

# 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

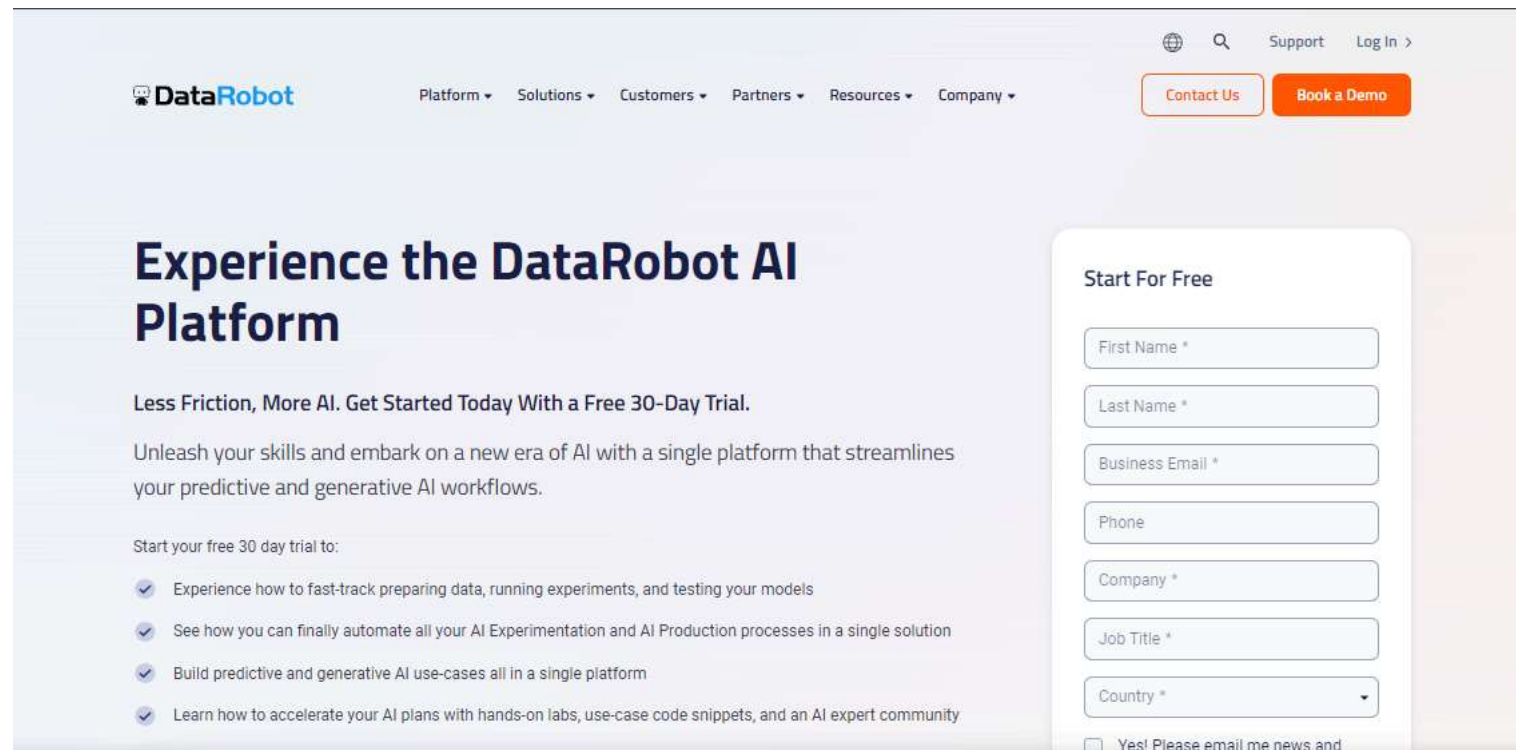
After completing this lab, you will be able to:

- 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](https://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 utility links (Support, Log In). Two prominent buttons are '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 paragraph states: 'Unleash your skills and embark on a new era of AI with a single platform that streamlines your predictive and generative AI workflows.' A section titled 'Start your free 30 day trial to:' lists four benefits with checkmarks. On the right, a 'Start For Free' form is displayed with fields for First Name, Last Name, Business Email, Phone, Company, Job Title, and Country. A checkbox at the bottom of the form is labeled 'Yes! Please email me news and'.

