

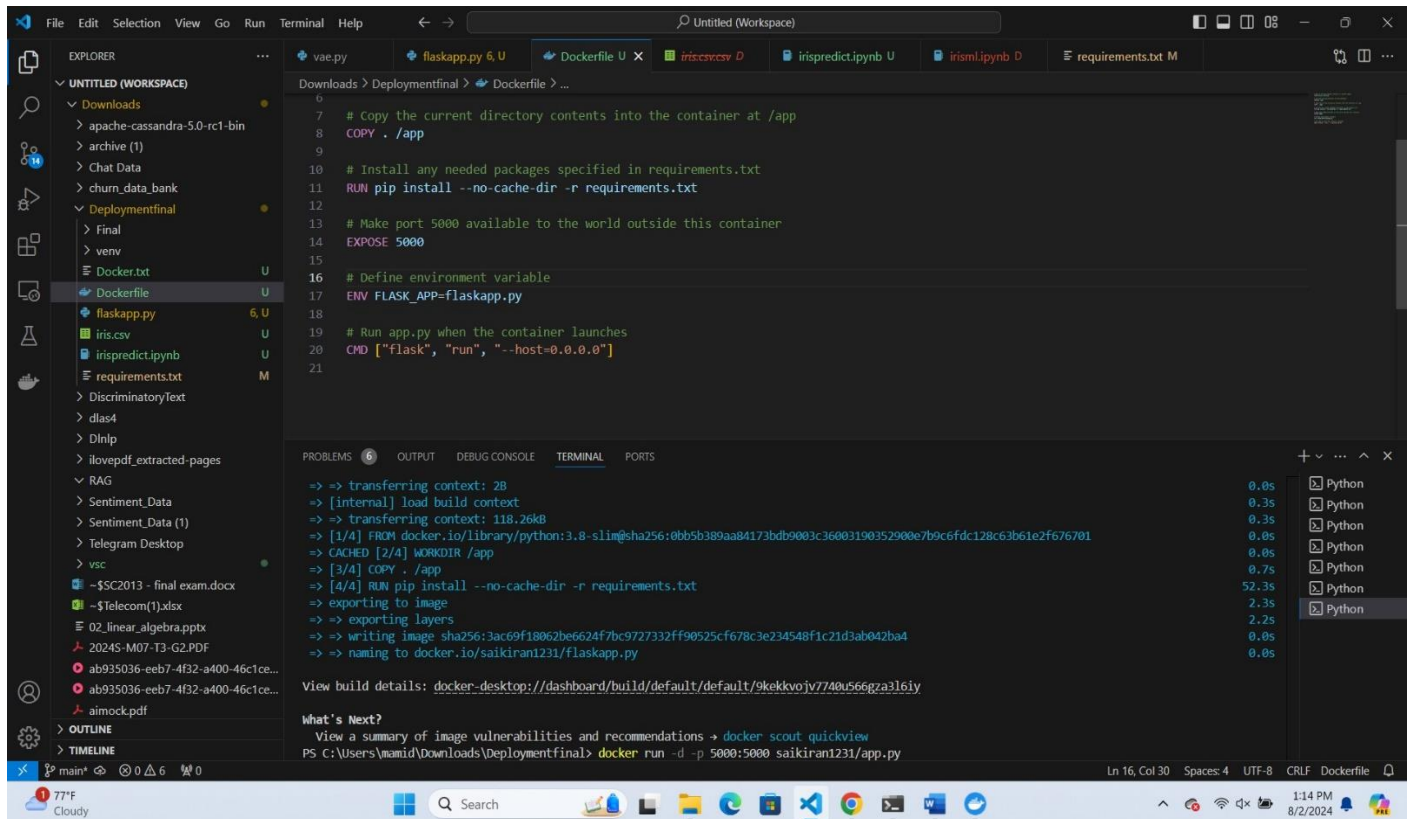
Github url: <https://github.com/MSK-hash/Final.git>

