

1. Screenshot of mlflow UI:

a. Screenshot of all the experiments

	Start Time	Duration	Run Name	User	Source	Version	Models	AUC	Accuracy	F1
<input type="checkbox"/>	1 day ago		Session Init...	root	ipykerne...	-	-	-	-	-
<input type="checkbox"/>	1 day ago		Light Gradi...	root	ipykerne...	-	sklearn	0.821	0.738	0.726
<input type="checkbox"/>	1 day ago		Naive Bayes	root	ipykerne...	-	sklearn	0.738	0.679	0.728
<input type="checkbox"/>	1 day ago		Linear Disc...	root	ipykerne...	-	sklearn	0.79	0.715	0.742
<input type="checkbox"/>	1 day ago		Ridge Clas...	root	ipykerne...	-	sklearn	0	0.715	0.742
<input type="checkbox"/>	1 day ago		Logistic Re...	root	ipykerne...	-	sklearn	0.792	0.717	0.74
<input type="checkbox"/>	1 day ago		Random Fo...	root	ipykerne...	-	sklearn	0.817	0.734	0.762
<input type="checkbox"/>	1 day ago		Decision Tr...	root	ipykerne...	-	sklearn	0.817	0.736	0.758
<input type="checkbox"/>	1 day ago		Extra Trees...	root	ipykerne...	-	sklearn	0.818	0.737	0.756
<input type="checkbox"/>	1 day ago		Extreme Gr...	root	ipykerne...	-	sklearn	0.821	0.738	0.761
<input type="checkbox"/>	1 day ago		Light Gradi...	root	ipykerne...	-	sklearn	0.821	0.738	0.762

b. Screenshot of one experiments with all the artifacts visible

i. Landing page

Date: 2022-11-13 22:12:59 Source: ipykernel_launcher.py User: root
 Status: UNFINISHED Lifecycle Stage: active Parent Run: 7f86d197ad28400d8bfe505a0b1188e5

Light Gradient Boosting Machine

Description Edit

Parameters (21)

Metrics (8)

Tags (5)

Artifacts

model

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 your machine learning models.

Model schema

No schema. See [MLflow docs](#) for how to include input and output schema with your model.

Make Predictions

Predict on a Spark DataFrame:

```
import mlflow
logged_model = 'runs:/b8cfbeda34484540aae6d477967b9771/model'

# Load model as a Spark UDF. Override result_type if the model does not return double values.
loaded_model = mlflow.pyfunc.spark_udf(spark, model_uri=logged_model)
```

ii. Metrics

Not Secure | notebooksc.jarvislabs.ai:10960/#/experiments/1/runs/b8cfbeda34484540aae6d477967b9771

Light Gradient Boosting Machine

Date: 2022-11-13 22:12:59 Source: ipykernel_launcher.py User: root
 Status: UNFINISHED Lifecycle Stage: active Parent Run: 7f86d197ad28400d8bfe505a0b1188e5

- Description [Edit](#)
- Parameters (21)
- ▼ Metrics (8)

Name	Value
AUC ↗	0.821
Accuracy ↗	0.738
F1 ↗	0.762
Kappa ↗	0.476
MCC ↗	0.485
Prec. ↗	0.702
Recall ↗	0.833
TT ↗	6.61

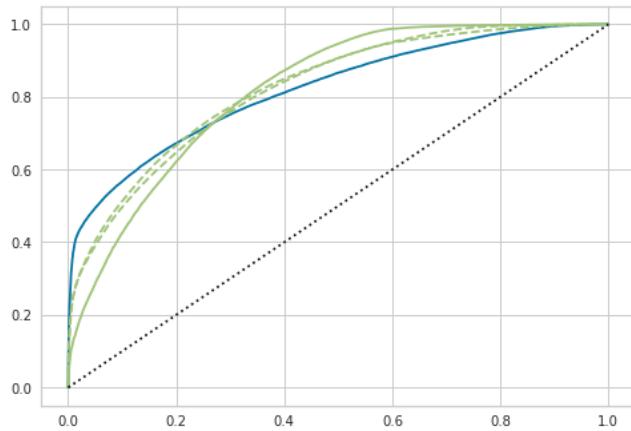
iii. Model

Not Secure | notebooksc.jarvislabs.ai:10960/#/experiments/1/runs/b8cfbeda34484540aae6d477967b9771

