

Screenshot of mlflow ui

The screenshot shows the mlflow UI interface. The top navigation bar includes the mlflow logo, version 1.26.1, and tabs for Experiments and Models. The main header displays the experiment name 'Lead_Scoring_Model_Experimentation' and a 'Share' button. Below the header, there's a search bar and a list of experiments. The selected experiment is 'Lead_Scoring_Model_Experimentation'. The main content area shows the experiment ID '1' and a description. A table of runs is displayed, showing 11 matching runs. The table columns include Start Time, Duration, Run Name, User, Source, Version, Models, and Metrics (AUC, Accuracy, F1). The runs are sorted by Start Time, showing the most recent runs at the top.

Start Time	Duration	Run Name	User	Source	Version	Models	AUC	Accuracy	F1
13 minutes ago		Session Init...	root	ipykernel...	-	-	-	-	-
12 minutes ago		Light Gradie...	root	ipykernel...	-	sklearn	0.821	0.738	0.762
12 minutes ago		Naive Bayes	root	ipykernel...	-	sklearn	0.738	0.679	0.728
12 minutes ago		Ridge Classif...	root	ipykernel...	-	sklearn	0	0.715	0.742
12 minutes ago		Linear Discr...	root	ipykernel...	-	sklearn	0.79	0.715	0.742
12 minutes ago		Logistic Reg...	root	ipykernel...	-	sklearn	0.792	0.717	0.741
12 minutes ago		Decision Tre...	root	ipykernel...	-	sklearn	0.817	0.736	0.758

screenshot of one experiments with all the artifacts visible

The screenshot shows the mlflow UI interface for the 'Lead_Scoring_Model_Experimentation' experiment. The main header displays the experiment name and a 'Share' button. Below the header, there's a search bar and a list of artifacts. The selected artifact is 'Light Gradient Boosting Machine'. The main content area shows the artifact details, including the date, source, user, lifecycle stage, and parent run. A table of artifacts is displayed, showing 20 artifacts. The table columns include Name, Type, and Path. The artifacts are sorted by Name, showing the most recent artifacts at the top.

Name	Type	Path
model	Model	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/model
MLmodel	Model	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/MLmodel
conda.yaml	File	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/conda.yaml
model.pkl	File	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/model.pkl
python_env.yaml	File	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/python_env.yaml
requirements.txt	File	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/requirements.txt
AUC.png	Figure	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/AUC.png
Confusion Matrix.png	Figure	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/Confusion Matrix.png
Feature Importance.png	Figure	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/Feature Importance.png
Holdout.html	File	Full Path:/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/Holdout.html

8df49c2888941.notebooks.jarvislabs.net/#/experiments/1/runs/e41609a178f145b398655f199967969b

Parameters (20)

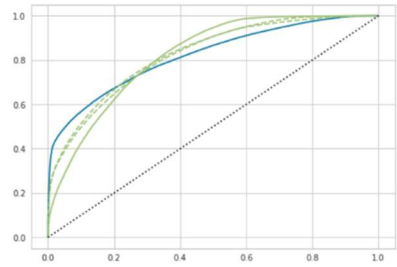
Metrics (8)

Tags (5)

Artifacts

- model
 - MLmodel
 - conda.yaml
 - model.pkl
 - python_env.yaml
 - requirements.txt
 - AUC.png
 - Confusion Matrix.png
 - Feature Importance.png
 - Holdout.html

Full Path/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/AUC...
Size: 27.41KB



Windows taskbar: Search, File Explorer, Edge, VS Code, JupyterLab, Word, PowerPoint, 5:58 PM 4/7/2025

8df49c2888941.notebooks.jarvislabs.net/#/experiments/1/runs/e41609a178f145b398655f199967969b

Parameters (20)

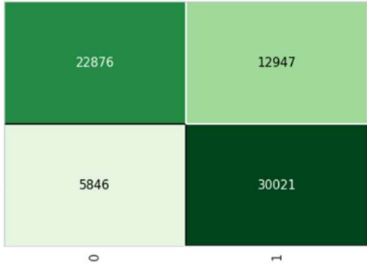
Metrics (8)

Tags (5)