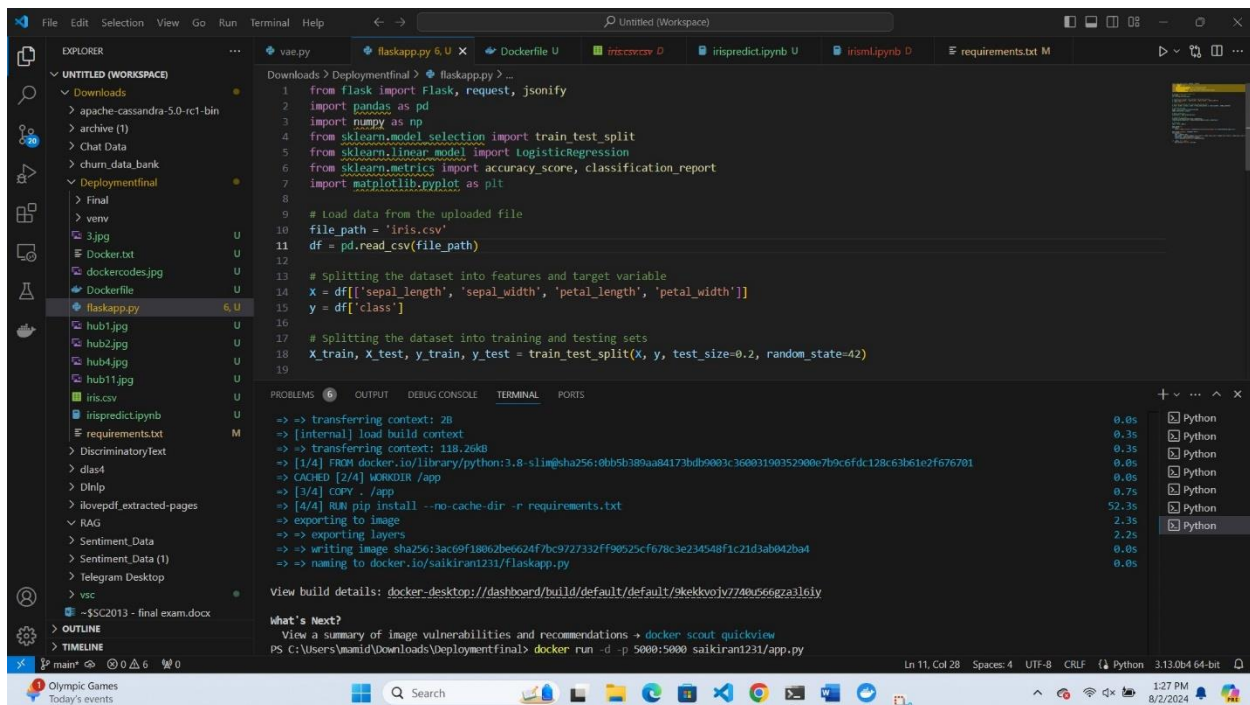
Saikiran_Mamidala-500209412

Provide the Docker commands used along with screenshots:

`docker build -t saikiran1231/app.py .`

`docker run -d -p 5000:5000 saikiran1231/app.py`





This Python script is a Flask web application that loads a machine learning model to classify iris flowers based on their features. The application provides two main functionalities:

1. Displaying the model's accuracy and classification report.
2. Predicting the class of an iris flower based on user-provided features.

Detailed Explanation

1. Import Libraries:

- The script imports necessary libraries for data manipulation (pandas), numerical operations (numpy), machine learning (sklearn), visualization (matplotlib), and web development (flask).

2. Load Dataset:

- The Iris dataset is loaded from a file named iris.csv using pandas.

3. Data Preparation:

- The dataset is split into features (X) and the target variable (y).
- The features include sepal_length, sepal_width, petal_length, and petal_width.
- The target variable is the class of the iris flower.