**DataRobot** Platform Solutions Customers Partners Resources Company

Contact Us Book a Demo

## 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

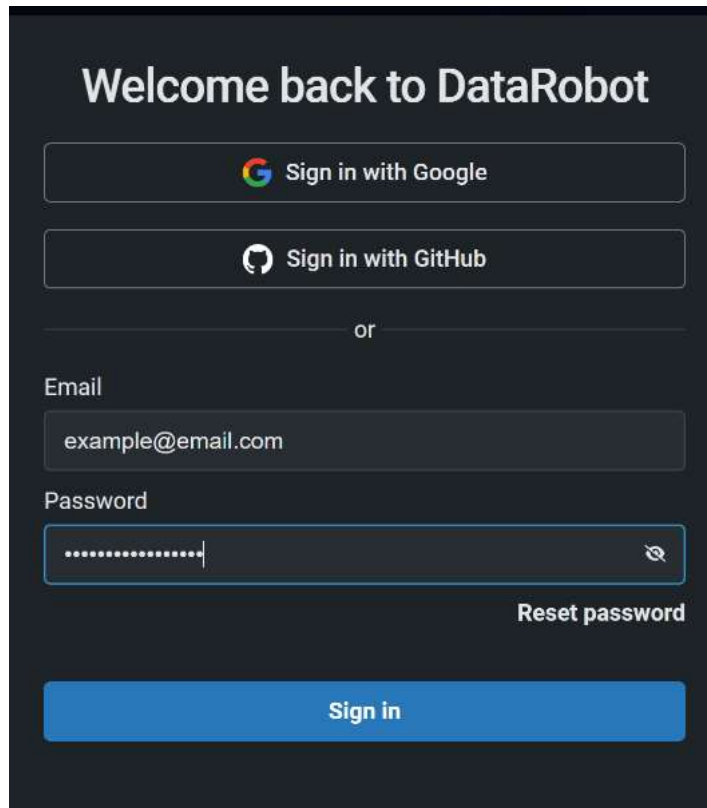
Company \*

Job Title \*

Country \*

☐ Yes! Please email me news and

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

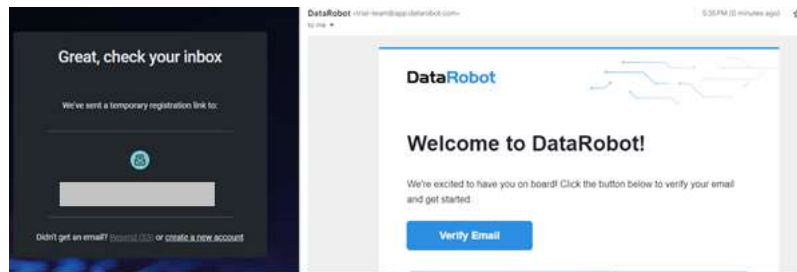
example@email.com

Password

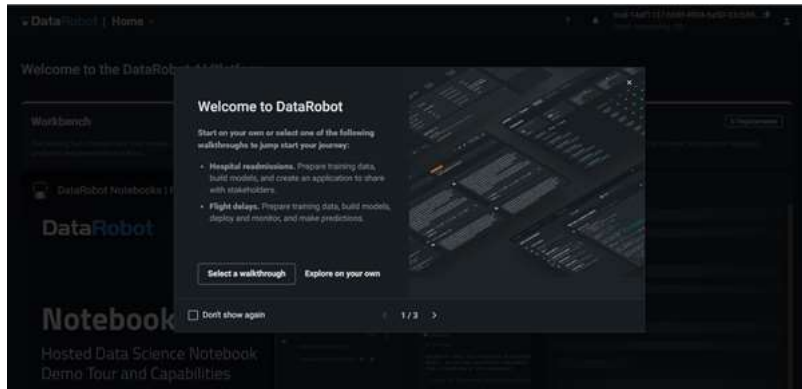
Reset password

Sign in

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

