

Hands-on 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.



Platform ▾ Solutions ▾ Customers ▾ Partners ▾ Resources ▾ Company ▾

SupportLog In >

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

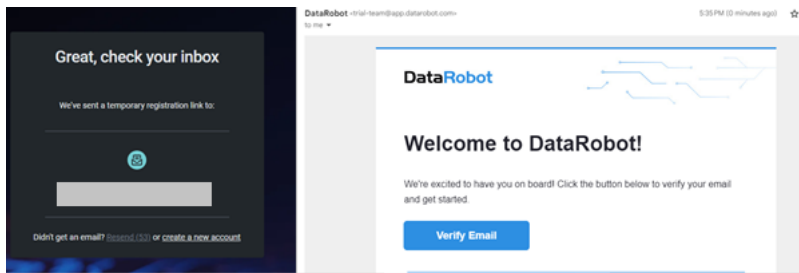
.....



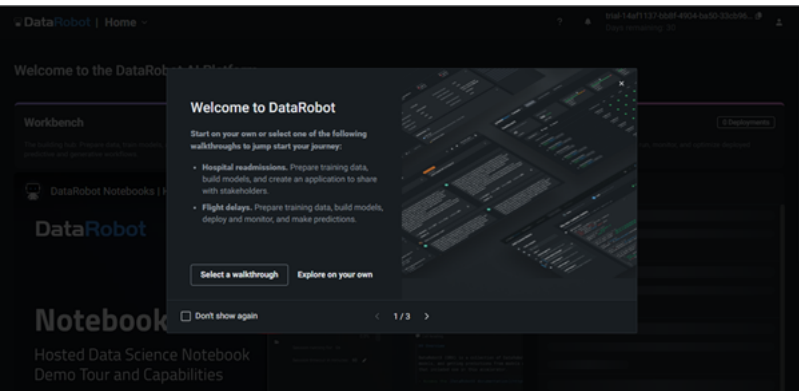
[Reset password](#)

Sign in

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

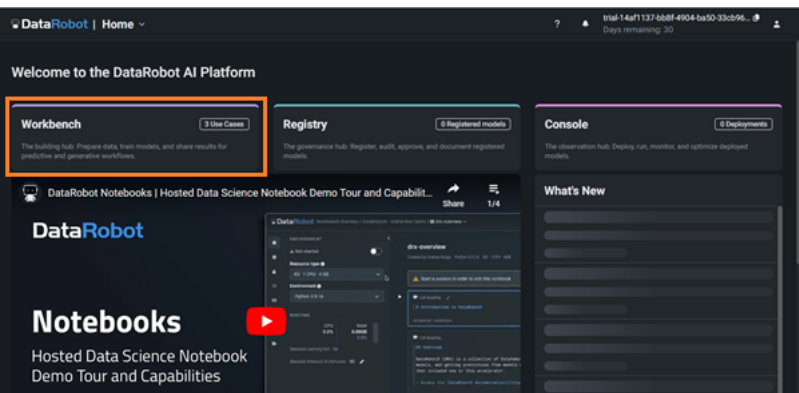


Step 6: Sign up and start your first experience of using the Generative AI tool.
The dashboard will look like the image below. You may like to familiarize yourself with the application by clicking **Select a walkthrough**.

