

```

import tensorflow as tf
device_name = tf.test.gpu_device_name()
if device_name != '/device:GPU:0':
    raise SystemError('GPU device not found')
print('Found GPU at: {}'.format(device_name))

Found GPU at: /device:GPU:0

!pip uninstall pycaret[full]

Found existing installation: pycaret 3.3.2
Uninstalling pycaret-3.3.2:
  Would remove:
    /usr/local/lib/python3.10/dist-packages/pycaret-3.3.2.dist-info/*
    /usr/local/lib/python3.10/dist-packages/pycaret/*
Proceed (Y/n)? Y
  Successfully uninstalled pycaret-3.3.2

!pip install pycaret[full]

Collecting pycaret[full]
  Using cached pycaret-3.3.2-py3-none-any.whl.metadata (17 kB)
Requirement already satisfied: ipython>=5.5.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (7.34.0)
Requirement already satisfied: ipywidgets>=7.6.5 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (7.7.1)
Requirement already satisfied: tqdm>=4.62.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.66.5)
Requirement already satisfied: numpy<1.27,>=1.21 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.26.4)
Requirement already satisfied: pandas<2.2.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.1.4)
Requirement already satisfied: jinja2>=3 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (3.1.4)
Requirement already satisfied: scipy<=1.11.4,>=1.6.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.11.4)
Requirement already satisfied: joblib<1.4,>=1.2.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.3.2)
Requirement already satisfied: scikit-learn>1.4.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.4.2)
Requirement already satisfied: pyod>=1.1.3 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.0.2)
Requirement already satisfied: imbalanced-learn>=0.12.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.12.3)
Requirement already satisfied: category-encoders>=2.4.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.6.3)
Requirement already satisfied: lightgbm>=3.0.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.5.0)
Requirement already satisfied: numba>=0.55.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.60.0)

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Requirement already satisfied: requests>=2.27.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.32.3)
Requirement already satisfied: psutil>=5.9.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (5.9.5)
Requirement already satisfied: markupsafe>=2.0.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.1.5)
Requirement already satisfied: importlib-metadata>=4.12.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (8.4.0)
Requirement already satisfied: nbformat>=4.2.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (5.10.4)
Requirement already satisfied: cloudpickle in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.2.1)
Requirement already satisfied: deprecation>=2.1.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.1.0)
Requirement already satisfied: xxhash in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (3.5.0)
Requirement already satisfied: matplotlib<3.8.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (3.7.1)
Requirement already satisfied: scikit-plot>=0.3.7 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.3.7)
Requirement already satisfied: yellowbrick>=1.4 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.5)
Requirement already satisfied: plotly>=5.14.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (5.15.0)
Requirement already satisfied: kaleido>=0.2.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.2.1)
Requirement already satisfied: schemdraw==0.15 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.15)
Requirement already satisfied: plotly-resampler>=0.8.3.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.10.0)
Requirement already satisfied: statsmodels>=0.12.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.14.3)
Requirement already satisfied: sktime==0.26.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.26.0)
Requirement already satisfied: tbats>=1.1.3 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.1.3)
Requirement already satisfied: pmdarima>=2.0.4 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.0.4)
Requirement already satisfied: wurlitzer in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (3.1.1)
Requirement already satisfied: shap~0.44.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.44.1)
Requirement already satisfied: interpret>=0.2.7 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.6.3)
Requirement already satisfied: umap-learn>=0.5.2 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.5.6)
Requirement already satisfied: pyyaml in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (6.0.2)
Requirement already satisfied: ydata-profiling>=4.3.1 in

/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.10.0)
Requirement already satisfied: explainerdashboard>=0.3.8 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.4.7)
Requirement already satisfied: fairlearn==0.7.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.7.0)
Requirement already satisfied: kmodes>=0.11.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.12.2)
Requirement already satisfied: mlxtend>=0.19.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.23.1)
Requirement already satisfied: statsforecast<1.6.0,>=0.5.5 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.5.0)
Requirement already satisfied: hyperopt>=0.2.7 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.2.7)
Requirement already satisfied: optuna>=3.0.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.0.0)
Requirement already satisfied: optuna-integration in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.0.0)
Requirement already satisfied: scikit-optimize>=0.9.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.10.2)
Requirement already satisfied: mlflow>=2.0.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.16.2)
Requirement already satisfied: gradio>=3.50.2 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.44.0)
Requirement already satisfied: boto3>=1.24.56 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.35.23)
Requirement already satisfied: fastapi in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.115.0)
Requirement already satisfied: uvicorn>=0.17.6 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.30.6)
Requirement already satisfied: m2cgen>=0.9.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.10.0)
Requirement already satisfied: evidently~=0.4.16 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.4.37)
Requirement already satisfied: dask>=2024.4.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full])
(2024.8.0)
Requirement already satisfied: distributed>=2024.4.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full])
(2024.8.0)
Requirement already satisfied: fugue~=0.8.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.8.7)
Requirement already satisfied: flask in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.2.5)
Requirement already satisfied: Werkzeug<3.0,>=2.2 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.3.8)
Requirement already satisfied: pytest<8.0.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (7.4.4)
Requirement already satisfied: moto<5.0.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (4.2.14)

Requirement already satisfied: dash[testing] in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.18.1)
Requirement already satisfied: scikit-learn-intelex>=2023.0.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full])
(2024.7.0)
Requirement already satisfied: catboost>=0.23.2 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (1.2.7)
Requirement already satisfied: tune-sklearn>=0.2.1 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (0.5.0)
Requirement already satisfied: ray>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from ray[tune]>=1.0.0;
(python_version != "3.11" and platform_system != "Windows") and extra
== "full"->pycaret[full]) (2.36.0)
Requirement already satisfied: xgboost>=1.1.0 in
/usr/local/lib/python3.10/dist-packages (from pycaret[full]) (2.1.1)
Requirement already satisfied: packaging in
/usr/local/lib/python3.10/dist-packages (from sktime==0.26.0-
>pycaret[full]) (24.1)
Requirement already satisfied: scikit-base<0.8.0 in
/usr/local/lib/python3.10/dist-packages (from sktime==0.26.0-
>pycaret[full]) (0.7.8)
Requirement already satisfied: botocore<1.36.0,>=1.35.23 in
/usr/local/lib/python3.10/dist-packages (from boto3>=1.24.56-
>pycaret[full]) (1.35.23)
Requirement already satisfied: jmespath<2.0.0,>=0.7.1 in
/usr/local/lib/python3.10/dist-packages (from boto3>=1.24.56-
>pycaret[full]) (1.0.1)
Requirement already satisfied: s3transfer<0.11.0,>=0.10.0 in
/usr/local/lib/python3.10/dist-packages (from boto3>=1.24.56-
>pycaret[full]) (0.10.2)
Requirement already satisfied: graphviz in
/usr/local/lib/python3.10/dist-packages (from catboost>=0.23.2-
>pycaret[full]) (0.20.3)
Requirement already satisfied: six in /usr/local/lib/python3.10/dist-
packages (from catboost>=0.23.2->pycaret[full]) (1.16.0)
Requirement already satisfied: patsy>=0.5.1 in
/usr/local/lib/python3.10/dist-packages (from category-
encoders>=2.4.0->pycaret[full]) (0.5.6)
Requirement already satisfied: click>=8.1 in
/usr/local/lib/python3.10/dist-packages (from dask>=2024.4.1-
>pycaret[full]) (8.1.7)
Requirement already satisfied: fsspec>=2021.09.0 in
/usr/local/lib/python3.10/dist-packages (from dask>=2024.4.1-
>pycaret[full]) (2024.6.1)
Requirement already satisfied: partd>=1.4.0 in
/usr/local/lib/python3.10/dist-packages (from dask>=2024.4.1-
>pycaret[full]) (1.4.2)
Requirement already satisfied: toolz>=0.10.0 in
/usr/local/lib/python3.10/dist-packages (from dask>=2024.4.1-

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>pycaret[full]) (0.12.1)
Requirement already satisfied: locket>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (1.0.0)
Requirement already satisfied: msgpack>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (1.0.8)
Requirement already satisfied: sortedcontainers>=2.0.5 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (2.4.0)
Requirement already satisfied: tblib>=1.6.0 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (3.0.0)
Requirement already satisfied: tornado>=6.0.4 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (6.3.3)
Requirement already satisfied: urllib3>=1.24.3 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (2.0.7)
Requirement already satisfied: zict>=3.0.0 in
/usr/local/lib/python3.10/dist-packages (from distributed>=2024.4.1-
>pycaret[full]) (3.0.0)
Requirement already satisfied: nltk>=3.6.7 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (3.8.1)
Requirement already satisfied: pydantic>=1.10.13 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (2.9.2)
Requirement already satisfied: litestar>=2.8.3 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (2.11.0)
Requirement already satisfied: typing-inspect>=0.9.0 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (0.9.0)
Requirement already satisfied: watchdog>=3.0.0 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (5.0.2)
Requirement already satisfied: typer>=0.3 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (0.12.5)
Requirement already satisfied: rich>=13 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (13.8.1)
Requirement already satisfied: iterative-telemetry>=0.0.5 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (0.0.9)
Requirement already satisfied: dynaconf>=3.2.4 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (3.2.6)
```