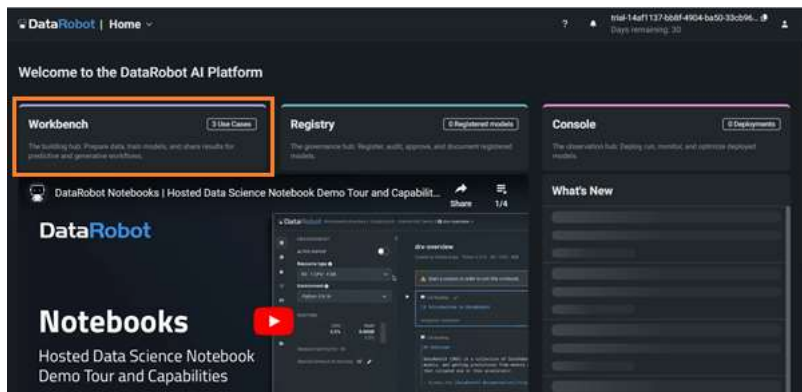


Step 6: Sign up and start your first experience of using the Generative AI tool.  
The dashboard will look like the image below. You may like to familiarize yourself with the application by clicking **Select a walkthrough**.

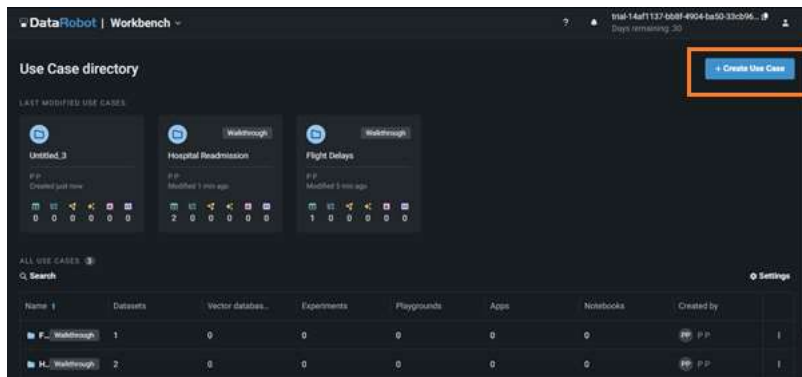


## Task 2: Add a data set

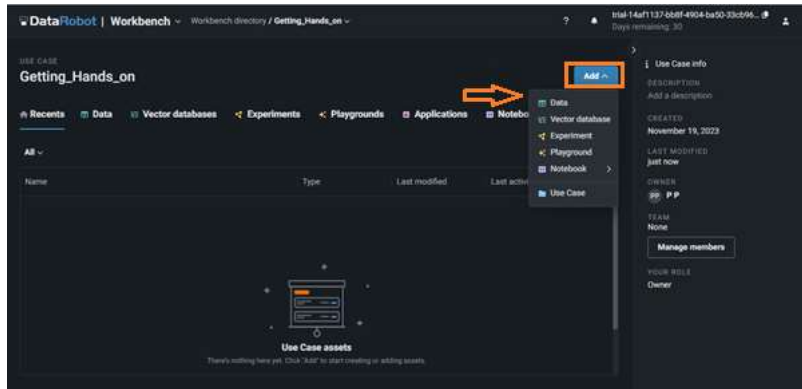
Step 7: The dashboard will appear shortly, and your screen will look as shown below. Click **Workbench**.