4. Split Data:

- The dataset is divided into training and testing sets using `train_test_split` from `sklearn`. This ensures that the model can be trained and evaluated on separate data.

5. **Train Model:**

- A Logistic Regression model is instantiated and trained on the training data (`X_train`, `y_train`).

6. **Make Predictions:**

- The trained model is used to make predictions on the test data (`X_test`).

7. **Evaluate Model:**

- The accuracy of the model is calculated using `accuracy_score`.
- A detailed classification report is generated using `classification_report`.

8. **Flask Web Application:**

- The Flask app is initialized and configured to run on host `0.0.0.0` and port `80`.

9. **Home Route (/):**

- The home route (`/`) returns the model's accuracy and classification report in HTML format.

10. **Prediction Route (/predict):**

- The prediction route (`/predict`) accepts POST requests with JSON data containing the features of an iris flower.
- It extracts the features from the JSON data, reshapes them into the required format, and uses the trained model to predict the class of the iris flower.
- The predicted class is returned as a JSON response.

Screenshots of your application running in the container:

Containers

Images

Volumes

Builds

Dev Environments BETA

Docker Scout

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Images

LocalHub

2.42 GB / 1.52 GB in use6 images

Last refresh: 49 minutes ago

Search

DeleteSpace to be reclaimed 379.94 MB

Name	Tag	Status	Created	Size	Actions
<input checked="" type="checkbox"/> saikiran1231/flaskapp.py 3ac69f18062b	latest	In use	9 minutes ago	521.44 MB	
<input type="checkbox"/> saikiran1231/app.py 4969e9a03329	latest	In use	13 minutes ago	521.44 MB	
<input type="checkbox"/> airflow a4c0f359076c	latest	In use	3 months ago	1.52 GB	
<input type="checkbox"/> sleek-airflow1 a4c0f359076c	latest	In use	3 months ago	1.52 GB	
<input type="checkbox"/> sleek-airflow a4c0f359076c	latest	In use	3 months ago	1.52 GB	
<input type="checkbox"/> sleek-ariflow2 a4c0f359076c	latest	In use	3 months ago	1.52 GB	

Selected 1 of 6

Engine running77°F Cloudy

RAM 2.35 GB CPU 2.51%Signed in

New version available4

1:16 PM 8/2/2024

loving_rhodes

saikiran1231/flaskapp.py:latest

20bbafcb013

STATUSRunning (2 seconds ago)

LogsInspectBind mountsExecFilesStats

Open file editor

Name	Note	Size	Last modified	Mode
.dockerenv		0 Bytes	15 seconds ago	-rwxr-xr-x
app	MODIFIED		14 seconds ago	drwxr-xr-x
bin -> usr/bin		7 Bytes	12 days ago	Lrwxrwxrwx
boot			4 months ago	drwxr-xr-x
dev			4 seconds ago	drwxr-xr-x
etc			15 seconds ago	drwxr-xr-x
home			4 months ago	drwxr-xr-x
lib -> usr/lib		7 Bytes	12 days ago	Lrwxrwxrwx
lib64 -> usr/lib64		9 Bytes	12 days ago	Lrwxrwxrwx
media			12 days ago	drwxr-xr-x
mnt			12 days ago	drwxr-xr-x
opt			12 days ago	drwxr-xr-x
proc			4 seconds ago	dr-xr-xr-x
root	MODIFIED		13 seconds ago	drwx-----
run			12 days ago	drwxr-xr-x
sbin -> usr/sbin		8 Bytes	12 days ago	Lrwxrwxrwx
srv			12 days ago	drwxr-xr-x

Engine running77°F Cloudy

RAM 2.91 GB CPU 33.29%Signed in

New version available5

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Containers

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Extensions

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loving_rhodes

saikiran1231/flaskapp.py:latest

20bbafcbd013

STATUS

Exited (1) (16 seconds ago)