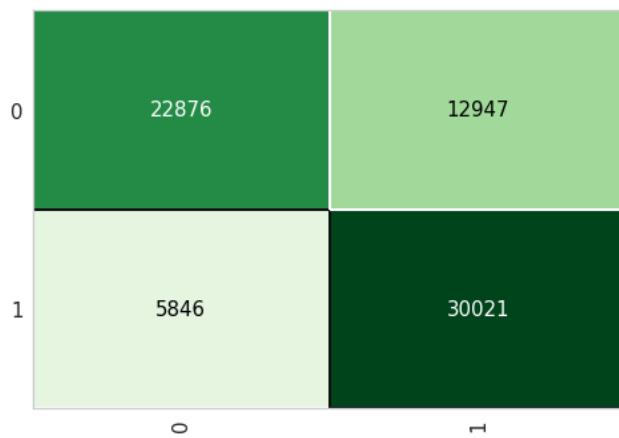
- Parameters (21)
- Metrics (8)
- Tags (5)
- ▼ Artifacts

model	Full Path:/home/mlruns/1/b8cfbeda34484540aae6d477967b9771/artifacts/model/MLmodel Size: 433B artifact_path: model flavors: python_function: env: conda.yaml loader_module: mlflow.sklearn model_path: model.pkl python_version: 3.8.12 sklearn: code: null pickled_model: model.pkl serialization_format: cloudpickle sklearn_version: 0.23.2 mlflow_version: 1.26.1 model_uuid: e85faa3b831245a8b0f789b058285768 run_id: b8cfbeda34484540aae6d477967b9771 utc_time_created: '2022-11-13 16:43:02.162117'
-------	---

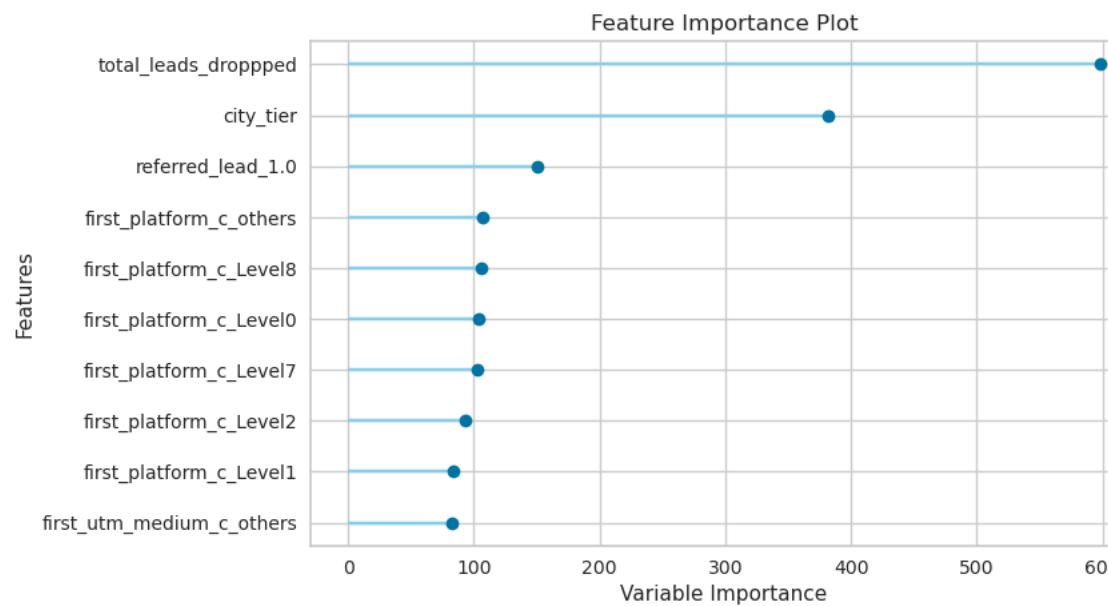
iv. AUC



v. Confusion Matrix



vi. Feature Importance



vii. Holdouts

	Model	Accuracy	AUC	Recall	Prec.	F1	Kappa	MCC
0	Light Gradient Boosting Machine	0.7379	0.8197	0.837	0.6987	0.7616	0.4757	0.4853

2. Screenshot of mlflow ui after dropping features:

a. Screenshot of all the experiments

Start Time	Duration	Run Name	User	Source	Version	Models	AUC	Accuracy	F1
1 day ago		Session Init...	root	ipykerne...	-	-	-	-	-
1 day ago		Light Gradi...	root	ipykerne...	-	sklearn	0.821	0.738	0.758
1 day ago		Light Gradi...	root	ipykerne...	-	sklearn	0.821	0.739	0.762
1 day ago		Naive Bayes	root	ipykerne...	-	sklearn	0.734	0.673	0.725
1 day ago		Linear Disc...	root	ipykerne...	-	sklearn	0.773	0.7	0.727
1 day ago		Ridge Clas...	root	ipykerne...	-	sklearn	0	0.7	0.727
1 day ago		Logistic Re...	root	ipykerne...	-	sklearn	0.784	0.71	0.74
1 day ago		Random Fo...	root	ipykerne...	-	sklearn	0.818	0.736	0.762
1 day ago		Decision Tr...	root	ipykerne...	-	sklearn	0.817	0.736	0.758
1 day ago		Extra Trees...	root	ipykerne...	-	sklearn	0.818	0.736	0.758
1 day ago		Light Gradi...	root	ipykerne...	-	sklearn	0.821	0.739	0.762
1 day ago		Extreme Gr...	root	ipykerne...	-	-	-	-	-

b. Screenshot of one experiments with all the artifacts visible

i. Landing page

Date: 2022-11-13 22:29:22 Source: ipykernel_launcher.py User: root
 Status: UNFINISHED Lifecycle Stage: active Parent Run: 666f83eb0c6b4eff9c04f9e4123061e4

Description Edit

Parameters (21)

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/mlruns/2/18647d321bf4ff3befd7824a5c8475c/artifacts/model

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 it.