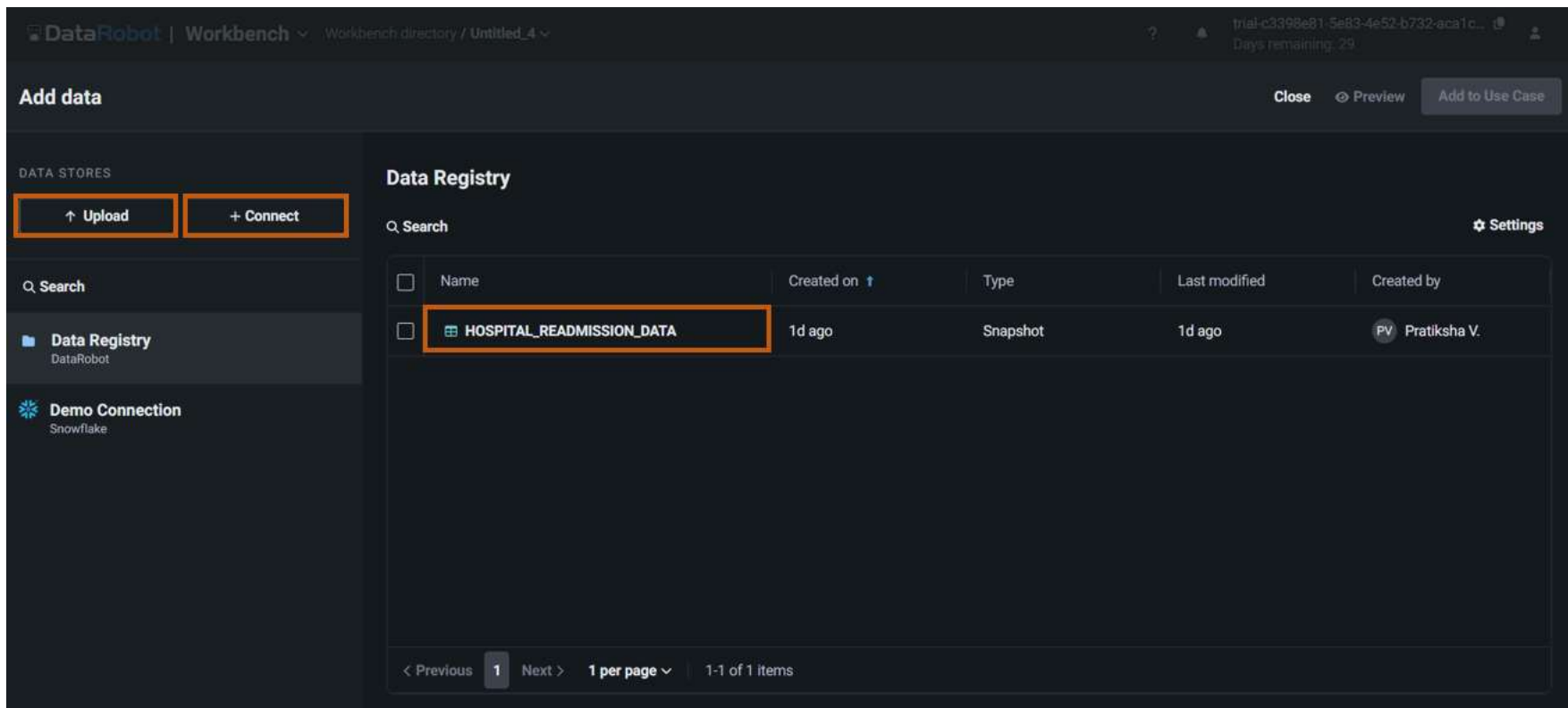
Step 8: Click **Create Use Case**.



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**.

DataRobot | Workbench

Workbench directory / Untitled\_4

trial-c3398e81-5e83-4e52-b732-aca1c...  
Days remaining: 29

Add data

Close

Add to Use Case

DATA STORES

↑ Upload

+ Connect

Q Search

Data Registry  
DataRobot

Demo Connection  
Snowflake

HOSPITAL\_READMISSION\_DATA

Data Registry / HOSPITAL\_READMISSION\_...