Requirement already satisfied: certifi>=2024.7.4 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (2024.8.30)

Requirement already satisfied: ujson>=5.4.0 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (5.10.0)

Requirement already satisfied: cryptography>=43.0.1 in
/usr/local/lib/python3.10/dist-packages (from evidently~=0.4.16-
>pycaret[full]) (43.0.1)

Requirement already satisfied: dash-auth in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (2.3.0)

Requirement already satisfied: dash-bootstrap-components>=1 in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (1.6.0)

Requirement already satisfied: dtreeviz>=2.1 in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (2.2.2)

Requirement already satisfied: flask-simplelogin in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (0.1.3)

Requirement already satisfied: Flask-WTF>=1.1 in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (1.2.1)

Requirement already satisfied: jupyter-dash>=0.4.1 in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (0.4.2)

Requirement already satisfied: oyaml in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (1.0)

Requirement already satisfied: waitress in
/usr/local/lib/python3.10/dist-packages (from
explainerdashboard>=0.3.8->pycaret[full]) (3.0.0)

Requirement already satisfied: triad>=0.9.3 in
/usr/local/lib/python3.10/dist-packages (from fugue~=0.8.0-
>pycaret[full]) (0.9.8)

Requirement already satisfied: adagio>=0.2.4 in
/usr/local/lib/python3.10/dist-packages (from fugue~=0.8.0-
>pycaret[full]) (0.2.6)

Requirement already satisfied: qpd>=0.4.4 in
/usr/local/lib/python3.10/dist-packages (from fugue~=0.8.0-
>pycaret[full]) (0.4.4)

Requirement already satisfied: fugue-sql-antlr>=0.1.6 in
/usr/local/lib/python3.10/dist-packages (from fugue~=0.8.0-
>pycaret[full]) (0.2.2)

Requirement already satisfied: sqlglot in
/usr/local/lib/python3.10/dist-packages (from fugue~=0.8.0-
>pycaret[full]) (20.11.0)

Requirement already satisfied: aiofiles<24.0,>=22.0 in

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/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (23.2.1)
Requirement already satisfied: anyio<5.0,>=3.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (3.7.1)
Requirement already satisfied: ffmpeg in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.4.0)
Requirement already satisfied: gradio-client==1.3.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (1.3.0)
Requirement already satisfied: httpx>=0.24.1 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.27.2)
Requirement already satisfied: huggingface-hub>=0.19.3 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.24.7)
Requirement already satisfied: importlib-resources<7.0,>=1.3 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (6.4.5)
Requirement already satisfied: orjson~=3.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (3.10.7)
Requirement already satisfied: pillow<11.0,>=8.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (10.4.0)
Requirement already satisfied: pydub in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.25.1)
Requirement already satisfied: python-multipart>=0.0.9 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.0.9)
Requirement already satisfied: ruff>=0.2.2 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.6.6)
Requirement already satisfied: semantic-version~=2.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (2.10.0)
Requirement already satisfied: tomlkit==0.12.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (0.12.0)
Requirement already satisfied: typing-extensions~=4.0 in
/usr/local/lib/python3.10/dist-packages (from gradio>=3.50.2-
>pycaret[full]) (4.12.2)
Requirement already satisfied: websockets<13.0,>=10.0 in
/usr/local/lib/python3.10/dist-packages (from gradio-client==1.3.0-
>gradio>=3.50.2->pycaret[full]) (12.0)
Requirement already satisfied: starlette<0.39.0,>=0.37.2 in
/usr/local/lib/python3.10/dist-packages (from fastapi->pycaret[full])
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(0.38.5)
Requirement already satisfied: networkx>=2.2 in
/usr/local/lib/python3.10/dist-packages (from hyperopt>=0.2.7->pycaret[full]) (3.3)
Requirement already satisfied: future in
/usr/local/lib/python3.10/dist-packages (from hyperopt>=0.2.7->pycaret[full]) (1.0.0)
Requirement already satisfied: py4j in /usr/local/lib/python3.10/dist-packages (from hyperopt>=0.2.7->pycaret[full]) (0.10.9.7)
Requirement already satisfied: threadpoolctl>=2.0.0 in
/usr/local/lib/python3.10/dist-packages (from imbalanced-learn>=0.12.0->pycaret[full]) (3.5.0)
Requirement already satisfied: zipp>=0.5 in
/usr/local/lib/python3.10/dist-packages (from importlib-metadata>=4.12.0->pycaret[full]) (3.20.2)
Requirement already satisfied: interpret-core==0.6.3 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (0.6.3)
Requirement already satisfied: dash-core-components>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (2.0.0)
Requirement already satisfied: dash-html-components>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (2.0.0)
Requirement already satisfied: dash-table>=4.1.0 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (5.0.0)
Requirement already satisfied: dash-cytoscape>=0.1.1 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (1.0.2)
Requirement already satisfied: gevent>=1.3.6 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (24.2.1)
Requirement already satisfied: SALib>=1.3.3 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (1.5.1)
Requirement already satisfied: aplr>=10.5.1 in
/usr/local/lib/python3.10/dist-packages (from interpret-core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3->interpret>=0.2.7->pycaret[full]) (10.6.3)
Requirement already satisfied: ipykernel>=4.10.0 in
/usr/local/lib/python3.10/dist-packages (from interpret-