Model schema

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

Make Predictions

Predict on a Spark DataFrame:

```
import mlflow
logged_model = 'runs:/18647d321bf4ff3befd7824a5c8475c/model'
```

Name	Type

ii. Metrics

Not Secure | notebooksc.jarvislabs.ai:10972/#/experiments/2/runs/18647d321bff4ff3befd7824a5c8475c

Light Gradient Boosting Machine

Date: 2022-11-13 22:29:22 Source: ipykernel_launcher.py User: root
 Status: UNFINISHED Lifecycle Stage: active Parent Run: 666f83eb0c6b4eff9c04f9e4123061e4

- Description [Edit](#)
- Parameters (21)
- ▼ Metrics (8)

Name	Value
AUC 🔗	0.821
Accuracy 🔗	0.738
F1 🔗	0.759
Kappa 🔗	0.475
MCC 🔗	0.482
Prec. 🔗	0.705
Recall 🔗	0.823

iii. Model

Not Secure | notebooksc.jarvislabs.ai:10972/#/experiments/2/runs/18647d321bff4ff3befd7824a5c8475c

Full Path:/home/mlruns/2/18647d321bff4ff3befd7824a5c8475c/artifacts/model [🔗](#)

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 it.

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

Name	Type
No schema. See MLflow docs for how to include input and output schema with your model.	

Make Predictions

Predict on a Spark DataFrame:

```
import mlflow
logged_model = 'runs:/18647d321bff4ff3befd7824a5c8475c/model'
```

Load model as a Spark UDF. Override result_type if the model return double values.
`loaded_model = mlflow.pyfunc.spark_udf(spark, model_uri=logged_model, result_type='double')`

Predict on a Spark DataFrame.
`columns = list(df.columns)
df.withColumn('predictions', loaded_model(*columns)).collect()`

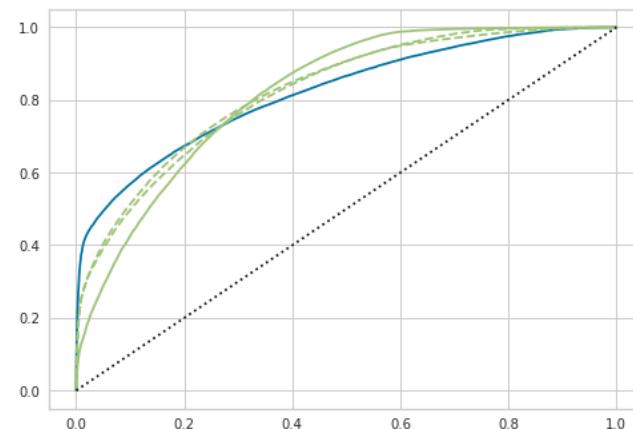
Predict on a Pandas DataFrame:

```
import mlflow
logged_model = 'runs:/18647d321bff4ff3befd7824a5c8475c/model'
```

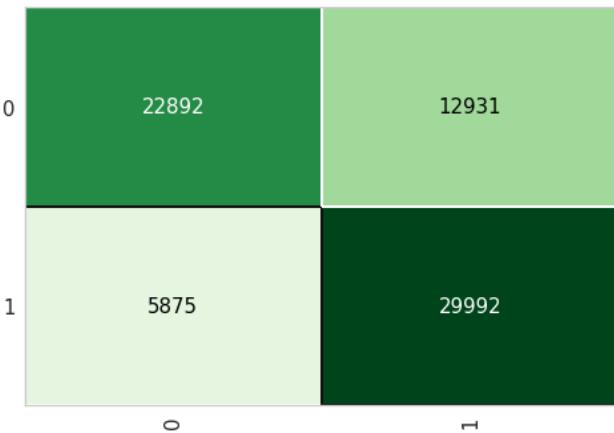
Load model as a PyFuncModel.
`loaded_model = mlflow.pyfunc.load_model(logged_model)`

Predict on a Pandas DataFrame.
`import pandas as pd
df = pd.read_csv('.../data.csv')
df['predictions'] = loaded_model.predict(df)`

