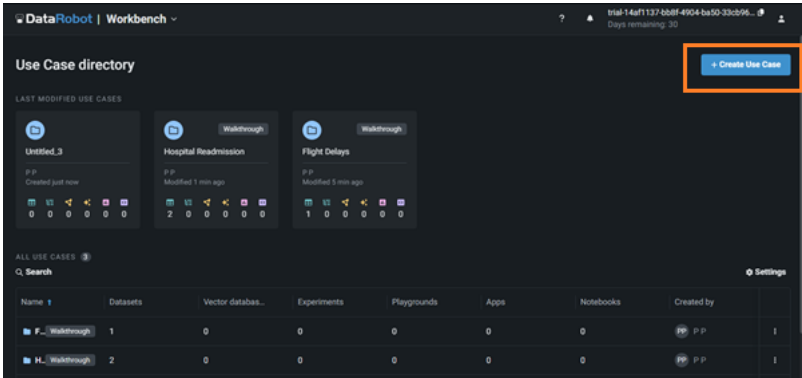


Task 2: Add a data set

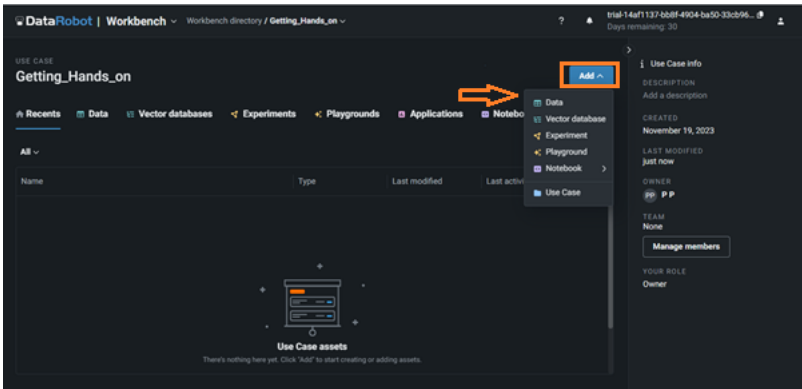
Step 7: The dashboard will appear shortly, and your screen will look as shown below. Click **Workbench**.



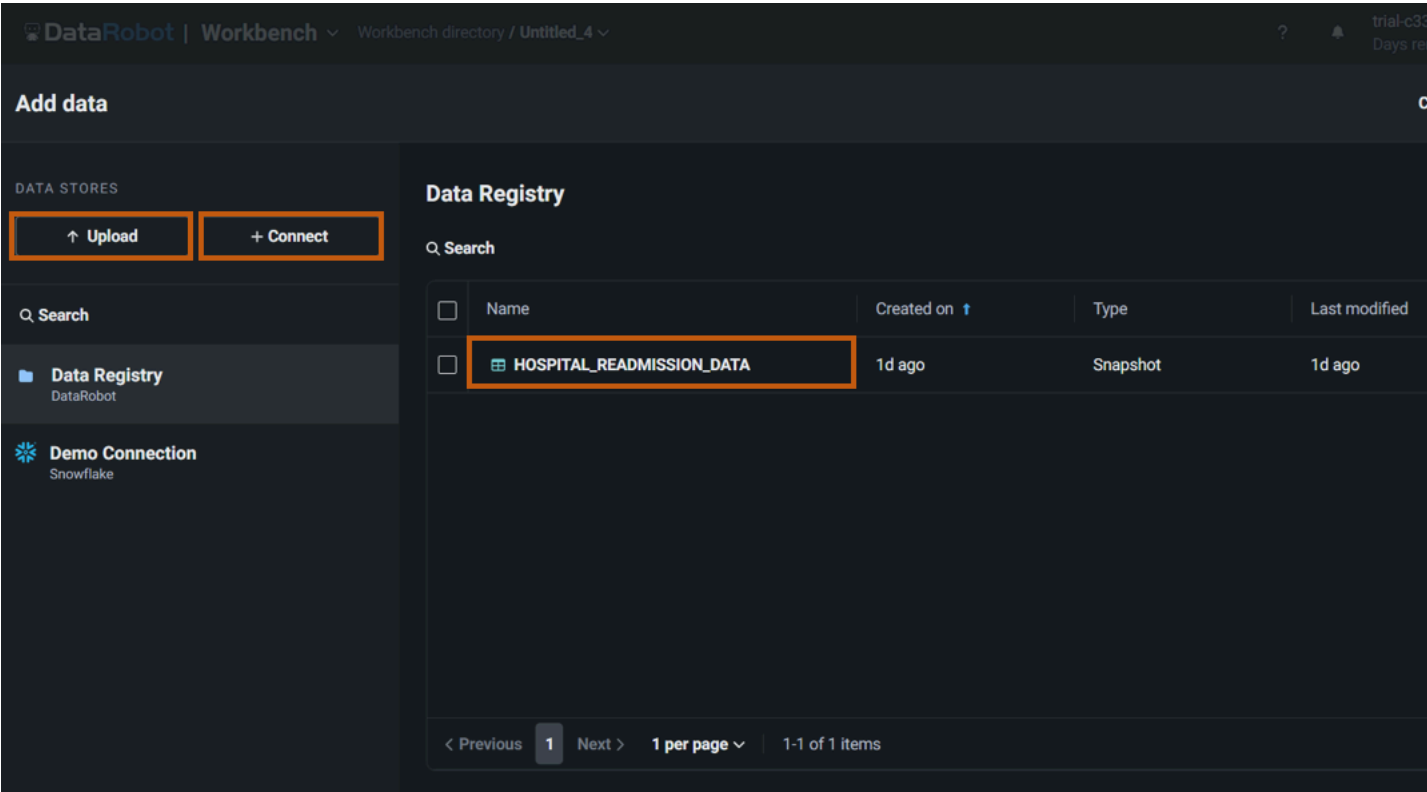
Step 8: Click Create Use Case.