Features

Data preview

race	gender	age	weight	admission_type_id	discharge_dispositi
Categorical	Categorical	Categorical	Categorical	Categorical	Categorical
Caucasian	Male	[50-60)		Emergency	Discharged to hom
Caucasian	Female	[70-80)		Urgent	Discharged/transfe
Caucasian	Male	[60-70)		Elective	
Caucasian	Male	[60-70)			Discharged to hom
Caucasian	Female	[40-50)		Not Available	Discharged to hom
Caucasian	Male	[90-100)		Emergency	Discharged/transfe
Caucasian	Male	[70-80)		Urgent	Discharged/transfe
Caucasian	Female	[80-90)		Urgent	Discharged to hom
Hispanic	Female	[50-60)		Emergency	Discharged to hom

Snapshot sample 51 features | 1,511 rows

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 ? trial-c3398e81-5e83-4e52-b732-aca1c... Days remaining: 29

< Use Case directory

USE CASE

# Untitled\_4

**Add Data** ▼

**All** **Data** **Vector databases** **Experiments** **Playgrounds** **Applications**

Type ▼ Q Search Settings

Name	Created By	Last Modified <span>↑</span>	Type	Source	Rows	
<b>HOSPITAL_READMISSION_DATA</b>	<b>PV</b> Pratiksha V.	now	Snapshot	Snowflake	10000	<span>⋮</span>

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

**Use Case info**

**DESCRIPTION**  
Add a description

**CREATED**  
July 29, 2024

**LAST MODIFIED**  
just now

**OWNER**  
**PV** Pratiksha Verma

**TEAM**  
None

**Manage members**

**YOUR ROLE**  
Owner

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

**DataRobot | Workbench** Workbench directory / Untitled\_4 / **HOSPITAL\_READMISSION\_DATA** ? Days remaining: 29

## 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

**Information**

DATE ADDED  
July 29, 2024

ADDED BY  
Pratiksha Verma

FEATURES  
51

ROWS  
10,000

SIZE  
5.48 MB

DATABASE  
Snowflake / Demo Connection

SCHEMA  
TRIAL\_READONLY

TABLE  
HOSPITAL\_READMISSION\_DATA

Dataset Versions

### 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

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

Data preview Features Feature lists

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

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

Snapshot sample 51 features | 1,511 rows

**Information**

DATE ADDED  
July 29, 2024

ADDED BY  
Pratiksha Verma

FEATURES  
51

ROWS  
10,000

SIZE  
5.48 MB

DATABASE  
Snowflake / Demo Connection

SCHEMA  
TRIAL\_READONLY

TABLE  
HOSPITAL\_READMISSION\_DATA

**Dataset Versions**

**Data actions**

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

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



DataRobot | Workbench

Workbench directory / Untitled\_4

trial-c3398e81-5e83-4e52-b732-aca1c...  
Days remaining: 29

Set up new experiment

Dataset

Target

Additional settings

Exit < Back Next >

Target feature

Select the feature to make predictions on.

payer\_code

pioglitazone

race

readmitted

repaglinide

trogliatzone

tolbutamide

tolazamide

time\_in\_hospital

	Uniq...	Missi...	Mean	Std Dev		
	7	9592	-	-		
trogliatzone	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 summary

HOSPITAL\_READMISSION\_DATA - 2024-07-30 11:23:57

Dataset

Name

Rows

Features

HOSPITAL\_READMISSIO

N\_DATA

10,000

51

Target

No target selected

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

**DataRobot | Workbench** Workbench directory / Untitled\_4

trial-c3398e81-5e83-4e52-b732-aca1c... Days remaining: 29

### Set up new experiment

Dataset Target Additional settings

Exit < Back **Next >**

**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

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

**Experiment summary**

HOSPITAL\_READMISSION\_DATA - 2024-07-30 11:23:57

**Dataset**

Name	HOSPITAL_READMISSION_DATA
Rows	10,000
Features	51

**Target**

Feature	readmitted
Target type	Binary classification
Positive class	1
Modeling mode	Quick Autopilot
Optimization metric	LogLoss
Training feature list	Informative Features

**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

trial-c3398e81-5e83-4e52-b732-aca1c...  
Days remaining: 29

Set up new experiment

Dataset

Target

Additional settings

Exit < Back Start modeling

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 summary

HOSPITAL\_READMISSION\_DATA - 2024-07-30 11:23:57

Dataset

Name

HOSPITAL\_READMISSION\_DATA

Rows

10,000

Features

51

Target

Feature

readmitted

Target type

Binary classification

Positive class

1

Modeling mode

Quick Autopilot

Optimization metric

LogLoss

Training feature list

Informative Features

Partitioning

Step 18: Building models will take a while.