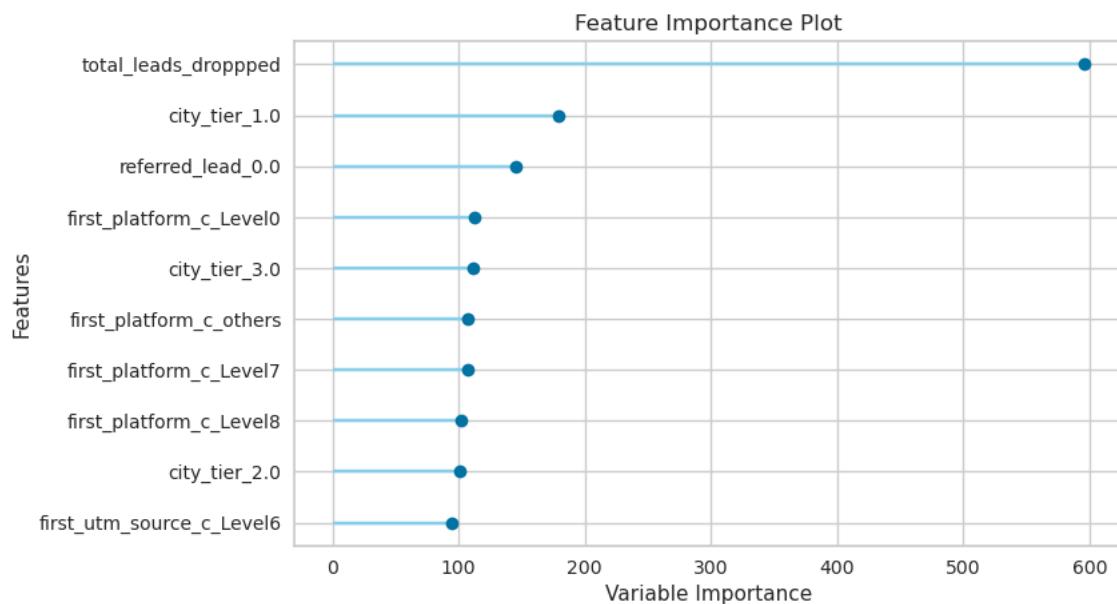
iv. AUC



v. Confusion Matrix



vi. Feature Importance

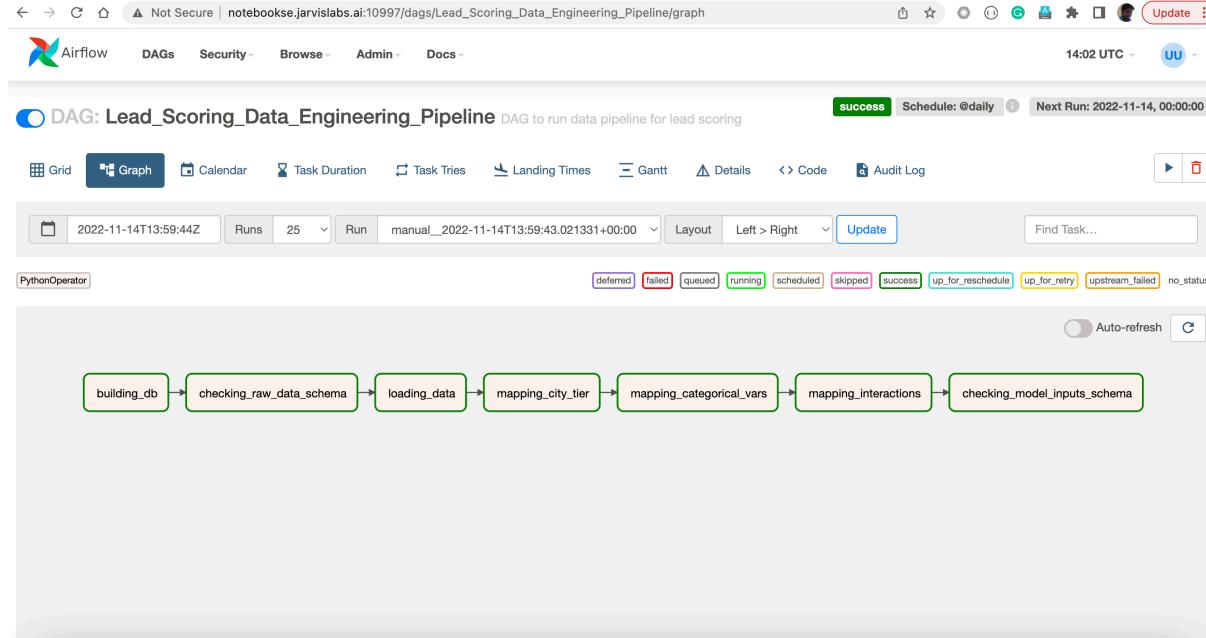


vii. Holdouts

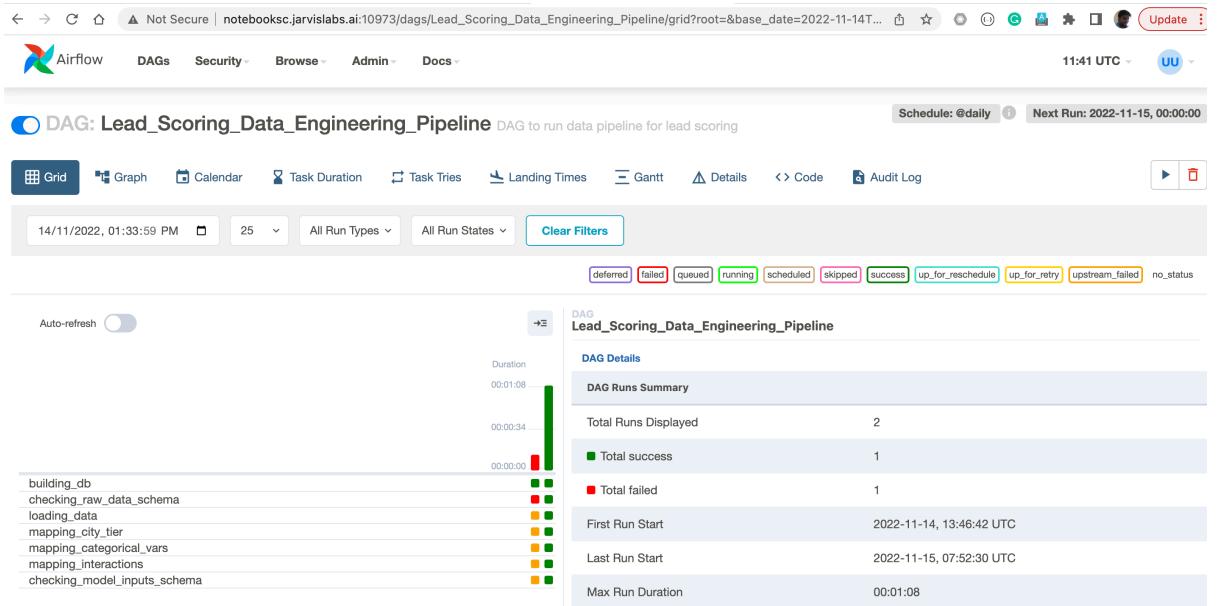
	Model	Accuracy	AUC	Recall	Prec.	F1	Kappa	MCC
0	Light Gradient Boosting Machine	0.7377	0.82	0.8362	0.6987	0.7613	0.4753	0.4848

