2CEAI702: MLOps Practical-7

Practical-7 Deployment of ML project using Streamlit.

```
Task 1: Ensure that the required libraries are installed streamlit==1.10.0 pandas==1.2.3 scikit-learn==0.24.1
```

Task 2: Create the docker file using the steps described in theory material.

a) Create a Dockerfile:

```
FROM python:3.8-slim
WORKDIR /app
COPY . /app
RUN pip install --no-cache-dir -r requirements.txt
EXPOSE 80
ENV NAME World
CMD ["gunicorn", "--bind", "0.0.0.0:80", "app:app"]
```

b) Create a requirement.txt file:

```
scikit-learn==0.24.2
pandas==1.3.3
numpy==1.21.2 flask==2.1.0
gunicorn==20.1.0
```

c) Create a Streamlit file:



d) Create a Docker Image:

```
PS D:\Desktop\stream> docker build -t stream .

[+] Building 3.1s (10/10) FINISHED

=> [internal] load build definition from Dockerfile

=> => transferring dockerfile: 577B

=> [internal] load .dockerignore

=> => transferring context: 2B

=> [internal] load metadata for docker.io/library/python:3.8-slim

=> [auth] library/python:pull token for registry-1.docker.io

=> [1/4] FROM docker.io/library/python:3.8-slim@sha256:19e07fa24813e88b04e606772213bd03ba044637cc939a211e28ccf997a9162a

=> => transferring context: 93B

=> CACHED [2/4] WORKDIR /app

=> CACHED [4/4] RUN pip install --no-cache-dir -r requirements.txt

=> exporting to image

=> > exporting layers

=> => writing image sha256:e56ed293e3b764515644f7bb676072f8e666754267516a1758d42045027a5b2f
```

2CEAI702: MLOps Practical-7

Check the image is created or not:

```
PS D:\Desktop\stream> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
stream latest e56ed293e3b7 16 minutes ago 495MB
```

Task 4: Run the docker container to execute the docker image and host the machine learning model using streamlit app server.

```
PS D:\Desktop\stream> docker run -p 8080:8501 stream

Collecting usage statistics. To deactivate, set browser.gatherUsageStats to False.

You can now view your Streamlit app in your browser.

Network URL: http://172.17.0.4:8501

External URL: http://103.238.106.204:8501
```