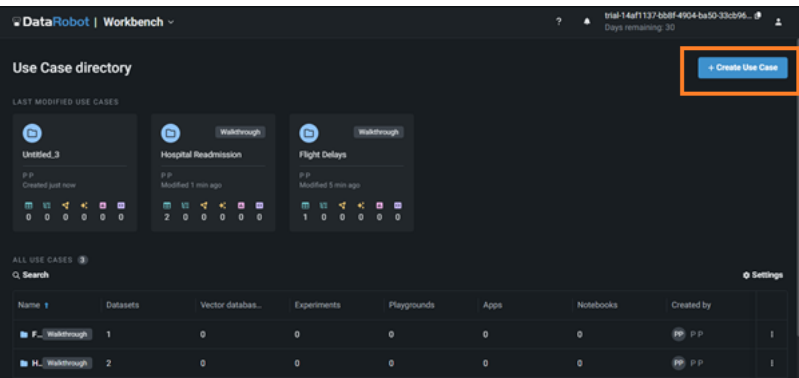


Task 2: Add a data set

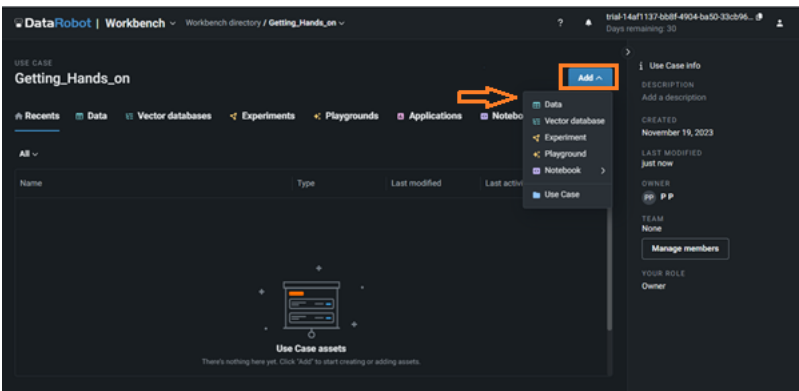
Step 7: The dashboard will appear shortly, and your screen will look as shown below. Click **Workbench**.



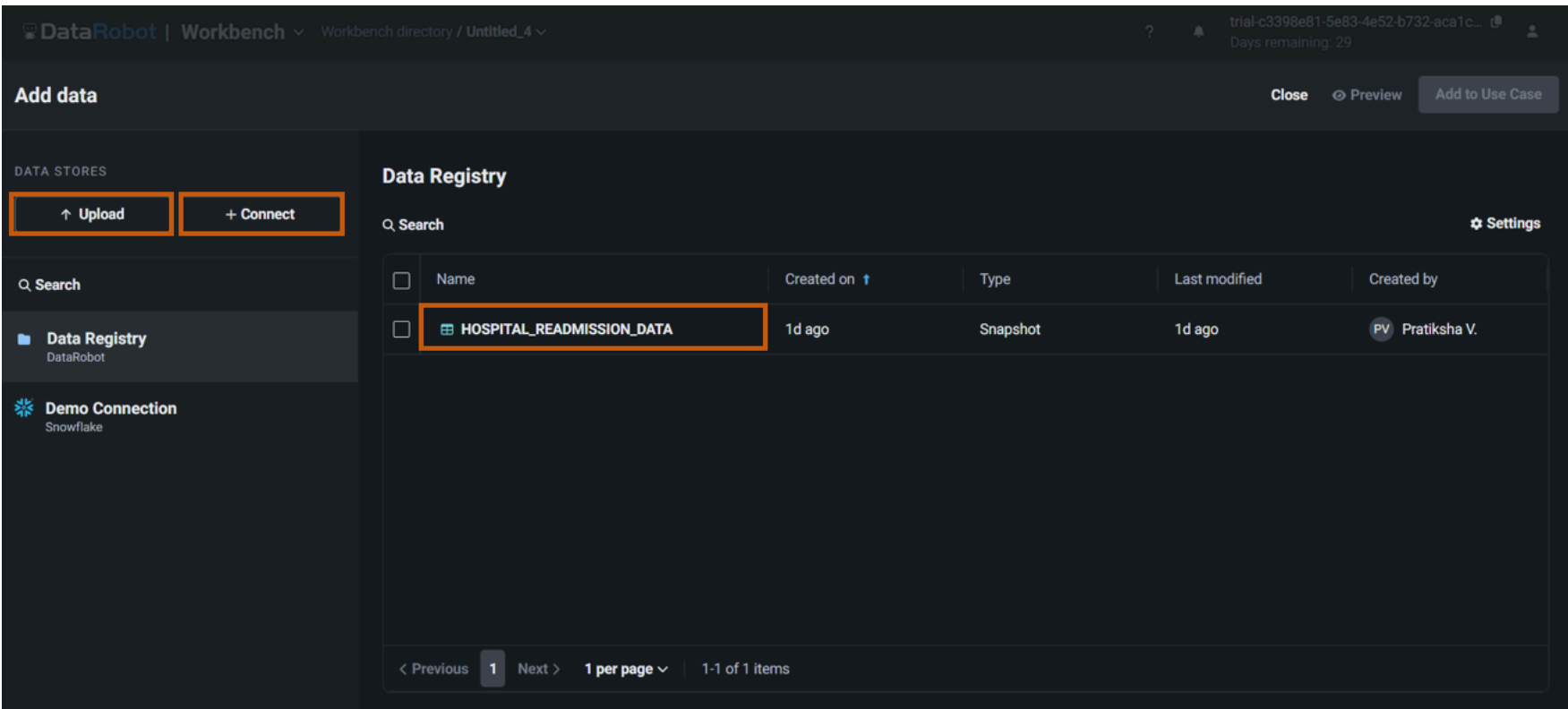
Step 8: Click **Create Use Case**.