3. Data Engineering pipeline:

- a. Screenshot of successful execution Airflow DAG in graph

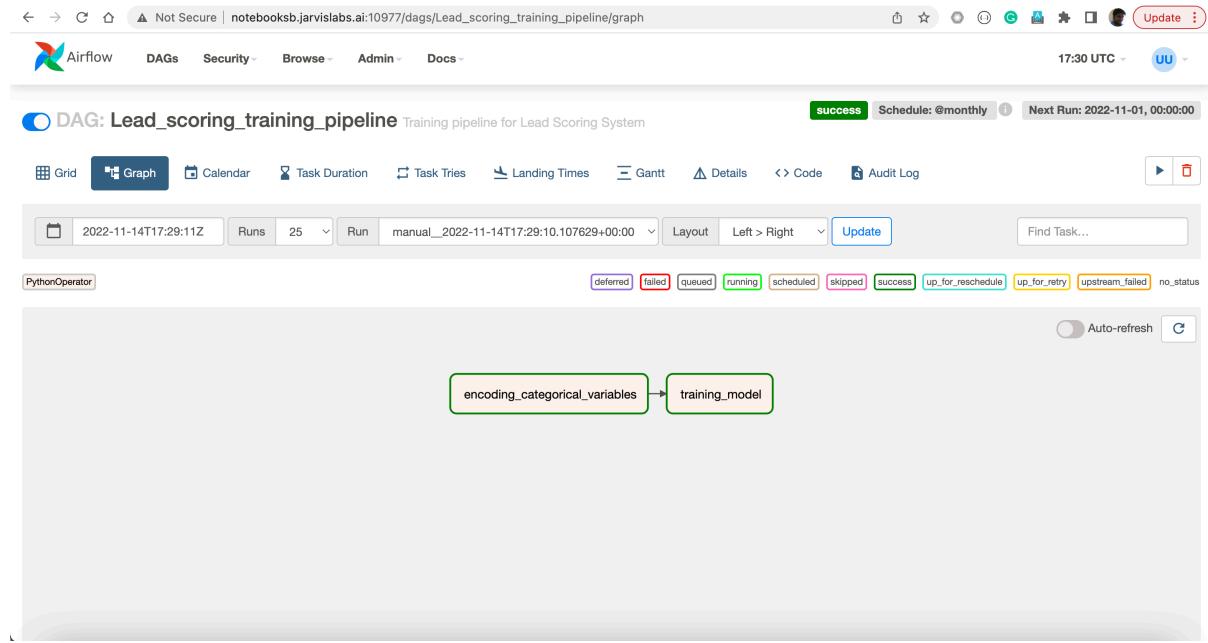


b. Screenshot of Airflow UI grid

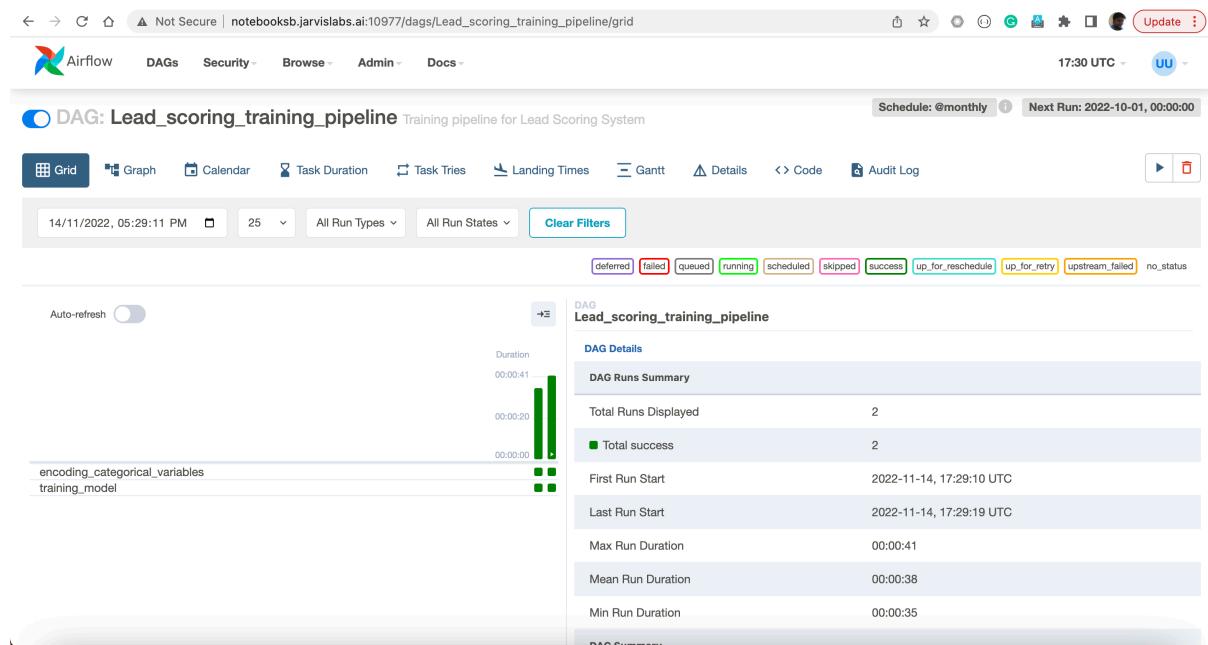


4. Training Pipeline:

a. Screenshot of successful execution Airflow DAG in graph

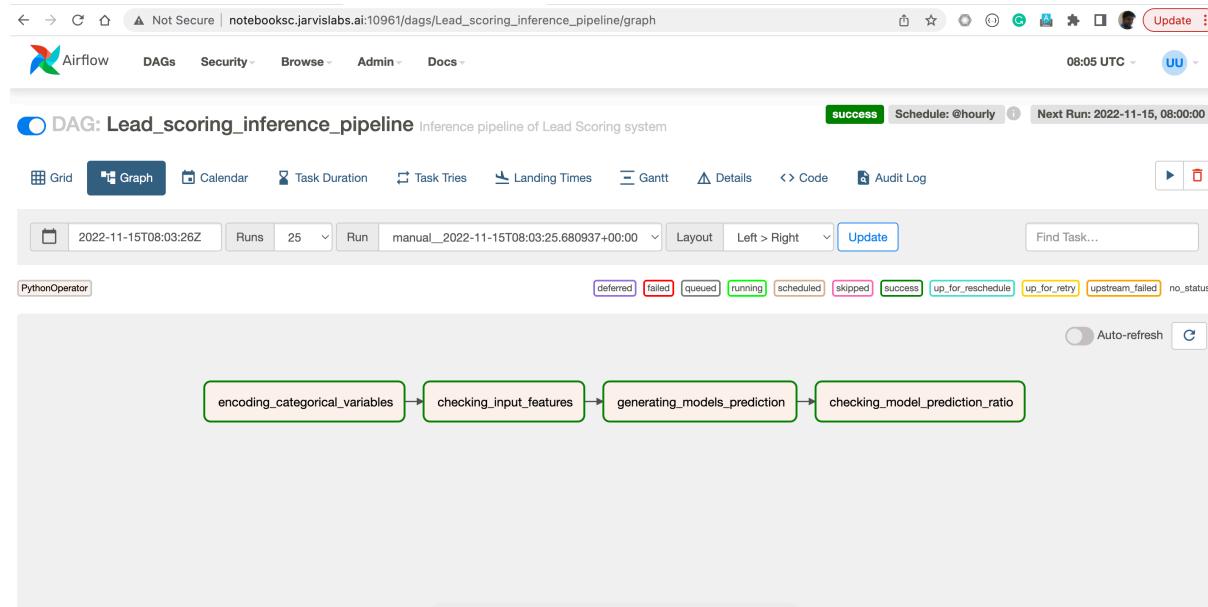


b. Screenshot of Airflow UI grid

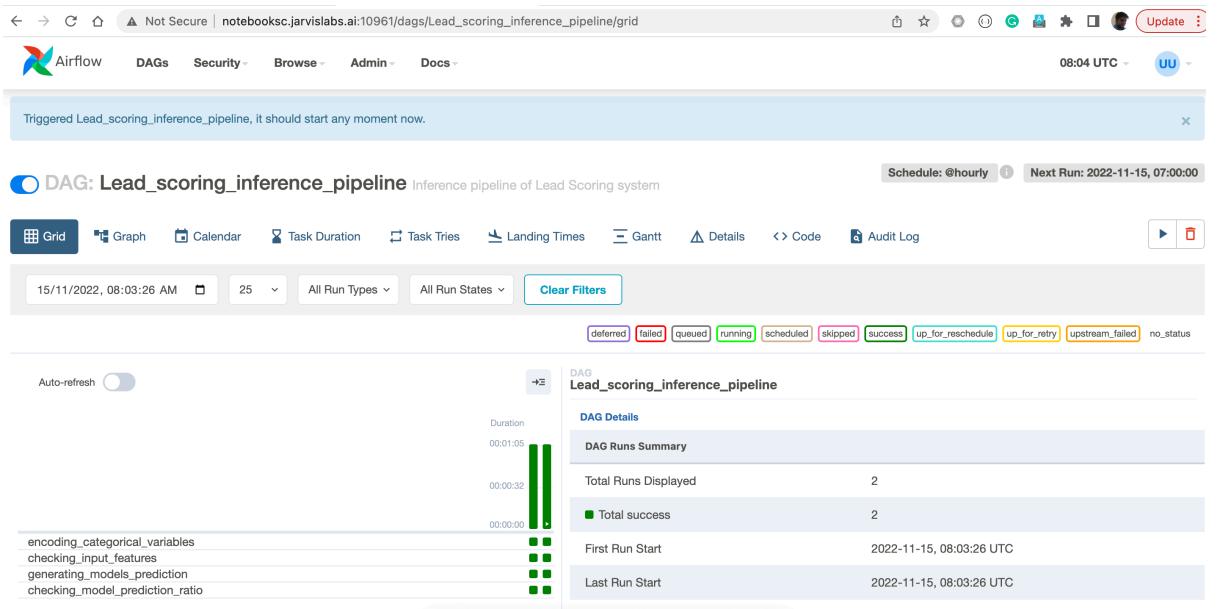


5. Inference Pipeline:

a. Screenshot of successful execution Airflow DAG in graph