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core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3-
>interpret>=0.2.7->pycaret[full]) (5.5.6)
Requirement already satisfied: dill>=0.2.5 in
/usr/local/lib/python3.10/dist-packages (from interpret-
core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3-
>interpret>=0.2.7->pycaret[full]) (0.3.8)
Requirement already satisfied: setuptools>=18.5 in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (71.0.4)
Requirement already satisfied: jedi>=0.16 in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (0.19.1)
Requirement already satisfied: decorator in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (4.4.2)
Requirement already satisfied: pickleshare in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (0.7.5)
Requirement already satisfied: traitlets>=4.2 in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (5.7.1)
Requirement already satisfied: prompt-toolkit!=3.0.0,!
=3.0.1,<3.1.0,>=2.0.0 in /usr/local/lib/python3.10/dist-packages (from
ipython>=5.5.0->pycaret[full]) (3.0.47)
Requirement already satisfied: pygments in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (2.18.0)
Requirement already satisfied: backcall in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (0.2.0)
Requirement already satisfied: matplotlib-inline in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (0.1.7)
Requirement already satisfied: pexpect>4.3 in
/usr/local/lib/python3.10/dist-packages (from ipython>=5.5.0-
>pycaret[full]) (4.9.0)
Requirement already satisfied: ipython-genutils~=0.2.0 in
/usr/local/lib/python3.10/dist-packages (from ipywidgets>=7.6.5-
>pycaret[full]) (0.2.0)
Requirement already satisfied: widgetsnbextension~=3.6.0 in
/usr/local/lib/python3.10/dist-packages (from ipywidgets>=7.6.5-
>pycaret[full]) (3.6.9)
Requirement already satisfied: jupyterlab-widgets>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from ipywidgets>=7.6.5-
>pycaret[full]) (3.0.13)
Requirement already satisfied: contourpy>=1.0.1 in
/usr/local/lib/python3.10/dist-packages (from matplotlib<3.8.0-
>pycaret[full]) (1.3.0)
Requirement already satisfied: cycler>=0.10 in
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/usr/local/lib/python3.10/dist-packages (from matplotlib<3.8.0-
>pycaret[full]) (0.12.1)
Requirement already satisfied: fonttools>=4.22.0 in
/usr/local/lib/python3.10/dist-packages (from matplotlib<3.8.0-
>pycaret[full]) (4.53.1)
Requirement already satisfied: kiwisolver>=1.0.1 in
/usr/local/lib/python3.10/dist-packages (from matplotlib<3.8.0-
>pycaret[full]) (1.4.7)
Requirement already satisfied: pyparsing>=2.3.1 in
/usr/local/lib/python3.10/dist-packages (from matplotlib<3.8.0-
>pycaret[full]) (3.1.4)
Requirement already satisfied: python-dateutil>=2.7 in
/usr/local/lib/python3.10/dist-packages (from matplotlib<3.8.0-
>pycaret[full]) (2.8.2)
Requirement already satisfied: mlflow-skinny==2.16.2 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (2.16.2)
Requirement already satisfied: alembic!=1.10.0,<2 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (1.13.2)
Requirement already satisfied: docker<8,>=4.0.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (7.1.0)
Requirement already satisfied: graphene<4 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (3.3)
Requirement already satisfied: markdown<4,>=3.3 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (3.7)
Requirement already satisfied: pyarrow<18,>=4.0.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (14.0.2)
Requirement already satisfied: sqlalchemy<3,>=1.4.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (2.0.35)
Requirement already satisfied: gunicorn<24 in
/usr/local/lib/python3.10/dist-packages (from mlflow>=2.0.0-
>pycaret[full]) (23.0.0)
Requirement already satisfied: cachetools<6,>=5.0.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (5.5.0)
Requirement already satisfied: databricks-sdk<1,>=0.20.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (0.32.3)
Requirement already satisfied: gitpython<4,>=3.1.9 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (3.1.43)
Requirement already satisfied: opentelemetry-api<3,>=1.9.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
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>mlflow>=2.0.0->pycaret[full]) (1.27.0)
Requirement already satisfied: opentelemetry-sdk<3,>=1.9.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (1.27.0)
Requirement already satisfied: protobuf<6,>=3.12.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (3.20.3)
Requirement already satisfied: sqlparse<1,>=0.4.0 in
/usr/local/lib/python3.10/dist-packages (from mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (0.5.1)
Requirement already satisfied: itsdangerous>=2.0 in
/usr/local/lib/python3.10/dist-packages (from flask->pycaret[full])
(2.2.0)
Requirement already satisfied: xmltodict in
/usr/local/lib/python3.10/dist-packages (from moto<5.0.0-
>pycaret[full]) (0.13.0)
Requirement already satisfied: responses>=0.13.0 in
/usr/local/lib/python3.10/dist-packages (from moto<5.0.0-
>pycaret[full]) (0.25.3)
Requirement already satisfied: fastjsonschema>=2.15 in
/usr/local/lib/python3.10/dist-packages (from nbformat>=4.2.0-
>pycaret[full]) (2.20.0)
Requirement already satisfied: jsonschema>=2.6 in
/usr/local/lib/python3.10/dist-packages (from nbformat>=4.2.0-
>pycaret[full]) (4.23.0)
Requirement already satisfied: jupyter-core!=5.0.*,>=4.12 in
/usr/local/lib/python3.10/dist-packages (from nbformat>=4.2.0-
>pycaret[full]) (5.7.2)
Requirement already satisfied: llvmlite<0.44,>=0.43.0dev0 in
/usr/local/lib/python3.10/dist-packages (from numba>=0.55.0-
>pycaret[full]) (0.43.0)
Requirement already satisfied: colorlog in
/usr/local/lib/python3.10/dist-packages (from optuna>=3.0.0-
>pycaret[full]) (6.8.2)
Requirement already satisfied: pytz>=2020.1 in
/usr/local/lib/python3.10/dist-packages (from pandas<2.2.0-
>pycaret[full]) (2024.2)
Requirement already satisfied: tzdata>=2022.1 in
/usr/local/lib/python3.10/dist-packages (from pandas<2.2.0-
>pycaret[full]) (2024.1)
Requirement already satisfied: tenacity>=6.2.0 in
/usr/local/lib/python3.10/dist-packages (from plotly>=5.14.0-
>pycaret[full]) (9.0.0)
Requirement already satisfied: tsdownsample>=0.1.3 in
/usr/local/lib/python3.10/dist-packages (from plotly-
resampler>=0.8.3.1->pycaret[full]) (0.1.3)
Requirement already satisfied: Cython!=0.29.18,!0.29.31,>=0.29 in
/usr/local/lib/python3.10/dist-packages (from pmdarima>=2.0.4-
>pycaret[full]) (3.0.11)
Requirement already satisfied: iniconfig in
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/usr/local/lib/python3.10/dist-packages (from pytest<8.0.0-
>pycaret[full]) (2.0.0)
Requirement already satisfied: pluggy<2.0,>=0.12 in
/usr/local/lib/python3.10/dist-packages (from pytest<8.0.0-
>pycaret[full]) (1.5.0)
Requirement already satisfied: exceptiongroup>=1.0.0rc8 in
/usr/local/lib/python3.10/dist-packages (from pytest<8.0.0-
>pycaret[full]) (1.2.2)
Requirement already satisfied: tomli>=1.0.0 in
/usr/local/lib/python3.10/dist-packages (from pytest<8.0.0-
>pycaret[full]) (2.0.1)
Requirement already satisfied: filelock in
/usr/local/lib/python3.10/dist-packages (from ray>=1.0.0-
>ray[tune]>=1.0.0; (python_version != "3.11" and platform_system !=
"Windows") and extra == "full"->pycaret[full]) (3.16.0)
Requirement already satisfied: aiosignal in
/usr/local/lib/python3.10/dist-packages (from ray>=1.0.0-
>ray[tune]>=1.0.0; (python_version != "3.11" and platform_system !=
"Windows") and extra == "full"->pycaret[full]) (1.3.1)
Requirement already satisfied: frozenlist in
/usr/local/lib/python3.10/dist-packages (from ray>=1.0.0-
>ray[tune]>=1.0.0; (python_version != "3.11" and platform_system !=
"Windows") and extra == "full"->pycaret[full]) (1.4.1)
Requirement already satisfied: tensorboardX>=1.9 in
/usr/local/lib/python3.10/dist-packages (from ray[tune]>=1.0.0;
(python_version != "3.11" and platform_system != "Windows") and extra
== "full"->pycaret[full]) (2.6.2.2)
Requirement already satisfied: charset-normalizer<4,>=2 in