Artifacts

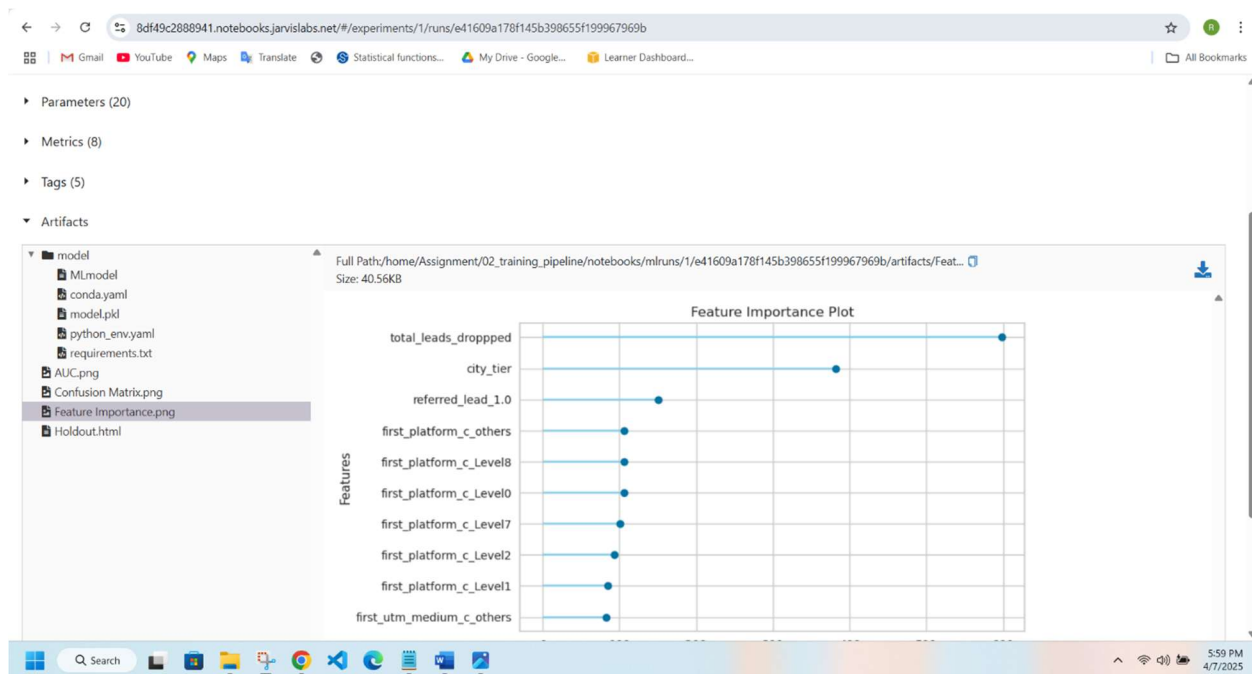
- model
 - MLmodel
 - conda.yaml
 - model.pkl
 - python_env.yaml
 - requirements.txt
 - AUC.png
 - Confusion Matrix.png
 - Feature Importance.png
 - Holdout.html

Full Path/home/Assignment/02_training_pipeline/notebooks/mlruns/1/e41609a178f145b398655f199967969b/artifacts/Confu...
Size: 7.6KB



	0	1
0	22876	12947
1	5846	30021

Windows taskbar: Search, File Explorer, Edge, VS Code, JupyterLab, Word, PowerPoint, 5:58 PM 4/7/2025



Session initialized

8df49c2888941.notebooks.jarvislabs.net/#/experiments/1/runs/8119b68b90484aa1a0a84e21d43cacae

mlflow 1.26.1 Experiments Models GitHub Docs

Lead_Scoring_Model_Experimentation > Session Initialized 1658

Session Initialized 1658

Date: 2025-04-07 09:43:30 Source: ipykernel_launcher.py User: root

Status: UNFINISHED Lifecycle Stage: active

Description Edit

Parameters (60)

Metrics

Tags (5)

Artifacts

- Test.csv
- Train.csv
- Transformation Pipeline.pkl

9:55 AM
4/7/2025

Screenshot of mlflow ui after dropping features

screenshot of all the experiments

The screenshot shows the mlflow Experiments page. The experiment name is 'Lead_Scoring_Model_Experimentation_After_Dropping_Features'. The page displays a table of runs with columns: Start Time, Duration, Run Name, User, Source, Version, Models, Metrics (AUC, Accuracy, F1, CF). The table shows 5 matching runs, all with a duration of 8 minutes and a start time of 8 minutes ago. The runs are all 'Light Gradient Boosting Machine' models. The metrics for the runs are: AUC: 0.821, Accuracy: 0.738, F1: 0.762, CF: -1. The page also includes a search bar, a filter button, and a 'Load more' button.

Start Time	Duration	Run Name	User	Source	Version	Models	Metrics
8 minutes ago	8 minutes ago	Session Init...	root	ipykernel...	-	-	-
4 minutes ago	4 minutes ago	Light Gradie...	root	ipykernel...	-	sklearn	0.821, 0.738, 0.762, -
4 minutes ago	4 minutes ago	Light Gradie...	root	ipykernel...	-	sklearn	0.821, 0.739, 0.76, -
6 minutes ago	6 minutes ago	Light Gradie...	root	ipykernel...	-	sklearn	0.821, 0.739, 0.76, -
8 minutes ago	8 minutes ago	Light Gradie...	root	ipykernel...	-	sklearn	0.821, 0.739, 0.762, -

screenshot of one experiments with all the artifacts visible

The screenshot shows the details of a specific experiment, 'Light Gradient Boosting Machine'. The page displays the experiment's name, date (2025-04-07 09:48:23), source (ipykernel_launcher.py), user (root), and lifecycle stage (active). The page also shows the experiment's description, parameters (20), metrics (8), tags (5), and artifacts. The artifacts section is expanded, showing a list of files: MLmodel, conda.yaml, model.pkl, python_env.yaml, requirements.txt, AUC.png, Confusion Matrix.png, Feature Importance.png, Holdout.html, and Iterations.html. The 'MLflow Model' section is also visible, showing the model schema and the code snippets for making predictions.

