

Info

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- Batch Code : LISUM 13:30 August - 30 November 2022
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- Submitted to : Week 5 : Cloud and API deployment

1. train a simple model

```
import sklearn
from sklearn.linear_model import LogisticRegression
from sklearn.datasets import load_iris
import numpy as np
import pickle
```

✓ 0.4s

Python

```
X, y = load_iris(return_X_y=True)
lr = LogisticRegression()
lr.fit(X, y)
```

Python

2. save the model

```
file_name = 'trained_model.sav'
pickle.dump(lr, open(file_name, 'wb'))
loaded_model = pickle.load(open(file_name, 'rb'))
```

✓ 0.4s

Python

3. make a web app

```
app.py > index
1  from flask import Flask, render_template, request
2  import pickle
3  import numpy as np
4
5  app = Flask(__name__)
6  model = pickle.load(open('trained_model.sav', 'rb'))
7  labels = ['setosa', 'versicolor', 'virginica']
8
9  @app.route('/') #http://google.com/
10 def index():
11     return render_template('index.html',
12                             info = 'Predicting type of Iris from give information. Types of iris: {}, {} and {}'.format(labels[0], labels[1], labels[2]))
13
14
15 @app.route('/predict', methods=['POST'])
16 def predict():
17     features = [np.array([float(x) for x in request.form.values()])]
18     prediction = model.predict(features)
19     output = labels[prediction.item()]
20     return render_template('index.html', prediction_text='Type of Iris is {}'.format(output))
21
22
23 app.run(port=5000, debug=True)
```

4. Deploy the model on Heroku

1. Create a github repository for heroku app

The screenshot shows a GitHub repository interface. At the top, it says 'YamataHermione demo' with 303414c, 3 hours ago, and 6 commits. Below this is a list of files and folders:

File/Folder	Commit	Time
images	demo	4 hours ago
static/css	demo	4 hours ago
templates	demo	4 hours ago
LICENSE	Initial commit	4 hours ago
Procfile	demo	3 hours ago
README.md	Initial commit	4 hours ago
app.py	demo	4 hours ago
model.ipynb	demo	4 hours ago
requirements.txt	demo	3 hours ago
trained_model.sav	demo	4 hours ago

Below the file list is the README.md content, which includes the title 'Heroku_Demo'.

2. Connect heroku to github

App connected to GitHub

Code diffs, manual and auto deploys are available for this app.

Connected to [YamataHermione/Heroku_Demo](#) by [YamataHermione](#)

[Disconnect...](#)

Releases in the [activity feed](#) link to GitHub to view commit diffs

3. Deploy the model

```
Created wheel for pyspark: filename=pyspark-3.2.1-py2.py3-none-any.whl size=281853625 sha256=8629d489613/b982/ac0a/1c2e0d0d0/6/e01069fe4a7a703008/420a1b51a24
Stored in directory: /tmp/pip-ephem-wheel-cache-fxt4knp2/wheels/15/97/bd/52908574a60b5f8e3dc4dc5a0b5be8a59ac20986ee51c2611b
Building wheel for sklearn (setup.py): started
Building wheel for sklearn (setup.py): finished with status 'done'
Created wheel for sklearn: filename=sklearn-0.0-py2.py3-none-any.whl size=1304 sha256=f6014b48cf0b5fb0d1891a73b393ce819ae1ea48084b94e6e562902be0904200
Stored in directory: /tmp/pip-ephem-wheel-cache-fxt4knp2/wheels/9b/13/01/6f3a7fd641f90e1f6c8c7cded857f3394f451f340371c68f3d
Successfully built pyspark sklearn
Installing collected packages: py4j, zipp, threadpoolctl, setuptools, pyspark, pip, numpy, MarkupSafe, joblib, itsdangerous, colorama, click, Werkzeug, scipy, Jinja2,
importlib-metadata, gunicorn, scikit-learn, Flask, sklearn
Attempting uninstall: setuptools
Found existing installation: setuptools 63.4.3
Uninstalling setuptools-63.4.3:
Successfully uninstalled setuptools-63.4.3
Attempting uninstall: pip
Found existing installation: pip 22.2.2
Uninstalling pip-22.2.2:
Successfully uninstalled pip-22.2.2
Successfully installed Flask-2.2.2 Jinja2-3.1.2 MarkupSafe-2.1.1 Werkzeug-2.2.2 click-8.1.3 colorama-0.4.5 gunicorn-20.1.0 importlib-metadata-4.12.0 itsdangerous-2.1.2
joblib-1.2.0 numpy-1.23.3 pip-21.2.3 py4j-0.10.9.3 pyspark-3.2.1 scikit-learn-1.1.2 scipy-1.9.1 setuptools-57.4.0 sklearn-0.0 threadpoolctl-3.1.0 zipp-3.8.1
-----> Discovering process types
Procfile declares types -> web
-----> Compressing...
Done: 386.9M
-----> Launching...
! Warning: Your slug size (386 MB) exceeds our soft limit (300 MB) which may affect boot time.
Released v6
https://heroku-demo-app-w6.herokuapp.com/ deployed to Heroku
Starting November 28th, 2022, free Heroku Dynos, free Heroku Postgres, and free Heroku Data for Redis® will no longer be available.
If you have apps using any of these resources, you must upgrade to paid plans by this date to ensure your apps continue to run and to retain your data. For students, we will
announce a new program by the end of September. Learn more at https://blog.heroku.com/next-chapter

Build finished
```

5. Done