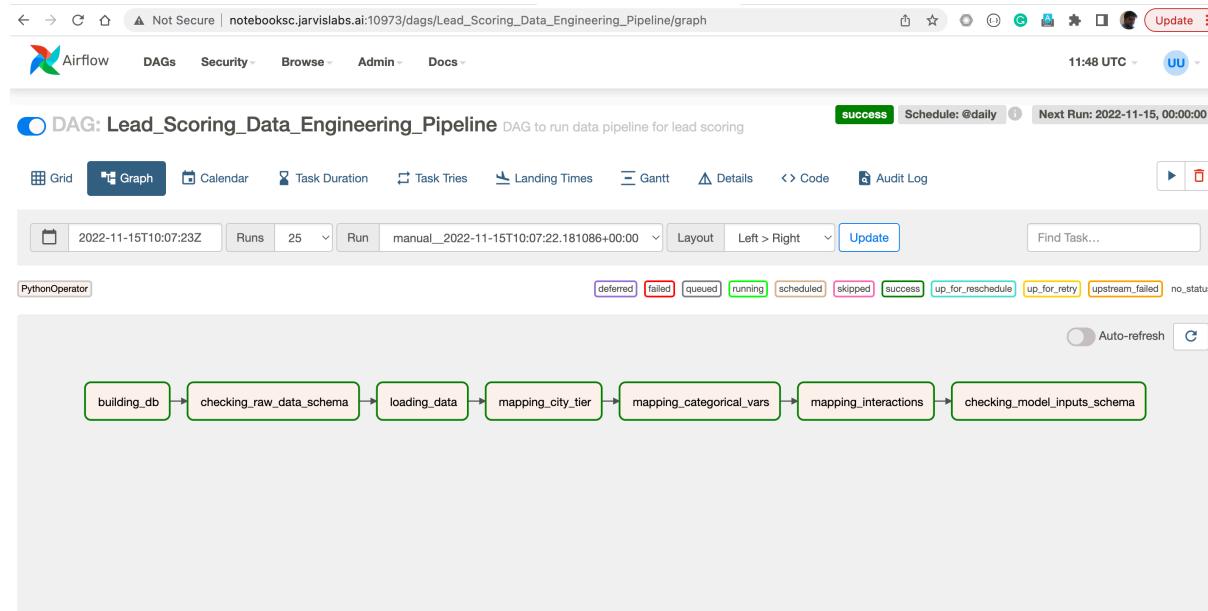


b. Screenshot of Airflow UI grid

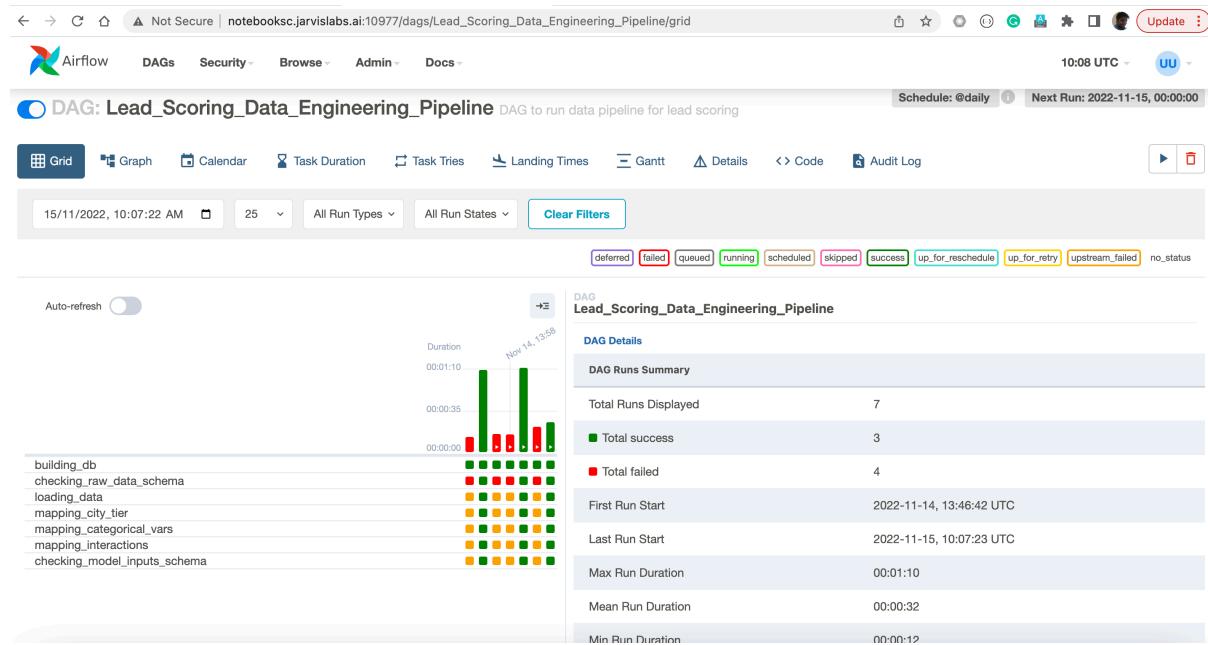


6. Data Engineering pipeline with Lead Inference Data

a. Screenshot of successful execution Airflow DAG in graph