/usr/local/lib/python3.10/dist-packages (from requests>=2.27.1-
>pycaret[full]) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in
/usr/local/lib/python3.10/dist-packages (from requests>=2.27.1-
>pycaret[full]) (3.10)
Requirement already satisfied: daal4py==2024.7.0 in
/usr/local/lib/python3.10/dist-packages (from scikit-learn-
intelix>=2023.0.1->pycaret[full]) (2024.7.0)
Requirement already satisfied: daal==2024.7.0 in
/usr/local/lib/python3.10/dist-packages (from daal4py==2024.7.0-
>scikit-learn-intelix>=2023.0.1->pycaret[full]) (2024.7.0)
Requirement already satisfied: tbb==2021.* in
/usr/local/lib/python3.10/dist-packages (from daal==2024.7.0-
>daal4py==2024.7.0->scikit-learn-intelix>=2023.0.1->pycaret[full])
(2021.13.1)
Requirement already satisfied: pyaml>=16.9 in
/usr/local/lib/python3.10/dist-packages (from scikit-optimize>=0.9.0-
>pycaret[full]) (24.7.0)
Requirement already satisfied: slicer==0.0.7 in
/usr/local/lib/python3.10/dist-packages (from shap~0.44.0-
>pycaret[full]) (0.0.7)
```

Requirement already satisfied: pynndescent>=0.5 in
/usr/local/lib/python3.10/dist-packages (from umap-learn>=0.5.2-
>pycaret[full]) (0.5.13)

Requirement already satisfied: h11>=0.8 in
/usr/local/lib/python3.10/dist-packages (from uvicorn>=0.17.6-
>pycaret[full]) (0.14.0)

Requirement already satisfied: nvidia-nccl-cu12 in
/usr/local/lib/python3.10/dist-packages (from xgboost>=1.1.0-
>pycaret[full]) (2.23.4)

Requirement already satisfied: visions<0.7.7,>=0.7.5 in
/usr/local/lib/python3.10/dist-packages (from
visions[type_image_path]<0.7.7,>=0.7.5->ydata-profiling>=4.3.1-
>pycaret[full]) (0.7.6)

Requirement already satisfied: htmlmin==0.1.12 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (0.1.12)

Requirement already satisfied: phik<0.13,>=0.11.1 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (0.12.4)

Requirement already satisfied: seaborn<0.14,>=0.10.1 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (0.13.1)

Requirement already satisfied: multimethod<2,>=1.4 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (1.12)

Requirement already satisfied: typeguard<5,>=3 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (4.3.0)

Requirement already satisfied: imagehash==4.3.1 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (4.3.1)

Requirement already satisfied: wordcloud>=1.9.3 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (1.9.3)

Requirement already satisfied: dacite>=1.8 in
/usr/local/lib/python3.10/dist-packages (from ydata-profiling>=4.3.1-
>pycaret[full]) (1.8.1)

Requirement already satisfied: PyWavelets in
/usr/local/lib/python3.10/dist-packages (from imagehash==4.3.1->ydata-
profiling>=4.3.1->pycaret[full]) (1.7.0)

Requirement already satisfied: retrying in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (1.3.4)

Requirement already satisfied: nest-asyncio in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (1.6.0)

Requirement already satisfied: beautifulsoup4>=4.8.2 in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (4.12.3)

Requirement already satisfied: lxml<=4.6.2 in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (4.9.4)

Requirement already satisfied: percy<=2.0.2 in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (2.0.2)

Requirement already satisfied: selenium<=4.2.0,>=3.141.0 in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (3.141.0)

Requirement already satisfied: multiprocessing<=0.70.12 in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (0.70.16)

Requirement already satisfied: dash-testing-stub<=0.0.2 in
/usr/local/lib/python3.10/dist-packages (from dash[testing]; extra ==
"full"->pycaret[full]) (0.0.2)

Requirement already satisfied: Mako in /usr/local/lib/python3.10/dist-
packages (from alembic!=1.10.0,<2->mlflow<=2.0.0->pycaret[full])
(1.3.5)

Requirement already satisfied: sniffio<=1.1 in
/usr/local/lib/python3.10/dist-packages (from anyio<5.0,>=3.0-
>gradio<=3.50.2->pycaret[full]) (1.3.1)

Requirement already satisfied: soupsieve<1.2 in
/usr/local/lib/python3.10/dist-packages (from beautifulsoup4<=4.8.2-
>dash[testing]; extra == "full"->pycaret[full]) (2.6)

Requirement already satisfied: cffi<=1.12 in
/usr/local/lib/python3.10/dist-packages (from cryptography<=43.0.1-
>evidently~<0.4.16->pycaret[full]) (1.17.1)

Requirement already satisfied: dask-expr<1.2,>=1.1 in
/usr/local/lib/python3.10/dist-packages (from
dask[dataframe,distributed]<=2023.5.0; extra == "dask"->fugue[dask];
extra == "full"->pycaret[full]) (1.1.10)

Requirement already satisfied: colour in
/usr/local/lib/python3.10/dist-packages (from dtreeviz<=2.1-
>explainerdashboard<=0.3.8->pycaret[full]) (0.1.5)

Requirement already satisfied: wtforms in
/usr/local/lib/python3.10/dist-packages (from Flask-WTF<=1.1-
>explainerdashboard<=0.3.8->pycaret[full]) (3.1.2)

Requirement already satisfied: antlr4-python3-runtime<4.12 in
/usr/local/lib/python3.10/dist-packages (from fugue-sql-antlr<=0.1.6-
>fugue~<0.8.0->pycaret[full]) (4.11.1)

Requirement already satisfied: graphql-core<3.3,>=3.1 in
/usr/local/lib/python3.10/dist-packages (from graphene<4-
>mlflow<=2.0.0->pycaret[full]) (3.2.4)

Requirement already satisfied: graphql-relay<3.3,>=3.1 in
/usr/local/lib/python3.10/dist-packages (from graphene<4-
>mlflow<=2.0.0->pycaret[full]) (3.2.0)

Requirement already satisfied: aniso8601<10,>=8 in
/usr/local/lib/python3.10/dist-packages (from graphene<4-
>mlflow<=2.0.0->pycaret[full]) (9.0.1)

Requirement already satisfied: httpcore==1.* in
/usr/local/lib/python3.10/dist-packages (from httpx>=0.24.1-
>gradio>=3.50.2->pycaret[full]) (1.0.5)

Requirement already satisfied: jupyter-client in
/usr/local/lib/python3.10/dist-packages (from ipykernel>=4.10.0-
>interpret-
core[aplr,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3-
>interpret>=0.2.7->pycaret[full]) (6.1.12)

Requirement already satisfied: appdirs in
/usr/local/lib/python3.10/dist-packages (from iterative-
telemetry>=0.0.5->evidently~=0.4.16->pycaret[full]) (1.4.4)

Requirement already satisfied: distro in /usr/lib/python3/dist-
packages (from iterative-telemetry>=0.0.5->evidently~=0.4.16-
>pycaret[full]) (1.7.0)

Requirement already satisfied: parso<0.9.0,>=0.8.3 in
/usr/local/lib/python3.10/dist-packages (from jedi>=0.16-
>ipython>=5.5.0->pycaret[full]) (0.8.4)

Requirement already satisfied: attrs>=22.2.0 in
/usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6-
>nbformat>=4.2.0->pycaret[full]) (24.2.0)

Requirement already satisfied: jsonschema-specifications>=2023.03.6 in
/usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6-
>nbformat>=4.2.0->pycaret[full]) (2023.12.1)

Requirement already satisfied: referencing>=0.28.4 in
/usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6-
>nbformat>=4.2.0->pycaret[full]) (0.35.1)

Requirement already satisfied: rpds-py>=0.7.1 in
/usr/local/lib/python3.10/dist-packages (from jsonschema>=2.6-
>nbformat>=4.2.0->pycaret[full]) (0.20.0)

Requirement already satisfied: platformdirs>=2.5 in
/usr/local/lib/python3.10/dist-packages (from jupyter-core!
=5.0.*,>=4.12->nbformat>=4.2.0->pycaret[full]) (4.3.4)

Requirement already satisfied: ansi2html in
/usr/local/lib/python3.10/dist-packages (from jupyter-dash>=0.4.1-
>explainerdashboard>=0.3.8->pycaret[full]) (1.9.2)

Requirement already satisfied: msgspec>=0.18.2 in
/usr/local/lib/python3.10/dist-packages (from litestar>=2.8.3-
>evidently~=0.4.16->pycaret[full]) (0.18.6)

Requirement already satisfied: multidict>=6.0.2 in
/usr/local/lib/python3.10/dist-packages (from litestar>=2.8.3-
>evidently~=0.4.16->pycaret[full]) (6.1.0)

Requirement already satisfied: polyfactory>=2.6.3 in
/usr/local/lib/python3.10/dist-packages (from litestar>=2.8.3-
>evidently~=0.4.16->pycaret[full]) (2.16.2)

Requirement already satisfied: rich-click in
/usr/local/lib/python3.10/dist-packages (from litestar>=2.8.3-
>evidently~=0.4.16->pycaret[full]) (1.8.3)

Requirement already satisfied: regex>=2021.8.3 in
/usr/local/lib/python3.10/dist-packages (from nltk>=3.6.7-