Logs

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Bind mounts

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Platform

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State

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PortBindings

Runtime

Mounts

Volumes

Env

Labels

Networks

1

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"Created": "2024-08-02T17:17:36.588734274Z",

4

"Path": "flask",

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"Args": [

6

"run",

7

"--host=0.0.0.0"

8

],

9

"State": {

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"Status": "exited",

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"Running": false,

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"Paused": false,

13

"Restarting": false,

14

"OOMKilled": false,

15

"Dead": false,

16

"Pid": 0,

17

"ExitCode": 1,

18

"Error": "",

19

"StartedAt": "2024-08-02T17:17:47.972114543Z",

20

"FinishedAt": "2024-08-02T17:17:53.060702068Z"

21

},

22

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23

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24

"HostnamePath": "/var/lib/docker/containers/20bbafcbd0138abd0f858e6e58522ba536d1b2ad1143999050606e88c29e56a0/hostname",

25

"HostsPath": "/var/lib/docker/containers/20bbafcbd0138abd0f858e6e58522ba536d1b2ad1143999050606e88c29e56a0/hosts",

26

"LogPath": "/var/lib/docker/containers/20bbafcbd0138abd0f858e6e58522ba536d1b2ad1143999050606e88c29e56a0/20bbafcbd0138abd0f858e6e58522ba536d1b2ad1143999050606e88c29e56a0/loving_rhodes",

27

"Name": "/loving_rhodes",

28

"RestartCount": 0,

29

"Driver": "overlay2",

30

}

Engine running

RAM 2.29 GB

CPU 0.13%

Signed in

New version available

5

77°F

Cloudy

Search

1:18 PM

8/2/2024

Docker in Hub:

Pull the Docker Image from Docker Hub

First, ensure that you have Docker installed on your machine. Then, pull your Docker image from Docker Hub

Run the Docker Container

Run a container from the pulled Docker image

The screenshot shows the Docker Hub interface for the repository `saikiran1231/flaskapp.py`. The page is titled "saikiran1231 / flaskapp.py" and includes tabs for "General", "Tags", "Builds", "Collaborators", "Webhooks", and "Settings". The "General" tab is active, showing the repository name, a description "iris prediction", and a "DATA SCIENCE" label. The "Tags" section lists one tag, "latest", with a table showing its OS, Type, and Pushed time. The "Docker commands" section provides a command to push a new tag. The "Automated Builds" section offers information on connecting GitHub or Bitbucket for automated builds.

saikiran1231 / flaskapp.py

Updated 5 minutes ago

iris prediction

DATA SCIENCE

General Tags Builds Collaborators Webhooks Settings

Using 0 of 1 private repositories.

saikiran1231/flaskapp.py

Updated 5 minutes ago

iris prediction

DATA SCIENCE

Docker commands

To push a new tag to this repository:

```
docker push saikiran1231/flaskapp.py:tagname
```

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
latest	linux/amd64	Image	---	5 minutes ago

[See all](#)

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#)

[Upgrade](#)

Image Layer Details - saikiran1231

https://hub.docker.com/layers/saikiran1231/flaskapp.py/latest/images/sha256-1fd465a8e3e02d79e5734a192904eb7bc554da2d6bc8b42a3b0b8afac91f417?context=...

dockerhub

ExploreRepositoriesOrganizations

Search Docker Hub

ctrl+K

?


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S

saikiran1231 / Repositories / flaskapp.py / latest



saikiran1231/flaskapp.py:latest

DATA SCIENCE

MANIFEST DIGEST sha256:1fd465a8e3e02d79e5734a192904eb7bc554da2d6bc8b42a3b0b8afac91f417

Delete Tag

OS/ARCH	COMRESSED SIZE	LAST PUSHED	TYPE	MANIFEST DIGEST
linux/amd64	164.6 MB	6 minutes ago by saikiran1231	Image	sha256:1fd465a8...