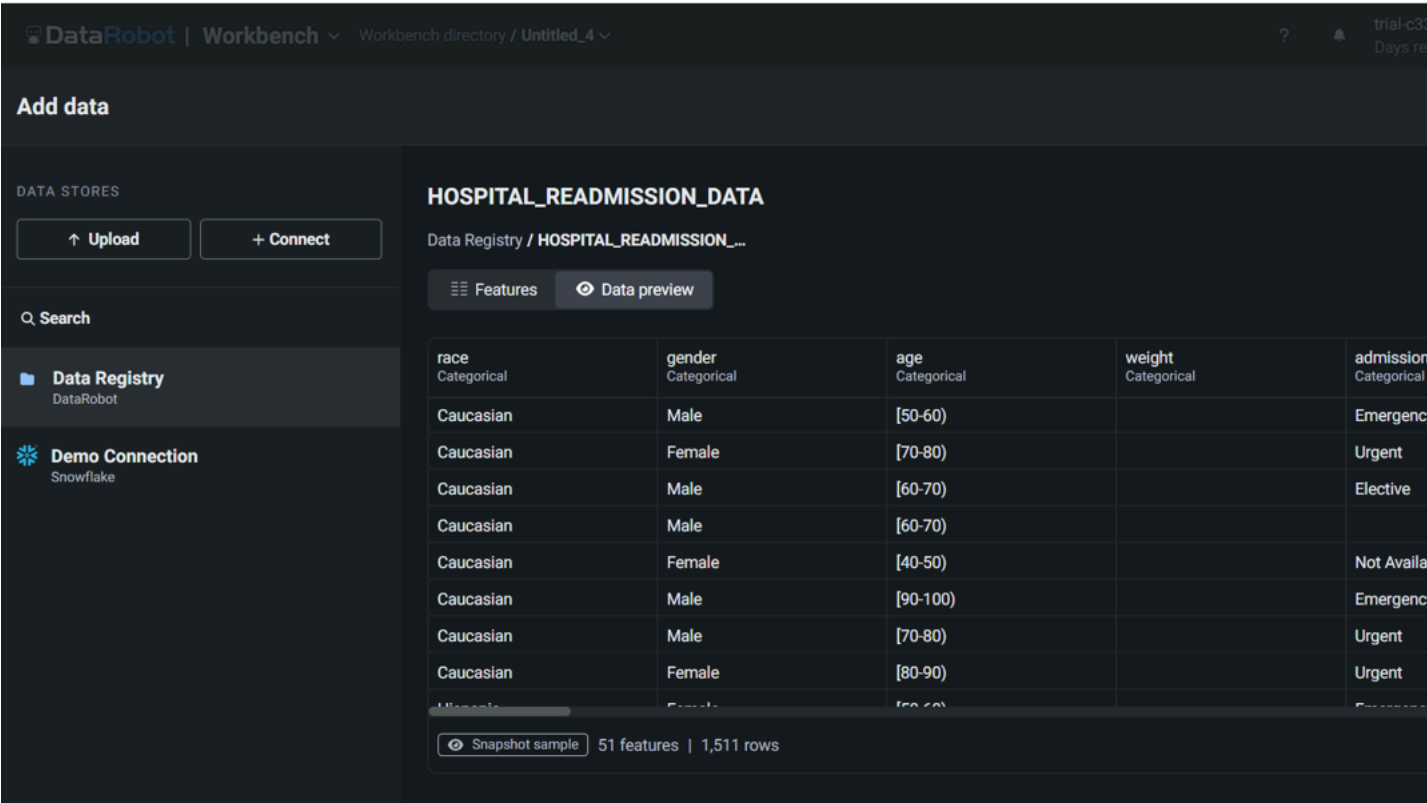
Step 9: Click **Add** and **Data** to include the data set in your use case.