```
>evidently~=0.4.16->pycaret[full]) (2024.9.11)
Requirement already satisfied: ptyprocess>=0.5 in
/usr/local/lib/python3.10/dist-packages (from pexpect>4.3-
>ipython>=5.5.0->pycaret[full]) (0.7.0)
Requirement already satisfied: wcwidth in
/usr/local/lib/python3.10/dist-packages (from prompt-toolkit!=3.0.0,!
=3.0.1,<3.1.0,>=2.0.0->ipython>=5.5.0->pycaret[full]) (0.2.13)
Requirement already satisfied: annotated-types>=0.6.0 in
/usr/local/lib/python3.10/dist-packages (from pydantic>=1.10.13-
>evidently~=0.4.16->pycaret[full]) (0.7.0)
Requirement already satisfied: pydantic-core==2.23.4 in
/usr/local/lib/python3.10/dist-packages (from pydantic>=1.10.13-
>evidently~=0.4.16->pycaret[full]) (2.23.4)
Requirement already satisfied: markdown-it-py>=2.2.0 in
/usr/local/lib/python3.10/dist-packages (from rich>=13-
>evidently~=0.4.16->pycaret[full]) (3.0.0)
Requirement already satisfied: greenlet!=0.4.17 in
/usr/local/lib/python3.10/dist-packages (from sqlalchemy<3,>=1.4.0-
>mlflow>=2.0.0->pycaret[full]) (3.1.0)
Requirement already satisfied: fs in /usr/local/lib/python3.10/dist-
packages (from triad>=0.9.3->fugue~=0.8.0->pycaret[full]) (2.4.16)
Requirement already satisfied: shellingham>=1.3.0 in
/usr/local/lib/python3.10/dist-packages (from typer>=0.3-
>evidently~=0.4.16->pycaret[full]) (1.5.4)
Requirement already satisfied: mypy-extensions>=0.3.0 in
/usr/local/lib/python3.10/dist-packages (from typing-inspect>=0.9.0-
>evidently~=0.4.16->pycaret[full]) (1.0.0)
Requirement already satisfied: httptools>=0.5.0 in
/usr/local/lib/python3.10/dist-packages (from
uvicorn[standard]>=0.22.0->evidently~=0.4.16->pycaret[full]) (0.6.1)
Requirement already satisfied: python-dotenv>=0.13 in
/usr/local/lib/python3.10/dist-packages (from
uvicorn[standard]>=0.22.0->evidently~=0.4.16->pycaret[full]) (1.0.1)
Requirement already satisfied: uvloop!=0.15.0,!0.15.1,>=0.14.0 in
/usr/local/lib/python3.10/dist-packages (from
uvicorn[standard]>=0.22.0->evidently~=0.4.16->pycaret[full]) (0.20.0)
Requirement already satisfied: watchfiles>=0.13 in
/usr/local/lib/python3.10/dist-packages (from
uvicorn[standard]>=0.22.0->evidently~=0.4.16->pycaret[full]) (0.24.0)
Requirement already satisfied: notebook>=4.4.1 in
/usr/local/lib/python3.10/dist-packages (from
widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (6.5.5)
Requirement already satisfied: pycparser in
/usr/local/lib/python3.10/dist-packages (from cffi>=1.12-
>cryptography>=43.0.1->evidently~=0.4.16->pycaret[full]) (2.22)
Requirement already satisfied: google-auth~=2.0 in
/usr/local/lib/python3.10/dist-packages (from databricks-
sdk<1,>=0.20.0->mlflow-skinny==2.16.2->mlflow>=2.0.0->pycaret[full])
(2.27.0)
```