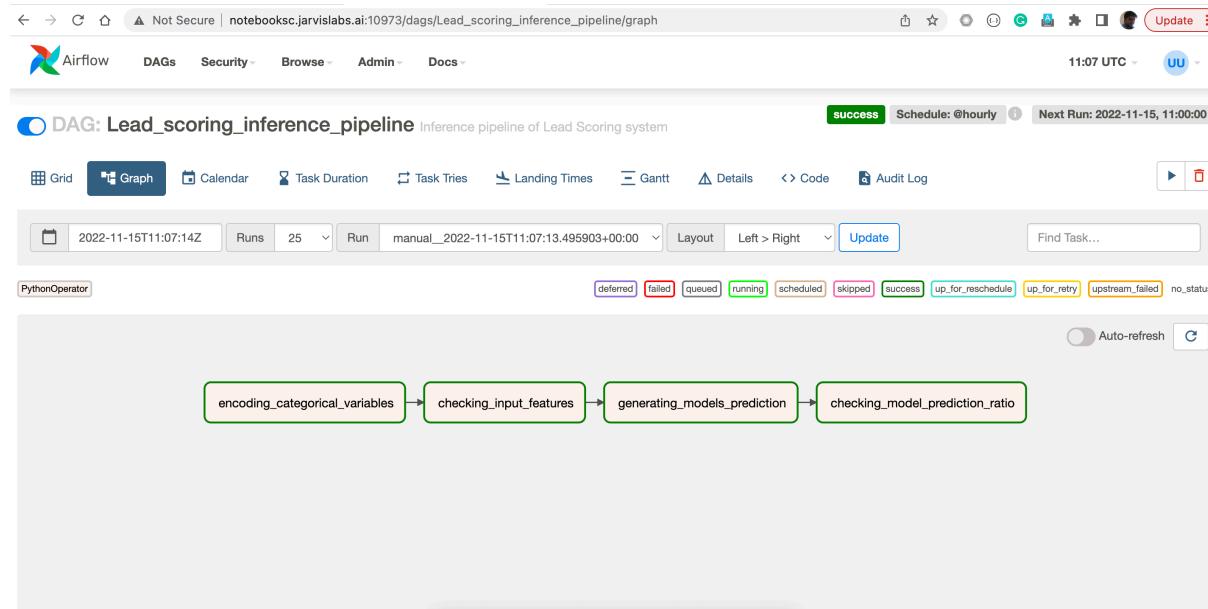


b. Screenshot of Airflow UI grid



7. Inference Pipeline with Lead Inference Data

a. Screenshot of successful execution Airflow DAG in graph



b. Screenshot of Airflow UI grid