Light Gradient Boosting Machine

Date: 2025-04-07 09:48:23 Source: ipykernel_launcher.py User: root

Status: UNFINISHED Lifecycle Stage: active Parent Run: bd450d8a336646399350537901a3804b

Artifacts

- MLmodel
- conda.yaml
- model.pkl
- python_env.yaml
- requirements.txt
- AUC.png
- Confusion Matrix.png
- Feature Importance.png
- Holdout.html
- Iterations.html

MLflow Model

The code snippets below demonstrate how to make predictions using the logged model. You can also register it to the model registry to version control

Model schema

Input and output schema for your model. Learn more

Make Predictions

Predict on a Spark DataFrame:

```
import mlflow
logged_model = 'runs:/8822310d83cb4e3687cc13d6d500781b/model1'
```

8df49c2888941.notebooks.jarvislabs.net/#/experiments/2/runs/8822310d83cb4e3687cc13d6d500781b

Parameters (20)

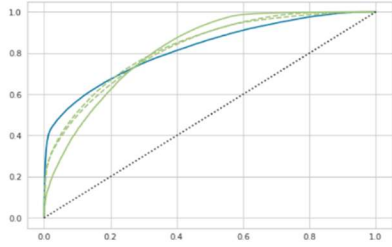
Metrics (8)

Tags (5)

Artifacts

- model
 - MLmodel
 - conda.yaml
 - model.pkl
 - python_env.yaml
 - requirements.txt
 - AUC.png
 - Confusion Matrix.png
 - Feature Importance.png
 - Holdout.html
 - Iterations.html

Full Path: /home/Assignment/02_training_pipeline/notebooks/mlruns/2/8822310d83cb4e3687cc13d6d500781b/artifacts/AUC.png
Size: 27.56KB



8df49c2888941.notebooks.jarvislabs.net/#/experiments/2/runs/8822310d83cb4e3687cc13d6d500781b

Parameters (20)


Metrics (8)

Tags (5)

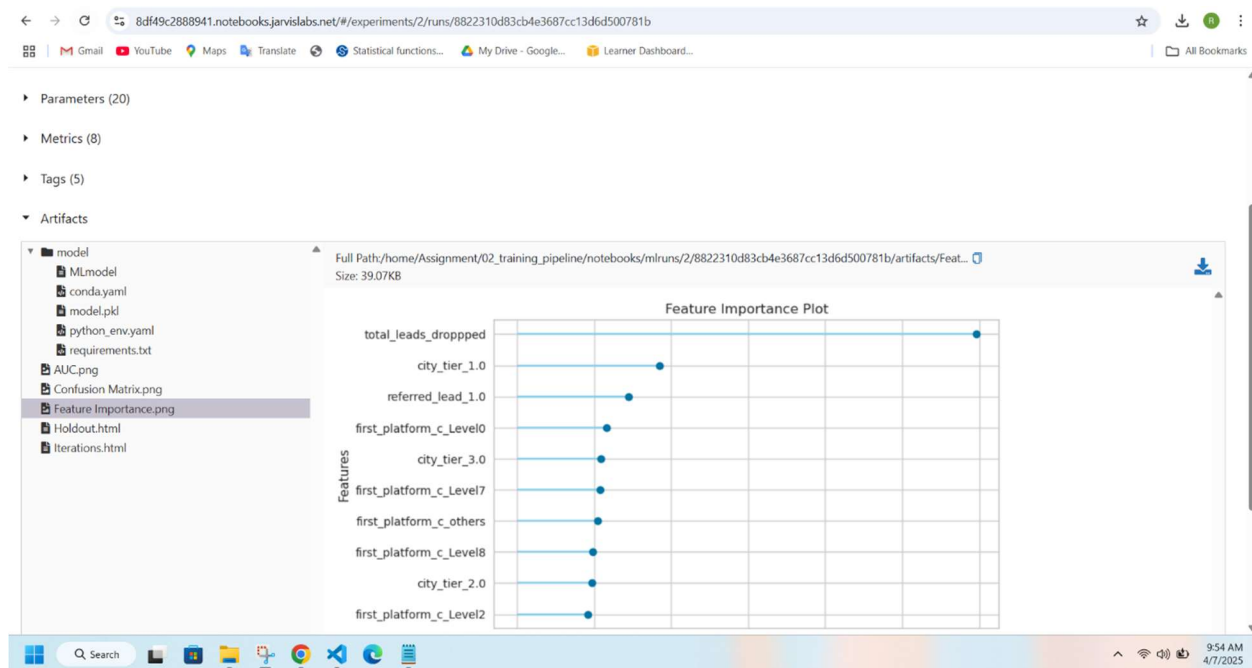
Artifacts

- model
 - MLmodel
 - conda.yaml
 - model.pkl
 - python_env.yaml
 - requirements.txt
 - AUC.png
 - Confusion Matrix.png
 - Feature Importance.png
 - Holdout.html
 - Iterations.html