```

Requirement already satisfied: zope.event in
/usr/local/lib/python3.10/dist-packages (from gevent>=1.3.6-
>interpret-
core[aplur,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3-
>interpret>=0.2.7->pycaret[full]) (5.0)
Requirement already satisfied: zope.interface in
/usr/local/lib/python3.10/dist-packages (from gevent>=1.3.6-
>interpret-
core[aplur,dash,debug,linear,notebook,plotly,sensitivity,shap]==0.6.3-
>interpret>=0.2.7->pycaret[full]) (7.0.3)
Requirement already satisfied: gitdb<5,>=4.0.1 in
/usr/local/lib/python3.10/dist-packages (from gitpython<4,>=3.1.9-
>mlflow-skinny==2.16.2->mlflow>=2.0.0->pycaret[full]) (4.0.11)
Requirement already satisfied: mdurl~=0.1 in
/usr/local/lib/python3.10/dist-packages (from markdown-it-py>=2.2.0-
>rich>=13->evidently~=0.4.16->pycaret[full]) (0.1.2)
Requirement already satisfied: pyzmq<25,>=17 in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (24.0.1)
Requirement already satisfied: argon2-cffi in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (23.1.0)
Requirement already satisfied: nbconvert>=5 in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (6.5.4)
Requirement already satisfied: Send2Trash>=1.8.0 in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (1.8.3)
Requirement already satisfied: terminado>=0.8.3 in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (0.18.1)
Requirement already satisfied: prometheus-client in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (0.20.0)
Requirement already satisfied: nbclassic>=0.4.7 in
/usr/local/lib/python3.10/dist-packages (from notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (1.1.0)
Requirement already satisfied: deprecated>=1.2.6 in
/usr/local/lib/python3.10/dist-packages (from opentelemetry-
api<3,>=1.9.0->mlflow-skinny==2.16.2->mlflow>=2.0.0->pycaret[full])
(1.2.14)
Requirement already satisfied: opentelemetry-semantic-
conventions==0.48b0 in /usr/local/lib/python3.10/dist-packages (from
opentelemetry-sdk<3,>=1.9.0->mlflow-skinny==2.16.2->mlflow>=2.0.0-
>pycaret[full]) (0.48b0)
Requirement already satisfied: faker in
/usr/local/lib/python3.10/dist-packages (from polyfactory>=2.6.3-
>litestar>=2.8.3->evidently~=0.4.16->pycaret[full]) (29.0.0)
Requirement already satisfied: wrapt<2,>=1.10 in

```

```
/usr/local/lib/python3.10/dist-packages (from deprecated>=1.2.6-
>opentelemetry-api<3,>=1.9.0->mlflow-skinny==2.16.2->mlflow>=2.0.0-
>pycaret[full]) (1.16.0)
Requirement already satisfied: smmap<6,>=3.0.1 in
/usr/local/lib/python3.10/dist-packages (from gitdb<5,>=4.0.1-
>gitpython<4,>=3.1.9->mlflow-skinny==2.16.2->mlflow>=2.0.0-
>pycaret[full]) (5.0.1)
Requirement already satisfied: pyasn1-modules>=0.2.1 in
/usr/local/lib/python3.10/dist-packages (from google-auth~=2.0-
>databricks-sdk<1,>=0.20.0->mlflow-skinny==2.16.2->mlflow>=2.0.0-
>pycaret[full]) (0.4.1)
Requirement already satisfied: rsa<5,>=3.1.4 in
/usr/local/lib/python3.10/dist-packages (from google-auth~=2.0-
>databricks-sdk<1,>=0.20.0->mlflow-skinny==2.16.2->mlflow>=2.0.0-
>pycaret[full]) (4.9)
Requirement already satisfied: notebook-shim>=0.2.3 in
/usr/local/lib/python3.10/dist-packages (from nbclassic>=0.4.7-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.2.4)
Requirement already satisfied: bleach in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (6.1.0)
Requirement already satisfied: defusedxml in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.7.1)
Requirement already satisfied: entrypoints>=0.2.2 in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.4)
Requirement already satisfied: jupyterlab-pygments in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.3.0)
Requirement already satisfied: mistune<2,>=0.8.1 in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.8.4)
Requirement already satisfied: nbclient>=0.5.0 in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.10.0)
Requirement already satisfied: pandocfilters>=1.4.1 in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (1.5.1)
Requirement already satisfied: tinycss2 in
/usr/local/lib/python3.10/dist-packages (from nbconvert>=5-
```