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

CloseAdd 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 1

Vector databases

Experiments

Playgrounds

Applications

Type

Q Search

Settings

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

< Previous

1

Next >

1 per page

1-1 of 1 items

i 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

trial-c3398e81-5e83-4e52-b732-aca1c...

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 Features51

Informative Features40

Raw Features51

race

Categorical

Caucasian

AfricanAmerican

Other

21%

6%

Male

46%

age

Categorical

[70-80]

[60-70]

Other

26%

52%

weight

Categorical

==Missing==

[75-100]

Other

96%

2%

2%

admission_type_id

Categorical

Emergency

Urgent

Other

49%

19%

32%

discharge

Categorical

Discharge

Discharge

Other

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

?

🔔

trial-c3398e81-5e83-4e52-b732-aca1c...
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

race	gender	age	weight	admission
Categorical	Categorical	Categorical	Categorical	Categorical
Caucasian	Female	[70-80]	==Missing==	Emergency
AfricanAmerican	Male	[60-70]	[75-100]	Urgent
Other		Other	Other	Other
Caucasian	Male	[50-60]		Emergency
Caucasian	Female	[70-80]		Urgent
Caucasian	Male	[60-70]		Emergency

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

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

renaaolinide

trogilitazone

tolbutamide

tolazamide

time_in_hospital

			Uniq...	Missi...	Mean	Std Dev
			7	9592	-	-
trogilitazone	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

HOSPITAL_READMISSION_DATA

Rows

10,000

Features

51

Target

No target selected

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

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

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

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.

Experiment

Comparison

View experiment info

Filter 0

Validation • LogLoss

Search

MODELS 0/0

Models are building...

Keras Slim Residual Neural Network Classifier using...

Informative Features

64% (6,400 rows)

Elastic-Net Classifier (L2 / Binomial Deviance)

Informative Features

64% (6,400 rows)

Models are building...

CPU + 2 -

2

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

Experiment

Comparison

View experiment info

Filter 0

Validation • LogLoss

Search

MODELS 3/3

Models are building...

Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance) ☆ 0.6089

Informative Features

64% (6,400 rows)

Elastic-Net Classifier (L2 / Binomial Deviance) ☆ 0.6115

Informative Features

64% (6,400 rows)

Keras Slim Residual Neural ☆ 0.6327

Model Overview

Elastic-Net Classifier (mixing alpha=0.5 / Binomial Deviance) ☆

Model actions

Training scores: LogLoss

Validation 0.6089

Cross-validation

Score

 0.6111

Holdout

Training settings

Training feature list

Training sample size

Informative Features 64% (6,400 rows)