Step 10: **Upload** your data set or **Connect** to the data source; however, for this lab, you can select an in-built sample data set *HOSPITAL_READMISSION_DATA*.



Step 11: Once you select the data set, you can see a preview of it. You can also view the data set's features, as shown below. Click **Add to Use Case**.



Step 12: After you add the data set to the use case, the workbench will appear as shown below. You can click the data set to see the feature insights.

DataRobot | Workbench Workbench directory / Untitled_4

< Use Case directory

USE CASE

Untitled_4

Add Data

All Data 1 Vector databases Experiments Playgrounds Applications

Type Search Settings

Name	Created By	Last Modified	Type	Source	Rows
HOSPITAL_READMISSION_DATA	PV Pratiksha V.	now	Snapshot	Snowflake	10000

< Previous 1 Next > 1 per page 1-1 of 1 items

Step 13: Explore the **All Features** menu to display specific features.

DataRobot | Workbench Workbench directory / Untitled_4 / HOSPITAL_READMISSION_DATA

HOSPITAL_READMISSION_DATA Jul 29th, 2024 10:39 AM Snapshot Data actions

Data preview Features Feature lists

Show insights Show features from: All Features + Create feature list

Search

DATAROBOT FEATURE LISTS

- All Features 51
- Informative Features 40
- Raw Features 51

race	age	weight	admission_type_id	discharge
Caucasian	[70-80]	==Missing==	Emergency	Discharge
AfricanAmerican	[60-70]	[75-100]	Urgent	Discharge
Other	Other	Other	Other	Other
Caucasian	[50-60]		Emergency	Discharge
Caucasian	[70-80]		Urgent	Discharge

Snapshot sample 51 features | 1,511 rows

Task 3: Work on Data Modeling

Step 14: Click **Start**. You will have options **Modelling** and **Start wrangling**. You can try data wrangling if you want to. For this lab, you will work on model building. Click **Start** and select **Modelling**. It will take a while to prepare a data set for modelling.

DataRobot | Workbench

Workbench directory / Untitled_4 / **HOSPITAL_READMISSION_DATA**

?

 trial-c3398e8

Days remaining

HOSPITAL_READMISSION_DATA

Jul 29th, 2024 10:39 AM

 Snapshot

Data actions

- Start wrangling
- Start modeling**
- Start feature discovery
- Download dataset
- Remove dataset

Data preview

 Features

 Feature lists

☒ Show insights
 Show features from: All Features
 + Create feature list

race	gender	age	weight	admission
Categorical	Categorical	Categorical	Categorical	Categorical
Caucasian AfricanAmerican Other	Female Male	[70-80] [60-70] Other	==Missing== [75-100] Other	Emergency Urgent Other
74% 21% 6%	54% 46%	26% 22% 52%	96% 2% 2%	49% 19% 32%
Caucasian	Male	[50-60]		Emergency
Caucasian	Female	[70-80]		Urgent
Caucasian	Male	[60-70]		Emergency

Snapshot sample
 51 features | 1,511 rows

Step 15: Once done, you need to select the **Target feature**. Select **readmitted** as your target feature.

DataRobot | Workbench

Workbench directory / Untitled_4

trial-c3398e
Days remain

Set up new experiment

✓ Dataset
🎯 Target
⚙️ Additional settings

Target feature

Select the feature to make predictions on.

payer_code

pioglitazone

race

readmitted

repaglinide

troglitazone

tolbutamide

tolazamide

time_in_hospital

	Uniq...	Missi...	Mean	Std Dev		
	7	9592	-	-		
troglitazone	35	Categorical	1	0	-	-
tolbutamide	30	Categorical	2	0	-	-
tolazamide	36	Categorical	2	0	-	-
time_in_hospital	7	Numeric	14	0	4.43	3.021

Experiment

HOSPITAL_07-30 11:23

📊 Dataset Name

Rows Features

🎯 Target
No target selected

Step 16: The workbench screen will be displayed as shown below. Click **Next**.

DataRobot | Workbench Workbench directory / Untitled_4

Set up new experiment

Dataset Target Additional settings

Target feature
Select the feature to make predictions on.

readmitted

Target type: Binary classification

Positive class: ☐ 0 ☒ 1

Modeling mode
Set the mode used for selecting which blueprints to build when training models.