```

>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (1.3.0)
Requirement already satisfied: argon2-cffi-bindings in
/usr/local/lib/python3.10/dist-packages (from argon2-cffi-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (21.2.0)
Requirement already satisfied: jupyter-server<3,>=1.8 in
/usr/local/lib/python3.10/dist-packages (from notebook-shim>=0.2.3-
>nbclassic>=0.4.7->notebook>=4.4.1->widgetsnbextension~=3.6.0-
>ipywidgets>=7.6.5->pycaret[full]) (1.24.0)
Requirement already satisfied: pyasn1<0.7.0,>=0.4.6 in
/usr/local/lib/python3.10/dist-packages (from pyasn1-modules>=0.2.1-
>google-auth~=2.0->databricks-sdk<1,>=0.20.0->mlflow-skinny==2.16.2-
>mlflow>=2.0.0->pycaret[full]) (0.6.1)
Requirement already satisfied: webencodings in
/usr/local/lib/python3.10/dist-packages (from bleach->nbconvert>=5-
>notebook>=4.4.1->widgetsnbextension~=3.6.0->ipywidgets>=7.6.5-
>pycaret[full]) (0.5.1)
Requirement already satisfied: websocket-client in
/usr/local/lib/python3.10/dist-packages (from jupyter-server<3,>=1.8-
>notebook-shim>=0.2.3->nbclassic>=0.4.7->notebook>=4.4.1-
>widgetsnbextension~=3.6.0->ipywidgets>=7.6.5->pycaret[full]) (1.8.0)
Using cached pycaret-3.3.2-py3-none-any.whl (486 kB)
Installing collected packages: pycaret
Successfully installed pycaret-3.3.2

```

```

{"id": "adcd3e48ffb040f39d5414f5c24e5356", "pip_warning": {"packages":
["pycaret"]}}

```

```

import pandas as pd
from sklearn.model_selection import train_test_split
from pycaret.regression import *

```

```

data = pd.read_csv('~\Housing.csv')
data.head()

```

```

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```

```

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3,\n          2\n          ],\n          \ "semantic_type\ ": \ "\",\n
\ "description\ ": \ "\n          }\n          },\n          {\n          \ "column\ ":
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n          \ "std\ ": 0,\n          \ "min\ ": 1,\n          \ "max\ ": 4,\n
\ "num_unique_values\ ": 4,\n          \ "samples\ ": [\n          4,\n
1,\n          3\n          ],\n          \ "semantic_type\ ": \ "\",\n
\ "description\ ": \ "\n          }\n          },\n          {\n          \ "column\ ":
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\ "semantic_type\ ": \ "\",\n          \ "description\ ": \ "\n          }\n
n          },\n          {\n          \ "column\ ": \ "guestroom",\n
\ "properties\ ": {\n          \ "dtype\ ": \ "category",\n
\ "num_unique_values\ ": 2,\n          \ "samples\ ": [\n          \ "yes",\n
n          \ "no",\n          ],\n          \ "semantic_type\ ": \ "\",\n
\ "description\ ": \ "\n          }\n          },\n          {\n          \ "column\ ":
\ "basement",\n          \ "properties\ ": {\n          \ "dtype\ ":
\ "category",\n          \ "num_unique_values\ ": 2,\n          \ "samples\ ":
[\n          \ "yes",\n          \ "no",\n          ],\n
\ "semantic_type\ ": \ "\",\n          \ "description\ ": \ "\n          }\n
n          },\n          {\n          \ "column\ ": \ "hotwaterheating",\n
\ "properties\ ": {\n          \ "dtype\ ": \ "category",\n
\ "num_unique_values\ ": 2,\n          \ "samples\ ": [\n          \ "yes",\n
n          \ "no",\n          ],\n          \ "semantic_type\ ": \ "\",\n
\ "description\ ": \ "\n          }\n          },\n          {\n          \ "column\ ":
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\ "category",\n          \ "num_unique_values\ ": 2,\n          \ "samples\ ":
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\ "semantic_type\ ": \ "\",\n          \ "description\ ": \ "\n          }\n
n          },\n          {\n          \ "column\ ": \ "parking",\n          \ "properties\ ":
{\n          \ "dtype\ ": \ "number",\n          \ "std\ ": 0,\n
\ "min\ ": 0,\n          \ "max\ ": 3,\n          \ "num_unique_values\ ": 4,\n
\ "samples\ ": [\n          3,\n          1\n          ],\n
\ "semantic_type\ ": \ "\",\n          \ "description\ ": \ "\n          }\n
n          },\n          {\n          \ "column\ ": \ "prefarea",\n          \ "properties\ ":
{\n          \ "dtype\ ": \ "category",\n          \ "num_unique_values\ ":
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],\n          \ "semantic_type\ ": \ "\",\n          \ "description\ ": \ "\n          }\n
n          },\n          {\n          \ "column\ ": \ "furnishingstatus",\n
\ "properties\ ": {\n          \ "dtype\ ": \ "category",\n
\ "num_unique_values\ ": 3,\n          \ "samples\ ": [\n
\ "furnished",\n          \ "semi-furnished",\n          ],\n

```

```
\{"semantic_type\": \"\", \n      \"description\": \"\" \n    }\n  ] \n} \", \"type\": \"dataframe\", \"variable_name\": \"data\"}
```

```
data.columns
```

```
Index(['price', 'area', 'bedrooms', 'bathrooms', 'stories',  
      'mainroad',  
      'guestroom', 'basement', 'hotwaterheating', 'airconditioning',  
      'parking', 'prefarea', 'furnishingstatus'],  
      dtype='object')
```

```
train_data, test_data = train_test_split(data, test_size=0.2,  
random_state=42)
```

```
reg = setup(train_data, target='price', use_gpu=True)
```

```
[LightGBM] [Warning] There are no meaningful features which satisfy  
the provided configuration. Decreasing Dataset parameters  
min_data_in_bin or min_data_in_leaf and re-constructing Dataset might  
resolve this warning.
```

```
[LightGBM] [Info] This is the GPU trainer!!
```

```
[LightGBM] [Info] Total Bins 0
```

```
[LightGBM] [Info] Number of data points in the train set: 2, number of  
used features: 0
```