The screenshot displays the DataRobot Workbench interface. At the top, the header shows 'DataRobot | Workbench' and the current project path: 'Workbench directory / Untitled\_4 / <1 HOSPITAL\_READMISSION\_DATA - 2024-07-30 11:23:57'. A user profile icon and a 'Days remaining: 29' notification are also visible. The left sidebar contains navigation options: 'Experiment' (selected) and 'Comparison'. Under 'Experiment', there are links for 'View experiment info', a 'Filter' section, and a 'Validation' section set to 'LogLoss'. A 'Search' bar is also present. The 'MODELS' section shows '0/0' models. Below this, a list of models is displayed, including 'Keras Slim Residual Neural Network Classifier using...' and 'Elastic-Net Classifier (L2 / Binomial Deviance)', both marked as 'Building...'. The main workspace area is dark and features a large circular progress indicator and the text 'Models are building...'. On the right side of the interface, there is a vertical toolbar with icons for 'CPU', '+', '2', '-', '=', and '2'.

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 displays the DataRobot Workbench interface. The top navigation bar includes the DataRobot logo, the 'Workbench' tab, and the current project path: 'Workbench directory / Untitled\_4 / HOSPITAL\_READMISSION\_DATA - 2024-07-30 11:23:57'. On the right, a user profile icon and a trial status 'trial-c3398e81-5e83-4e52-b732-aca1c...' with 'Days remaining: 29' are visible.