Full Path: /home/Assignment/02_training_pipeline/notebooks/mlruns/2/8822310d83cb4e3687cc13d6d500781b/artifacts/Conf...
Size: 7.03KB



	0	1
0	22892	12931
1	5875	29992



Lead scoring mlflow production

8df49c2888941.notebooks.jarvislabs.net/#/experiments/1/s?searchInput=&orderByKey=attributes.start_time&orderByAsc=false&startTime=ALL&lifecycleFilter=Active&modelVersionFilter=All%20Runs...

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Experiments +< Lead_scoring_mlflow_production Share

Search Experiments

Default

Lead_scoring_mlflow...

Track machine learning training runs in experiments. Learn more

Experiment ID: 1

Description Edit

Refresh Compare Delete Download CSV Start Time All time

Columns Only show differences metrics.rmse < 1 and params.model = "tree" Search Filter Clear

Showing 14 matching runs

	Start Time	Duration	Run Name	User	Source	Version	Models	AUC	Accuracy	F1	ba
<input type="checkbox"/>	16 seconds ago	4.7s	run_LightGB	root	ipykernel...	-	LightGBM/14	0.799	0.725	0.759	0.0
<input type="checkbox"/>	3 minutes ago	4.8s	run_LightGB	root	ipykernel...	-	LightGBM/13	0.799	0.725	0.759	0.0
<input type="checkbox"/>	4 minutes ago	5.1s	run_LightGB	root	ipykernel...	-	LightGBM/12	0.799	0.725	0.759	0.0
<input type="checkbox"/>	5 minutes ago	4.8s	run_LightGB	root	ipykernel...	-	LightGBM/11	0.799	0.725	0.759	0.0
<input type="checkbox"/>	6 minutes ago	4.6s	run_LightGB	root	ipykernel...	-	LightGBM/10	-	-	-	0.0
<input type="checkbox"/>	8 minutes ago	3.1s	run_LightGB	root	ipykernel...	-	LightGBM/9	-	-	-	0.0
<input type="checkbox"/>	11 minutes ago	3.3s	run_LightGB	root	ipykernel...	-	LightGBM/8	-	-	-	0.0

10:53 AM 4/7/2025

mlflow1.26.1

ExperimentsModels

GitHubDocs

Registered Models > LightGBM

LightGBM

Created Time: 2025-03-28 08:25:40Last Modified: 2025-04-07 11:03:35

DescriptionEdit

Tags

VersionsAllActive 1Compare

Version	Registered at	Created by	Stage	Description
<input type="checkbox"/> Version 16	2025-04-07 11:01:27		Production	
<input type="checkbox"/> Version 15	2025-04-07 11:00:22		None	
<input type="checkbox"/> Version 14	2025-04-07 10:52:48		None	
<input type="checkbox"/> Version 13	2025-04-07 10:49:56		None	
<input type="checkbox"/> Version 12	2025-04-07 10:48:49		None	
<input type="checkbox"/> Version 11	2025-04-07 10:47:55		None	

8df49c2888941.notebooks.jarvislabs.net/#/experiments/1/runs/fdef775a3fa4a88bd822348b97cd800

run_LightGBM

Date: 2025-04-07 10:52:44Source: ipykernel_launcher.pyUser: root

Duration: 4.7sStatus: FINISHEDLifecycle Stage: active

DescriptionEdit

Parameters (23)

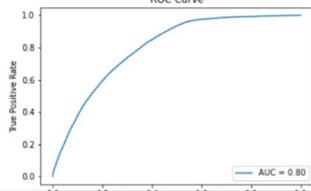
Metrics (4)

Tags

Artifacts

modelsMLmodelconda.yamlmodel.pklpython_env.yamlrequirements.txtroc_curve.png

Full Path:/home/Assignment/02_training_pipeline/scripts/mlruns/1/fdef775a3fa4a88bd822348b97cd800/artifacts/roc_curve.p...
Size: 12.06KB



8df49c288941.notebooks.jarvislabs.net/#/experiments/1/runs/1a7de6b5697548009bc23ac2df780b66

mlflow 1.26.1 Experiments Models GitHub Docs

Lead_scoring_mlflow_production > run_LightGB

run_LightGB

Date: 2025-04-07 10:49:52 Source: ipykernel_launcher.py User: root

Duration: 4.8s Status: FINISHED Lifecycle Stage: active

Description Edit

Parameters (23)

Metrics (4)

Tags

Artifacts

Full Path: /home/Assignment/02_training_pipeline/scripts/mlruns/1/1a7de6b5697548009bc23ac2df780b66/artifacts/models

LightGBM, v13 Registered on 2025/04/07

MLflow Model

The code snippets below demonstrate how to make predictions using the logged model. This model is also registered to the [model registry](#).

