

TEAM ID: PNT2022TMID51692

protobuf>=3.9.2 in /usr/local/lib/python3.7/dist-packages (from

Requirement already satisfied:

tensorflow==2.7.1) (3.19.6)

Requirement already satisfied: keras-preprocessing>=1.1.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (1.1.2)

Collecting tensorflow-estimator<2.8,~=2.7.0rc0

Downloading tensorflow\_estimator-2.7.0-py2.py3-none-any.whl (463 kB)

██████████ 463 kB 56.8 MB/s

Collecting keras&lt;2.8,&gt;=2.7.0rc0

Downloading keras-2.7.0-py2.py3-none-any.whl (1.3 MB)

1.3 MB 53.7 MB/s

Requirement already satisfied: six>=1.12.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (1.15.0)

Requirement already satisfied: h5py>=2.9.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (3.1.0)

Requirement already satisfied: flatbuffers<3.0,>=1.12 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (1.12)

Requirement already satisfied: typing-extensions>=3.6.6 in /usr/local/lib/python3.7/distpackages (from tensorflow==2.7.1) (4.1.1)

Requirement already satisfied: grpcio<2.0,>=1.24.3 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (1.50.0)

Requirement already satisfied: libclang>=9.0.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (14.0.6)

Requirement already satisfied: gast<0.5.0,>=0.2.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow==2.7.1) (0.4.0)

Requirement already satisfied: cached-property in /usr/local/lib/python3.7/dist-packages (from h5py>=2.9.0->tensorflow==2.7.1) (1.5.2)

Requirement already satisfied: requests<3,>=2.21.0 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (2.23.0)

Requirement already satisfied: setuptools>=41.0.0 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (57.4.0)

tensorboard-data-server<0.7.0,>=0.6.0 in

Requirement already satisfied:

/usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (0.6.1)

Requirement already satisfied: tensorboard-plugin-wit>=1.6.0 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (1.8.1)

Requirement already satisfied: markdown>=2.6.8 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (3.4.1)

Requirement already satisfied: google-auth<3,>=1.6.3 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (2.14.1)

Requirement already satisfied: google-auth-oauthlib<0.5,>=0.4.1 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (0.4.6)

Requirement already satisfied: werkzeug>=1.0.1 in /usr/local/lib/python3.7/dist-packages (from tensorboard~=2.6->tensorflow==2.7.1) (1.0.1)

Requirement already satisfied: cachetools<6.0,>=2.0.0 in /usr/local/lib/python3.7/dist-packages (from google-auth<3,>=1.6.3->tensorboard~=2.6->tensorflow==2.7.1) (5.2.0)

Requirement already satisfied: pyasn1-modules>=0.2.1 in /usr/local/lib/python3.7/dist-packages (from google-auth<3,>=1.6.3->tensorboard~=2.6->tensorflow==2.7.1) (0.2.8)

Requirement already satisfied: rsa<5,>=3.1.4 in /usr/local/lib/python3.7/dist-packages (from google-auth<3,>=1.6.3->tensorboard~=2.6->tensorflow==2.7.1) (4.9)

Requirement already satisfied: requests-oauthlib>=0.7.0 in /usr/local/lib/python3.7/dist-packages (from google-auth-oauthlib<0.5,>=0.4.1->tensorboard~=2.6->tensorflow==2.7.1) (1.3.1)

Requirement already satisfied: importlib-metadata>=4.4 in /usr/local/lib/python3.7/dist-packages (from markdown>=2.6.8->tensorboard~=2.6->tensorflow==2.7.1) (4.13.0)

Requirement already satisfied: zipp>=0.5 in /usr/local/lib/python3.7/dist-packages (from importlib-metadata>=4.4->markdown>=2.6.8->tensorboard~=2.6->tensorflow==2.7.1) (3.10.0)

Requirement already satisfied: pyasn1<0.5.0,>=0.4.6 in /usr/local/lib/python3.7/dist-packages (from pyasn1-modules>=0.2.1->google-auth<3,>=1.6.3->tensorboard~=2.6->tensorflow==2.7.1) (0.4.8)

Requirement already satisfied: chardet<4,>=3.0.2 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard~=2.6->tensorflow==2.7.1) (3.0.4)

Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard~=2.6->tensorflow==2.7.1) (2022.9.24)

urllib3!=1.25.0,!1.25.1,<1.26,>=1.21.1 in

/usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard~=2.6->tensorflow==2.7.1) (1.24.3)

Requirement already satisfied:

Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard~=2.6->tensorflow==2.7.1) (2.10)

Requirement already satisfied: oauthlib>=3.0.0 in /usr/local/lib/python3.7/dist-packages (from requests-oauthlib>=0.7.0->google-auth-oauthlib<0.5,>=0.4.1->tensorboard~=2.6->tensorflow==2.7.1) (3.2.2)

Installing collected packages: tensorflow-estimator, keras, tensorflow

Attempting uninstall: tensorflow-estimator

Found existing installation: tensorflow-estimator 2.9.0 Uninstalling

tensorflow-estimator-2.9.0:

Successfully uninstalled tensorflow-estimator-2.9.0

Attempting uninstall: keras

Found existing installation: keras 2.9.0 Uninstalling

keras-2.9.0:

Successfully uninstalled keras-2.9.0

Attempting uninstall: tensorflow

Found existing installation: tensorflow 2.9.2 Uninstalling

tensorflow-2.9.2:

Successfully uninstalled tensorflow-2.9.2

Successfully installed keras-2.7.0 tensorflow-2.7.1 tensorflow-estimator-2.7.0

IMPORT IMAGE DATA GENERATOR AND LIBRARY

```
from tensorflow.keras.preprocessing.image import ImageDataGenerator
```

```
# Training Datagen
```

```
train_datagen =
```

```
ImageDataGenerator(rescale=1/255, zoom_range=0.2, horizontal_flip=True, vertical_flip=False)
```

```
# Testing Datagen test_datagen = ImageDataGenerator(rescale=1/255) import tensorflow as
tf import os from tensorflow.keras.models import Sequential from tensorflow.keras.layers
import Dense, Conv2D, Flatten, Dropout, MaxPooling2D from
tensorflow.keras.preprocessing.image import ImageDataGenerator
import numpy as np
import matplotlib.pyplot as plt import
IPython.display as display
from PIL import Image
import pathlib
```