Quick Autopilot

Optimization metric
Set the metric used when training models to evaluate and optimize accuracy.

LogLoss (Accuracy) Recommended

Number of rows

Values of readmitted	Number of rows
False	~5800
True	~3800

Experiment
HOSPITAL_P
07-30 11:23

Dataset
Name

Rows
Features

Target
Feature
Target type
Positive class
Modeling mo
Optimization
Training fea

Partitioning

Step 17: You can modify the model setting in **Additional Settings**; once done, click **Next** and then click **Start modelling**.

DataRobot | Workbench Workbench directory / Untitled_4

Set up new experiment

Dataset Target Additional settings

Data partitioning Time series modeling Preview **Additional settings**

Partitioning method
Select the method for assigning rows to partitions when training models.

Stratified sampling
Rows are assigned to ensure similar target distribution across each partition.

Validation type

☒ Cross-validation
Trains models on a specified number of folds, maximizing data use but also increasing run time.

☐ Training-validation-holdout
Splits data into three partitions: trains models on the training set, assess performance on the validation set, and evaluates the model on unseen data in the holdout set.

Cross-validation folds
Enter a value from 2 - 50.

Holdout percentage
Set the subset of data that is unavailable during training and validation. Enter a value

Experiment
HOSPITAL_P
07-30 11:23

Dataset
Name

Rows
Features

Target
Feature
Target type
Positive class
Modeling mo
Optimization
Training fea

Partitioning

Step 18: Building models will take a while.

The screenshot shows the DataRobot Workbench interface. The top navigation bar includes the DataRobot logo, 'Workbench', and a dropdown menu. The main content area is divided into a left sidebar and a main panel. The sidebar has tabs for 'Experiment' and 'Comparison'. Under 'Experiment', there are options to 'View experiment info', 'Filter', 'Validation' (set to 'LogLoss'), and a 'Search' bar. The 'MODELS' section shows '0/0' models. The main panel displays a large loading spinner and the text 'Models are building...'.

Step 19: once the modelling is complete, you can pick a model of your choice, and the DataRobot will show the **Model Overview**.

The screenshot shows the DataRobot Workbench interface with the 'Model Overview' for an 'Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance)'. The left sidebar is the same as in the previous screenshot, but the 'MODELS' section now shows '3/3' models. The main panel is titled 'Model Overview' and contains the following sections:

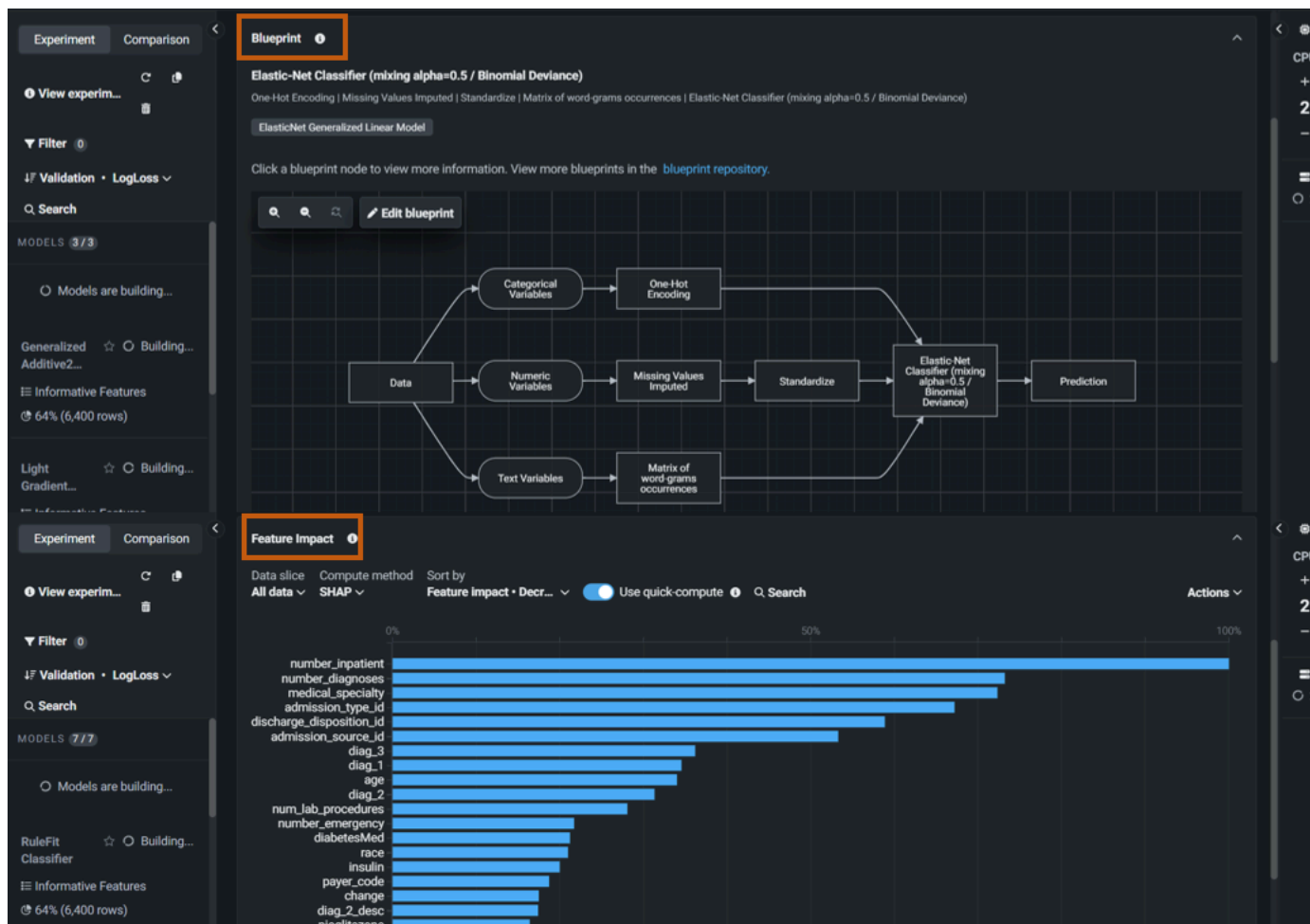
- Training scores: LogLoss**

	Score
Validation	0.6089
Cross-validation	0.6111
Holdout	0.6111
- Training settings**

	Informative Features
Training feature list	64% (6,400 rows)
Training sample size	64% (6,400 rows)
- Blueprint**
- Feature Impact**
- Feature Effects**
- Individual Prediction Explanations**
- ROC Curve**

The 'Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance)' model is highlighted in the sidebar with a score of 0.6089.

Step 20: You can explore various model overview components like **Blueprint**, **Feature Impact**, and so on.



Step 21: If you have test or unseen data, you can also make predictions by clicking **Make Predictions** under **Model actions**.

The screenshot displays the Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance) interface. The **Model Overview** section shows training scores and settings. The **Make Predictions** section provides options for uploading a prediction dataset and configuring prediction options.

Training scores: LogLoss

Validation	Score
Validation	0.6089
Cross-validation	0.6111
Holdout	0.6111

Training settings

Training feature list	Informative Features
Training sample size	64% (6,400 rows)

Make Predictions

Make new predictions

Prediction dataset

Prediction datasets cannot exceed 5.00 GB.

Drop file(s) here to upload or [Choose file](#)

Prediction options

- ☒ Include additional feature values in prediction
- ☒ Add all features ☐ Add specified features
- ☐ Include Prediction Explanations

[Compute and download predictions](#)

Download recent predictions

Predictions are stored and available to download for 48 h

No recent predictions

Step 22: You can also click **Generate compliance report** and **download compliance report** for your use case.

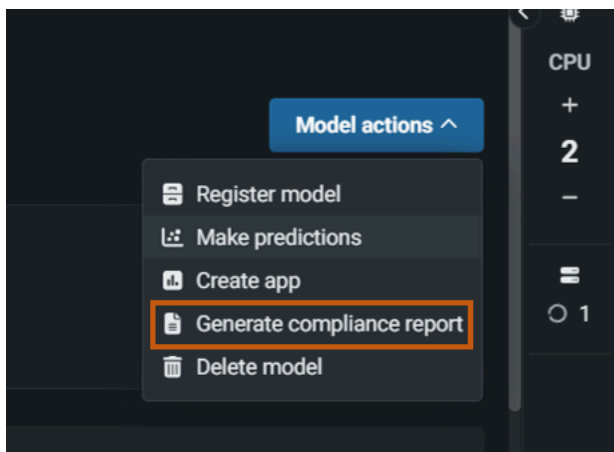


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 - 3.4 Overview of Model Results
 - 3.5 Model Interdependencies
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 - 4.2 Data Source Overview and Appropriateness
 - 4.3 Input Data Extraction, Preparation, and Quality & Completeness

Conclusion

In this lab, you have signed up in DataRobot, added a data set in a use case, and worked on data modelling.

Author(s)

[Dr. Pooja](#)



Skills Network