Model schema

Inout and output schema for your model. [Learn more](#)

Make Predictions

Predict on a Spark DataFrame:

MLmodel
conda.yaml
model.pkl
python_env.yaml
requirements.txt
roc_curve.png

Airflow ui

8df49c288942.notebooks.jarvislabs.net/home

Airflow DAGs Security Browse Admin Docs 08:08 UTC YN

Do not use SQLite as metadata DB in production – it should only be used for dev/testing. We recommend using Postgres or MySQL. [Click here](#) for more information.

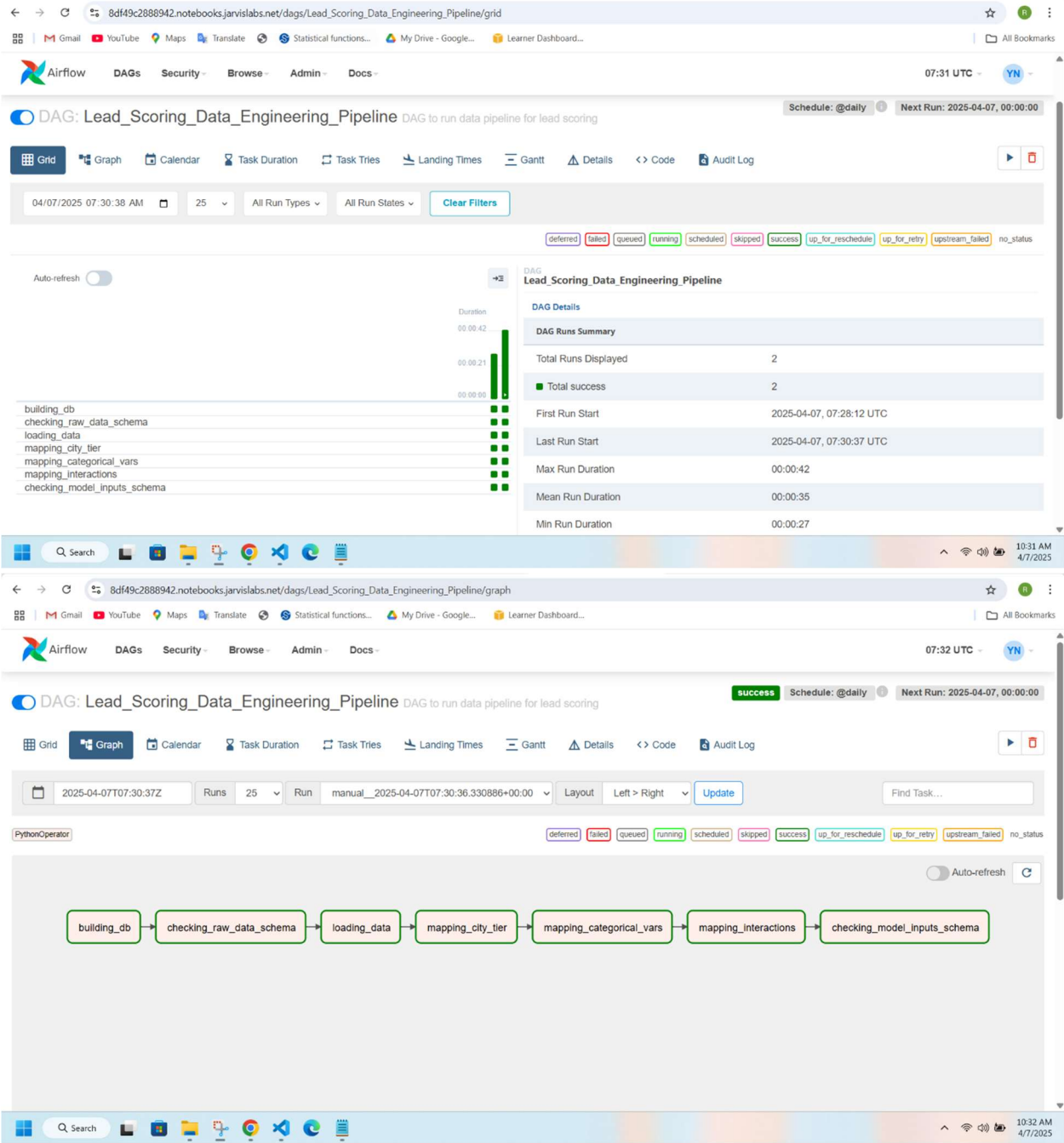
Do not use SequentialExecutor in production. [Click here](#) for more information.