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```
[LightGBM] [Warning] Using sparse features with CUDA is currently not  
supported.
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<pandas.io.formats.style.Styler at 0x7bf13e312cb0>

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```



```

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[LightGBM] [Info] Number of data points in the train set: 2, number of
used features: 0
[LightGBM] [Warning] There are no meaningful features which satisfy
the provided configuration. Decreasing Dataset parameters
min_data_in_bin or min_data_in_leaf and re-constructing Dataset might
resolve this warning.
[LightGBM] [Warning] Using sparse features with CUDA is currently not
supported.

```

```
best_model = compare_models()
```

```
<IPython.core.display.HTML object>
```

```
<pandas.io.formats.style.Styler at 0x7bf13fbab460>
```

```
{
  "model_id": "6abc47b192cf444999b8fc297f3688de",
  "version_major": 2,
  "version_minor": 0
}
```

```
<IPython.core.display.HTML object>
```

```
final_model = finalize_model(best_model)
print(final_model)
```

```

Pipeline(memory=Memory(location=None),
          steps=[('numerical_imputer',
                  TransformerWrapper(include=['area', 'bedrooms',
                                             'bathrooms',
                                             'stories', 'parking'],
                                     transformer=SimpleImputer()))],
          ('categorical_imputer',
           TransformerWrapper(include=['mainroad', 'guestroom',
                                       'basement',
                                       'hotwaterheating',
                                       'airconditioning',
                                       'prefarea',
                                       'furnishingstatus'],
                               transformer=SimpleImputer...))

```

```
'data_type': dtype('O'),
```

```

'mapping': no      0
yes      1
NaN      -1

```

```

dtype: int64},
{'col': 'prefarea',
'data_type': dtype('O'),
'mapping': no      0
yes      1
NaN     -1
dtype: int64}})),
      ('onehot_encoding',
      TransformerWrapper(include=['furnishingstatus'],
transformer=OneHotEncoder(cols=['furnishingstatus'],
handle_missing='return_nan',
use_cat_names=True))),
      ('actual_estimator', Ridge(random_state=1876)))

```

```

predictions = predict_model(final_model, data=test_data)

```

```

predictions.head()

```

```

<pandas.io.formats.style.Styler at 0x7bf13e73c5e0>

```

```

{"summary": "{\n  \"name\": \"predictions\", \n  \"rows\": 109, \n  \"fields\": [\n    {\n      \"column\": \"area\", \n      \"properties\": {\n        \"dtype\": \"int32\", \n        \"num_unique_values\": 85, \n        \"samples\": [\n          3700, \n          5900, \n          5500\n        ], \n        \"semantic_type\": \"\", \n        \"description\": \"\" \n      }, \n      \"column\": \"bedrooms\", \n      \"properties\": {\n        \"dtype\": \"int8\", \n        \"num_unique_values\": 4, \n        \"samples\": [\n          3, \n          5, \n          4\n        ], \n        \"semantic_type\": \"\", \n        \"description\": \"\" \n      }, \n      \"column\": \"bathrooms\", \n      \"properties\": {\n        \"dtype\": \"int8\", \n        \"num_unique_values\": 3, \n        \"samples\": [\n          2, \n          1, \n          3\n        ], \n        \"semantic_type\": \"\", \n        \"description\": \"\" \n      }, \n      \"column\": \"stories\", \n      \"properties\": {\n        \"dtype\": \"int8\", \n        \"num_unique_values\": 4, \n        \"samples\": [\n          3, \n          4, \n          2\n        ], \n        \"semantic_type\": \"\", \n        \"description\": \"\" \n      }, \n      \"column\": \"mainroad\", \n      \"properties\": {\n        \"dtype\": \"category\", \n        \"num_unique_values\": 2, \n        \"samples\": [\n          \"yes\", \n          \"no\" \n        ], \n        \"semantic_type\": \"\", \n        \"description\": \"\" \n      }, \n      \"column\": \"guestroom\", \n      \"properties\": {\n        \"dtype\": \"category\", \n

```

```

{"num_unique_values": 2,\n      "samples": [\n        \n      ],\n      "semantic_type": \"\", \n      "description": \"\", \n      "column": \"basement\", \n      "properties": {\n        "dtype": \"category\", \n        "num_unique_values": 2,\n        "samples": [\n          \n        ],\n        "semantic_type": \"\", \n        "description": \"\", \n        "column": \"hotwaterheating\", \n        "properties": {\n          "dtype": \"category\", \n          "num_unique_values": 2,\n          "samples": [\n            \n          ],\n          "semantic_type": \"\", \n          "description": \"\", \n          "column": \"parking\", \n          "properties": {\n            "dtype": \"int8\", \n            "num_unique_values": 4,\n            "samples": [\n              0,\n              3\n            ],\n            "semantic_type": \"\", \n            "description": \"\", \n            "column": \"prefarea\", \n            "properties": {\n              "dtype": \"category\", \n              "num_unique_values": 2,\n              "samples": [\n                \n              ],\n              "semantic_type": \"\", \n              "description": \"\", \n              "column": \"furnishingstatus\", \n              "properties": {\n                "dtype": \"category\", \n                "num_unique_values": 3,\n                "samples": [\n                  \n                ],\n                "semantic_type": \"\", \n                "description": \"\", \n                "column": \"price\", \n                "properties": {\n                  "dtype": \"int32\", \n                  "num_unique_values": 81,\n                  "samples": [\n                    3290000,\n                    4060000\n                  ],\n                  "semantic_type": \"\", \n                  "description": \"\", \n                  "column": \"prediction_label\", \n                  "properties": {\n                    "dtype": \"number\", \n                    "std": 1553412.2182972839,\n                    "min": 2611432.628054189,\n                    "max": 9596158.589040093,\n                    "num_unique_values": 109,\n                    "samples": [\n                      4791936.541820312,\n                      9596158.589040093\n                    ],\n                    "semantic_type": \"\", \n                    "description": \"\" \n                  } \n                } \n              } \n            } \n          } \n        } \n      ],\n      "type": "dataframe",\n      "variable_name": "predictions"}

```