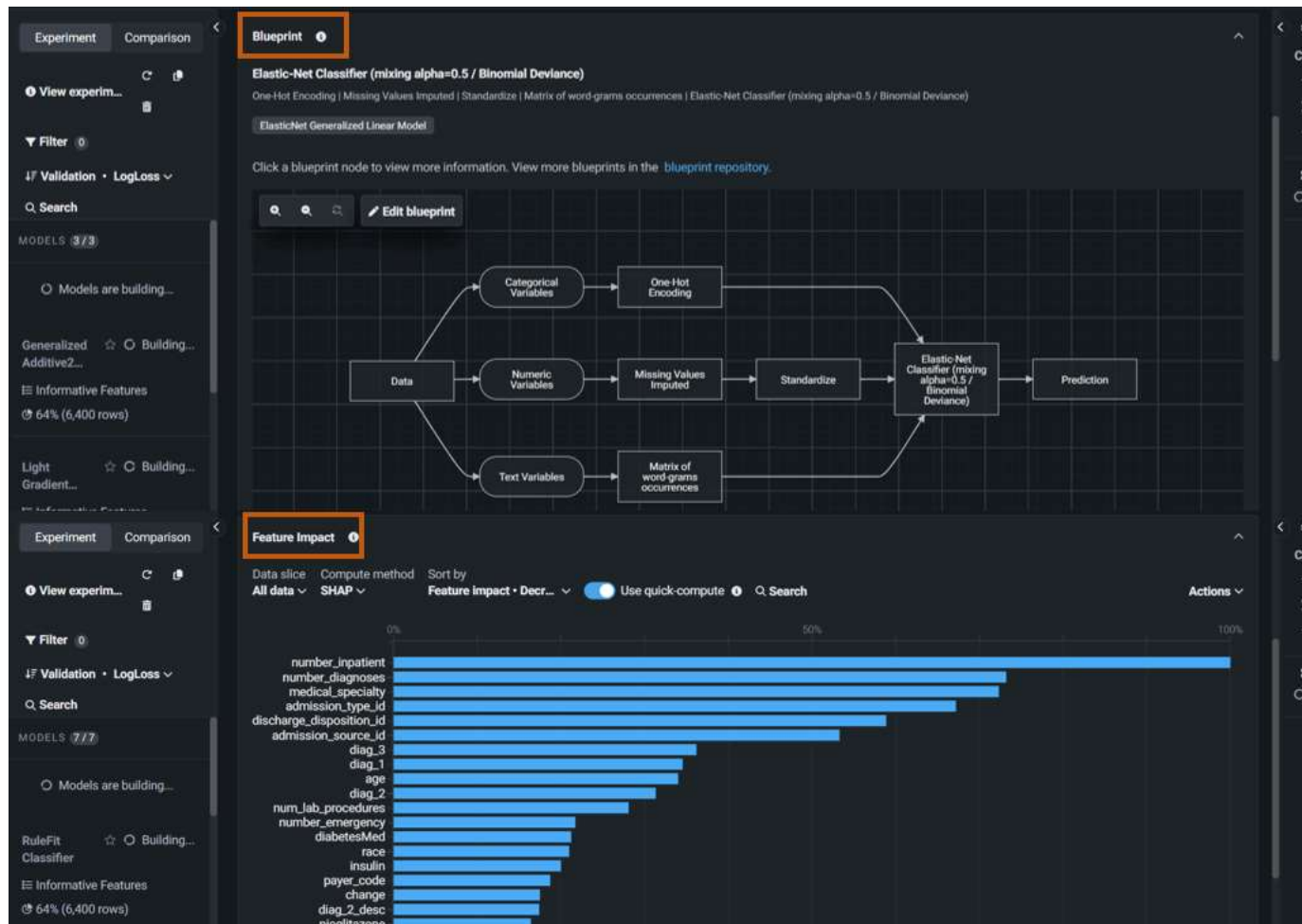
The left sidebar contains tabs for 'Experiment' and 'Comparison'. Below these are links for 'View experiment info', a 'Filter' button, and a 'Validation' dropdown set to 'LogLoss'. A search bar is also present. The 'MODELS (3/3)' section shows a list of models. The first model, 'Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance)', is highlighted with an orange box and shows a score of 0.6089. Below it are two other models: 'Elastic-Net Classifier (L2 / Binomial Deviance)' with a score of 0.6115, and 'Keras Slim Residual Neural' with a score of 0.6327.

The main panel is titled 'Model Overview' (highlighted with an orange box) and shows details for the selected 'Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance)'. It includes a 'Model actions' button. The 'Training scores: LogLoss' section displays a table with validation, cross-validation, and holdout scores. The 'Training settings' section shows the training feature list and sample size. Below these are expandable sections for 'Blueprint', 'Feature Impact', 'Feature Effects', 'Individual Prediction Explanations', and 'ROC Curve'.