DAGs

All 35 Active 3 Paused 32 Filter DAGs by tag Search DAGs

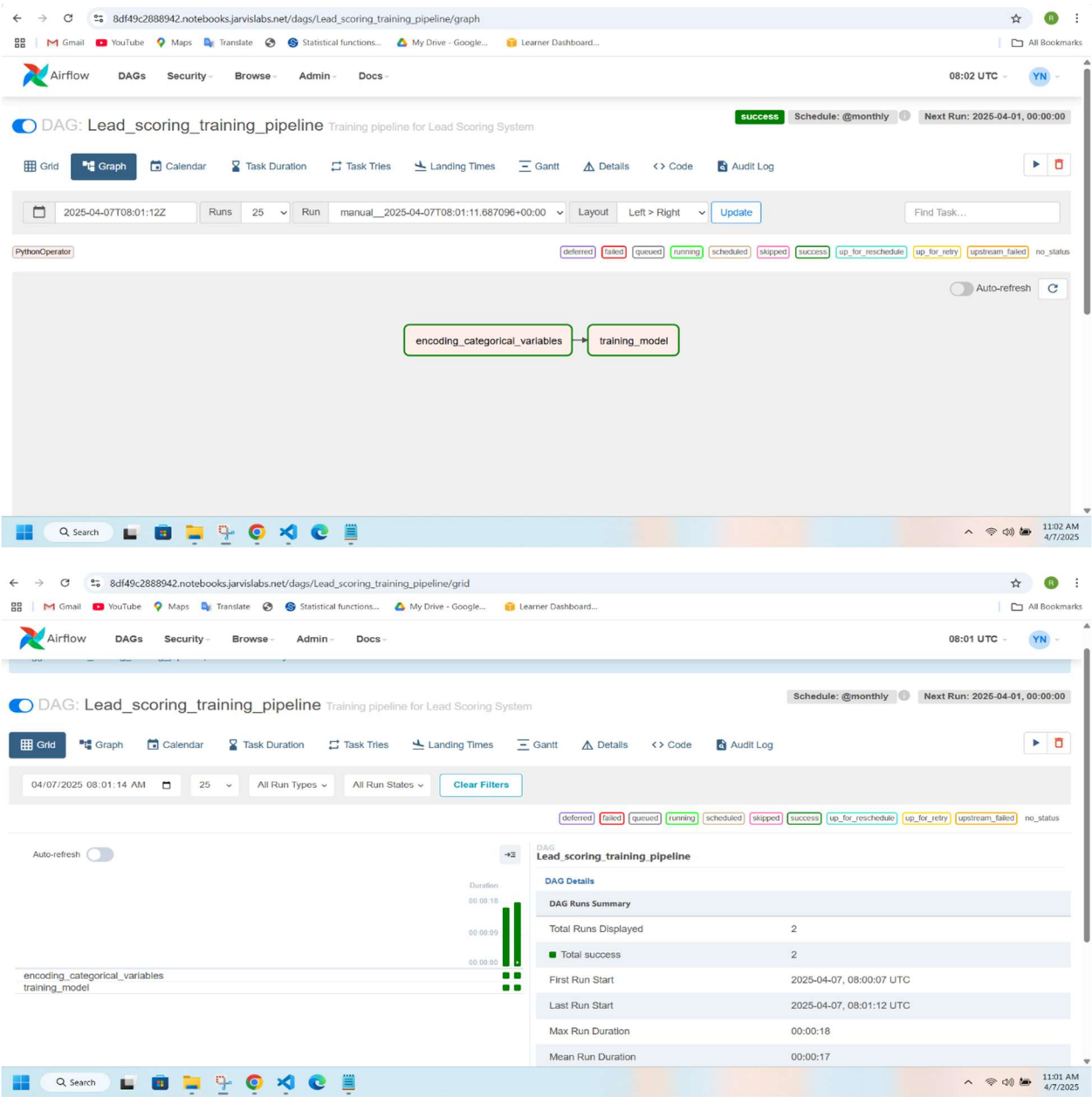
DAG	Owner	Runs	Schedule	Last Run	Next Run	Recent Tasks	Act
Lead_Scoring_Data_Engineering_Pipeline	airflow	2	@daily	2025-04-07, 07:30:36	2025-04-07, 00:00:00	7	▶
Lead_scoring_inference_pipeline	airflow	1	@hourly	2025-04-07, 07:00:00	2025-04-07, 08:00:00	4	▶
Lead_scoring_training_pipeline	airflow	2	@monthly	2025-04-07, 08:01:11	2025-04-01, 00:00:00	2	▶
example_bash_operator	airflow		0 0 * * *		2025-04-06, 00:00:00		▶
example_branch_datetime_operator	airflow		@daily		2025-04-06, 00:00:00		▶
example_branch_datetime_operator_2	airflow		@daily		2025-04-06, 00:00:00		▶