Image Layers

Vulnerabilities

Image Layers


Command

1 ADD file ... in /	27.78 MB	ADD file:6c4738e7b12278bc7eb83b3b9d659437c92c42fc7ee70922ae8c4bebf56a602 in /
2 CMD ["bash"]	0 B	
3 ENV PATH=/usr/local/bin:/usr/local/sbin:/usr/local/_	0 B	
4 ENV LANG=C.UTF-8	0 B	
5 RUN /bin/sh -c set -eux;	3.35 MB	

78°F

Mostly cloudy

Search



1:23 PM

8/2/2024

saikiran1231/flaskapp.py tags | X

https://hub.docker.com/repository/registry-1.docker.io/saikiran1231/flaskapp.py/tags

dockerhub

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Search Docker Hub

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saikiran1231 / Repositories / flaskapp.py / Tags

Using 0 of 1 private repositories.

GeneralTagsBuildsCollaboratorsWebhooksSettings

☐

Sort by

Newest

Filter Tags

Q

Delete

☐

TAG

latest

Last pushed 5 minutes ago by saikiran1231

Digest

OS/ARCH

Last pull

Compressed Size

1fd465a8e3e0

linux/amd64

164.6 MB

docker pull saikiran1231/flaskapp.py:latest

Copy

https://hub.docker.com/repository/registry-1.docker.io/saikiran1231/flaskapp.py/tags

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docker desktop

Search for images, containers, volumes, extensions... Ctrl+K

S

Containers

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Volumes

Builds

Dev Environments BETA

Docker Scout

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Images

Give feedback

LocalHub

saikiran1231

Search

View Scout dashboard

	Tags	OS	Vulnerabilities	Last pushed	Size
saikiran1231/flaskapp.py	latest	linux/amd64	Inactive	4 minutes ago	172.59 MB

Repositories per page 5 1-1 of 1

Engine running

RAM 2.29 GB CPU 0.00%

Signed in

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5

77°F Cloudy

Search

1:21 PM 8/2/2024

docker desktop

Search for images, containers, volumes, extensions... Ctrl+K

Containers

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Extensions

+

Add Extensions

loving_rhodes

saikiran1231/flaskapp.py:latest

20bbafcbd013

STATUS

Exited (1) (16 seconds ago)

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27

"Name": "/loving_rhodes",

28

"RestartCount": 0,

29

"Driver": "overlay2",

30

}

Engine running

RAM 2.29 GB

CPU 0.13%

Signed in

New version available

5

77°F

Cloudy

Search

1:18 PM

8/2/2024

python - ImportError: No ...

ChatGPT

20245-T3_AISC2013_02: Fi...

MSK-hasty/Final

colab.google

irispredict.ipynb - Colab

colab.research.google.com/drive/1vEdlvWC5mfNMnIDBJ12xG_0fPDE9ZEIh

irispredict.ipynb

File Edit View Insert Runtime Tools Help Last saved at 1:28 PM

Code + Text

```
iris = iris.load_data()
X = iris.data
y = iris.target

# Train the model
from sklearn.linear_model import LogisticRegression
model = LogisticRegression()
model.fit(X, y)

# Predict the species
predicted_y = model.predict(X)

# Print the predicted species
print("The predicted species is: Iris-virginica")
```

Confusion Matrix

	Iris-setosa	Iris-versicolor	Iris-virginica
Iris-setosa	10	0	0
Iris-versicolor	0	9	0
Iris-virginica	0	0	11

Enter the features of the Iris flower:

Sepal Length: 2
Sepal Width: 3
Petal Length: 23
Petal Width: 2

The predicted species is: Iris-virginica

/usr/local/lib/python3.10/dist-packages/sklearn/base.py:465: UserWarning: X does not have valid feature names, but LogisticRegression was fitted with feature names
warnings.warn{

[] Start coding or generate with AI.

[] Start coding or generate with AI.

Sailing

Final result

Search

1:29 PM
8/2/2024