Blueprint

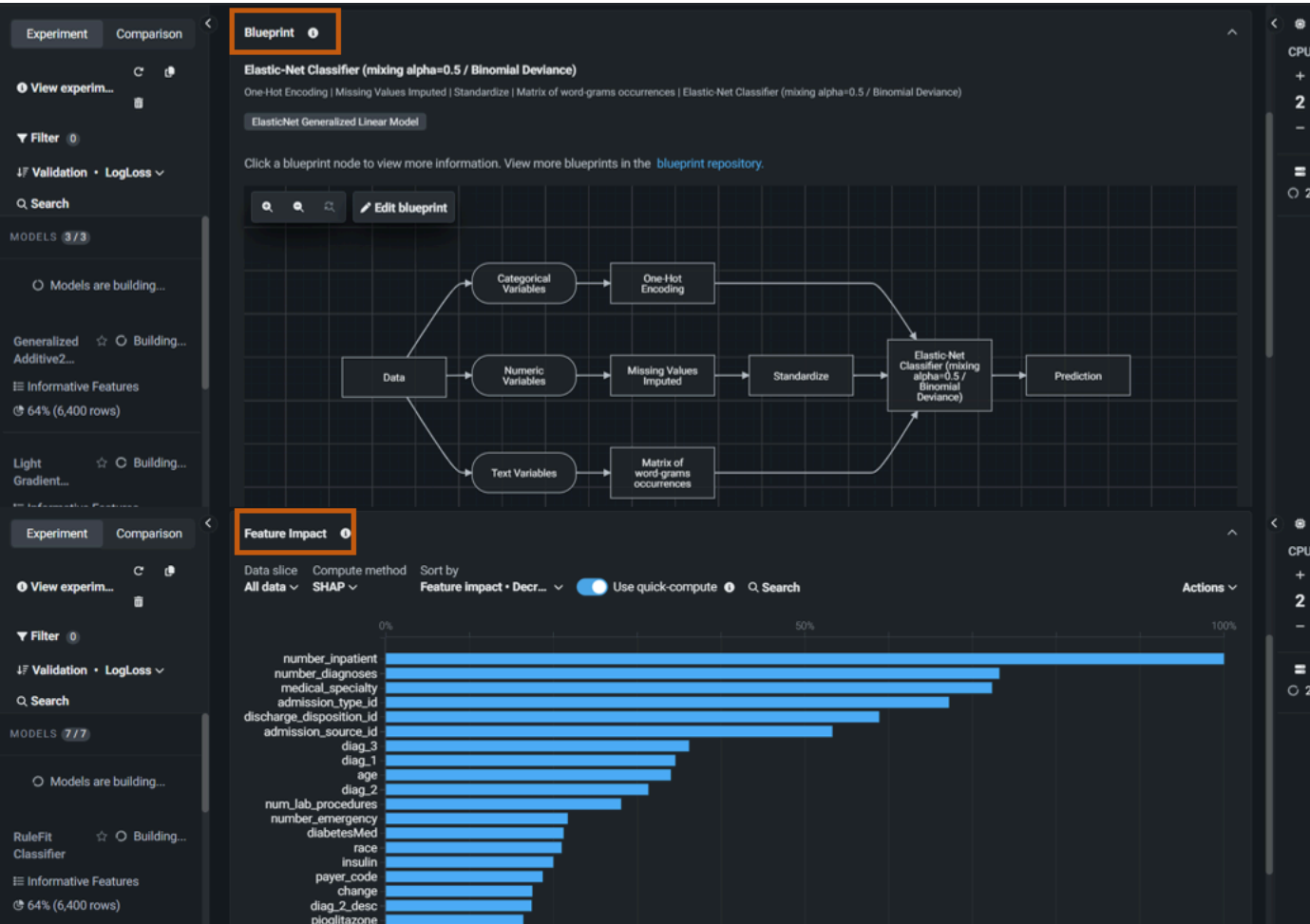
Feature Impact

Feature Effects

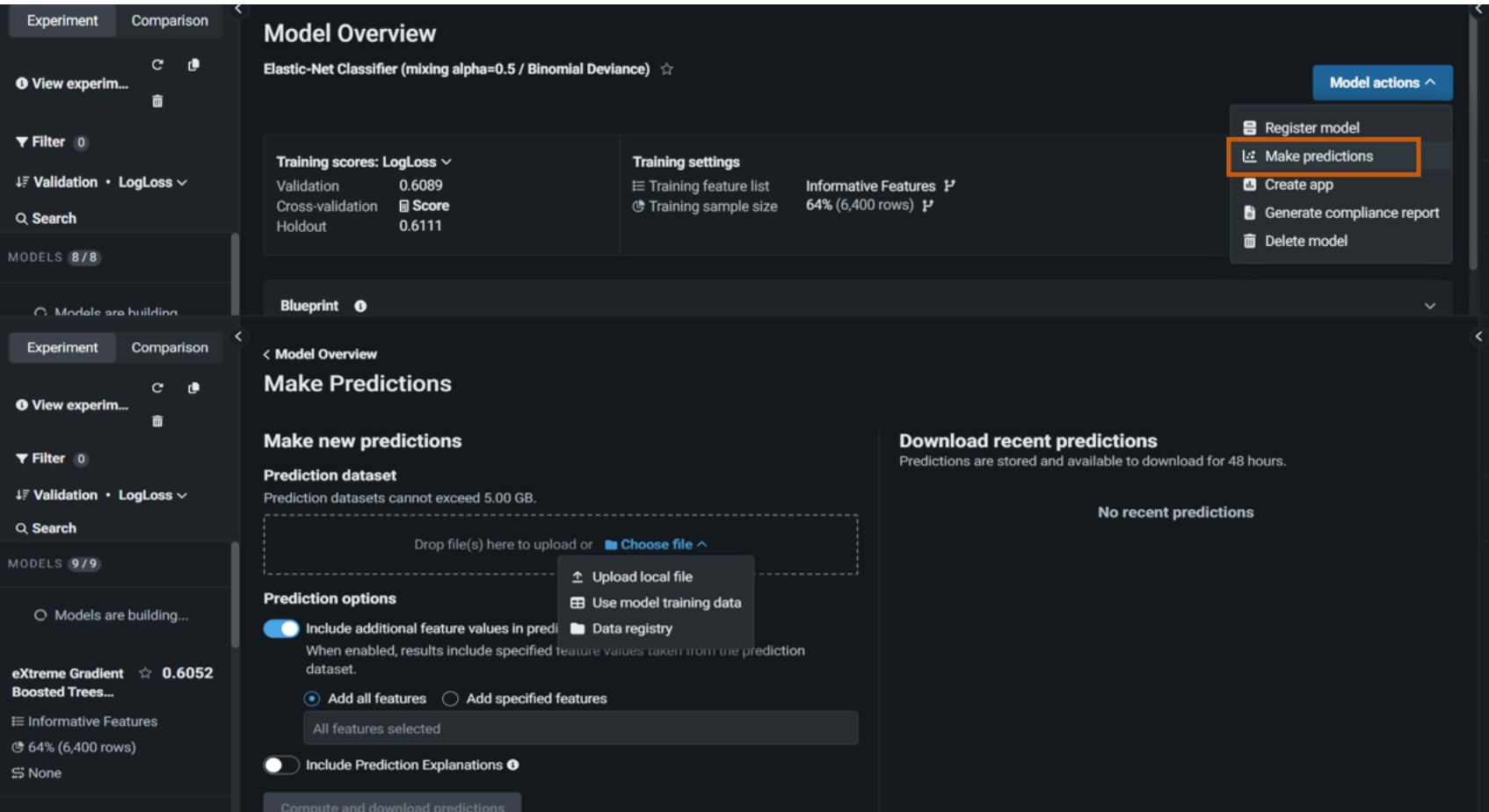
Individual Prediction Explanations

ROC Curve

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.

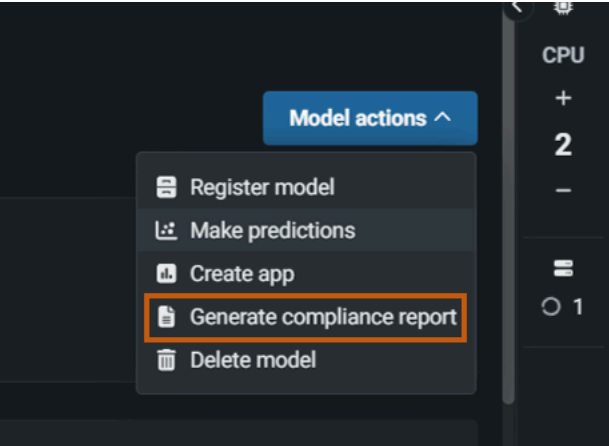


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Conclusion

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](#)

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