Data pipeline

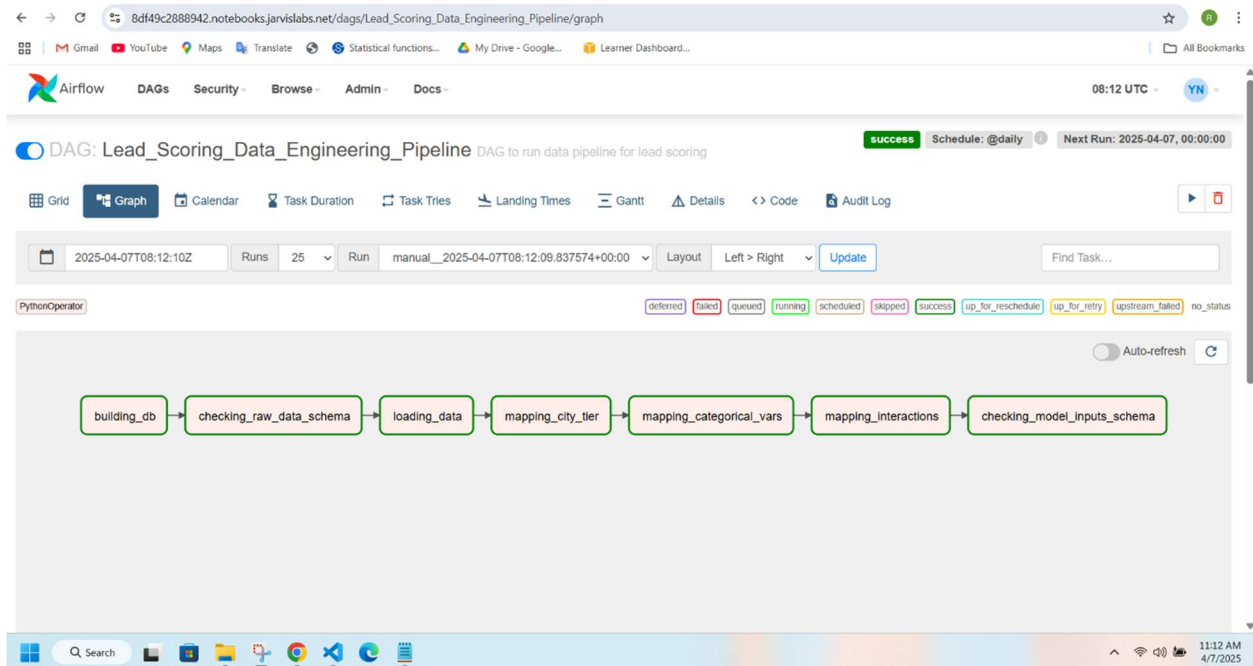
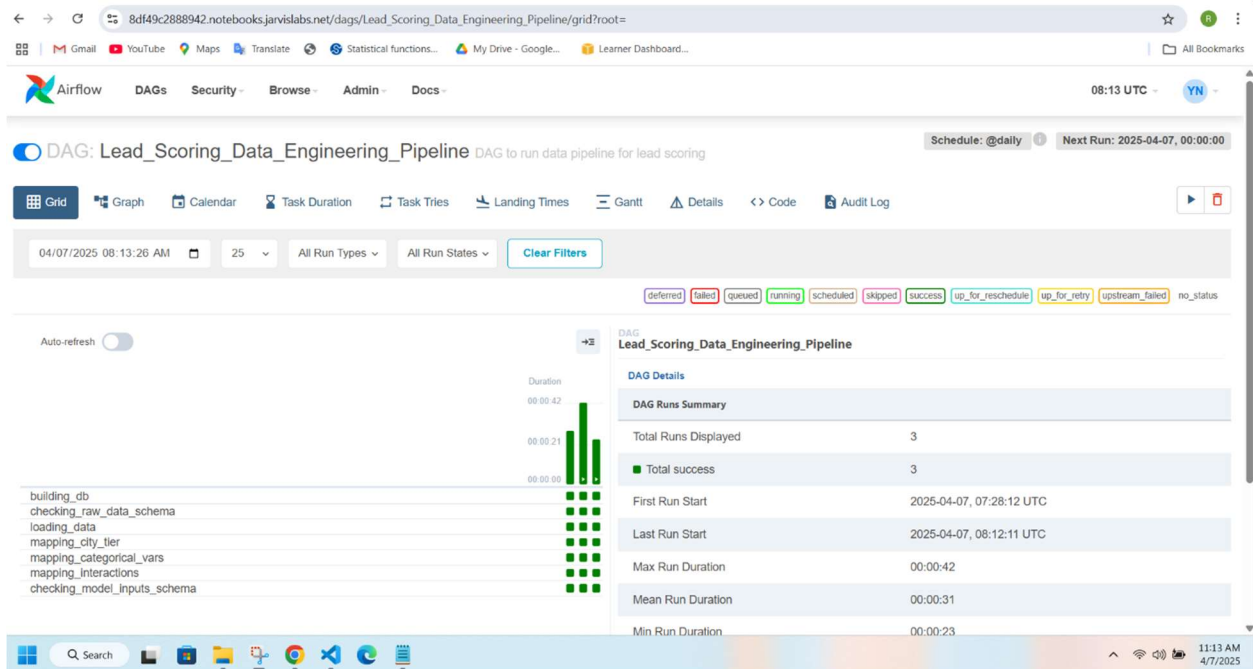