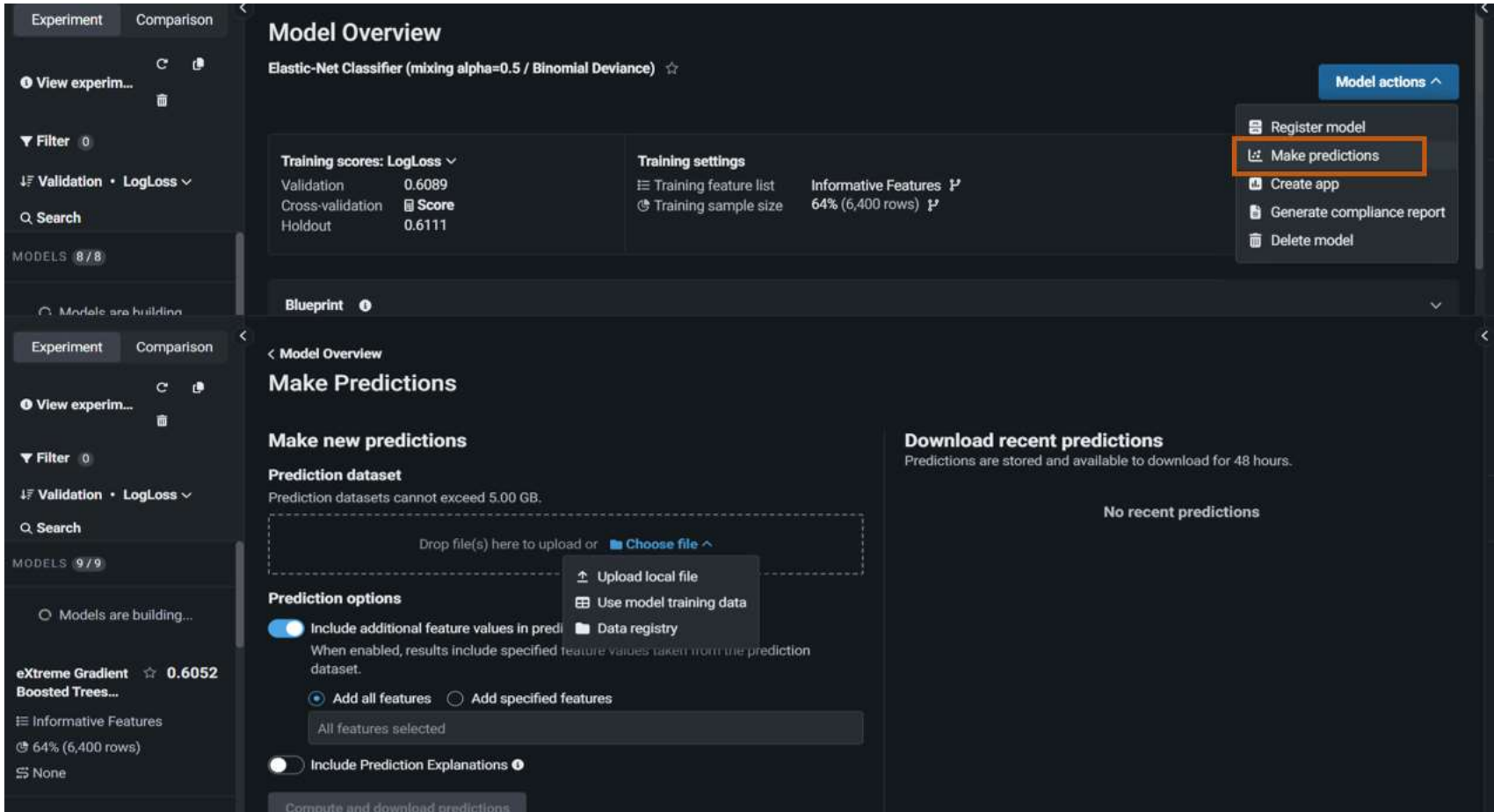
Validation	Score
0.6089	0.6111

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

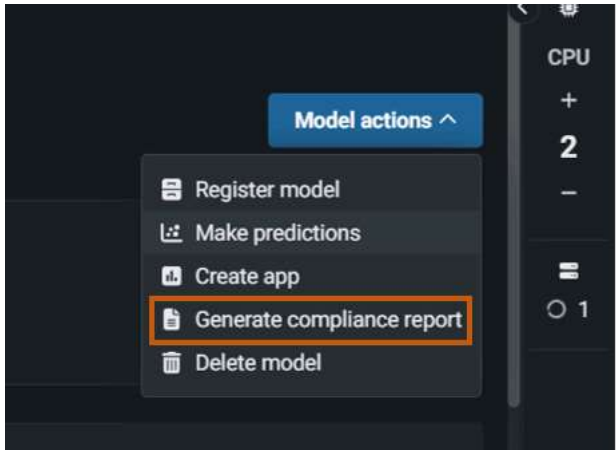
Step 20: You can explore various model overview components like **Blueprint**, **Feature Impact**, and so on.



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



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