[illegible]

Training Pipeline



Last steps of instructions(Replacing leadscoring.csv by leadscoring_inference.csv)



8df49c2888942.notebooks.jarvislabs.net/dags/Lead_scoring_inference_pipeline/grid

Airflow DAGs Security Browse Admin Docs 08:14 UTC YN

Triggered Lead_scoring_inference_pipeline, it should start any moment now.

DAG: Lead_scoring_inference_pipeline

Inference pipeline of Lead Scoring system

Schedule: @hourly Next Run: 2025-04-07, 08:00:00

Grid Graph Calendar Task Duration Task Tries Landing Times Gantt Details <> Code Audit Log

04/07/2025 08:14:10 AM 25 All Run Types All Run States Clear Filters

deferred failed queued running scheduled skipped success up_for_reschedule up_for_retry upstream_failed no_status

Auto-refresh

DAG Lead_scoring_inference_pipeline

DAG Details

DAG Runs Summary

Total Runs Displayed	2
Total success	2
First Run Start	2025-04-07, 08:06:43 UTC
Last Run Start	2025-04-07, 08:14:09 UTC
Max Run Duration	00:00:14

encoding_categorical_variables
checking_input_features
generating_models_prediction
checking_model_prediction_ratio

11:14 AM 4/7/2025

8df49c2888942.notebooks.jarvislabs.net/dags/Lead_scoring_inference_pipeline/graph

Airflow DAGs Security Browse Admin Docs 08:15 UTC YN

success DAG: Lead_scoring_inference_pipeline Inference pipeline of Lead Scoring system

Schedule: @hourly Next Run: 2025-04-07, 08:00:00

Grid **Graph** Calendar Task Duration Task Tries Landing Times Gantt Details <> Code Audit Log

2025-04-07T08:14:09Z Runs 25 Run manual__2025-04-07T08:14:08.000306+00:00 Layout Left > Right Update Find Task...

PythonOperator

deferred failed queued running scheduled skipped success up_for_reschedule up_for_retry upstream_failed no_status

Auto-refresh

```
graph LR; encoding_categorical_variables --> checking_input_features; checking_input_features --> generating_models_prediction; generating_models_prediction --> checking_model_prediction_ratio;
```

11:15 AM 4/7/2025

8df49c288941.notebooks.jarvislabs.net/#/experiments/1

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Maps

Translate

Statistical functions...

My Drive - Google...

Learner Dashboard...

All Bookmarks

mlflow1.26.1

ExperimentsModels

GitHubDocs

Experiments

Lead_scoring_mlflow_production

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Default

Lead_scoring_mlflow...

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Experiment ID: 1

Description

RefreshCompareDeleteDownload CSVStart TimeAll time

ColumnsOnly show differencesmetrics.rmse < 1 and params.model = "tree"SearchFilterClear

Showing 16 matching runs

	Start Time	Duration	Run Name	User	Source	Version	Models	AUC	Accuracy	F1	ba
	1 minute ago	5.4s	run_LightGB	root	airflow	-	LightGBM/16	0.799	0.725	0.759	0.8
	3 minutes ago	5.7s	run_LightGB	root	airflow	-	LightGBM/15	0.799	0.725	0.759	0.8
	10 minutes ago	4.7s	run_LightGB	root	ipykernel...	-	LightGBM/14	0.799	0.725	0.759	0.8
	13 minutes ago	4.8s	run_LightGB	root	ipykernel...	-	LightGBM/13	0.799	0.725	0.759	0.8
	14 minutes ago	5.1s	run_LightGB	root	ipykernel...	-	LightGBM/12	0.799	0.725	0.759	0.8
	15 minutes ago	4.8s	run_LightGB	root	ipykernel...	-	LightGBM/11	0.799	0.725	0.759	0.8
	17 minutes ago	4.6s	run_LightGB	root	ipykernel...	-	LightGBM/10	-	-	-	0.8

Search

11:16 AM4/7/2025