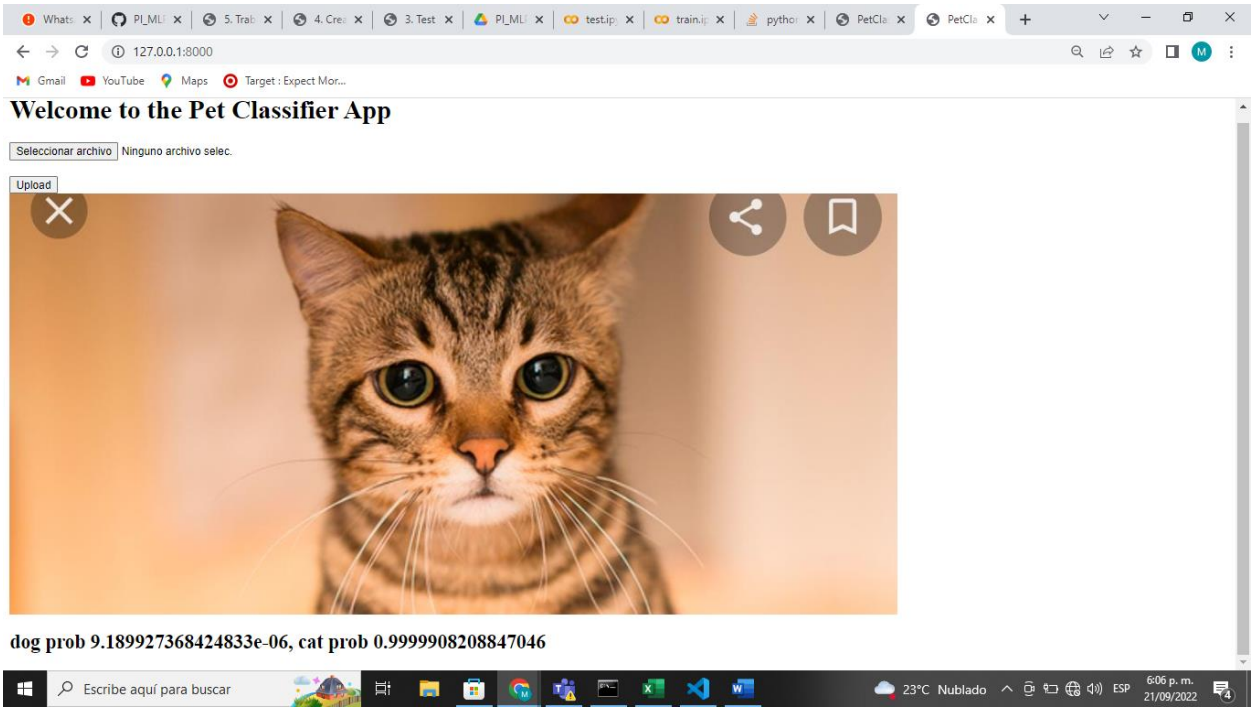
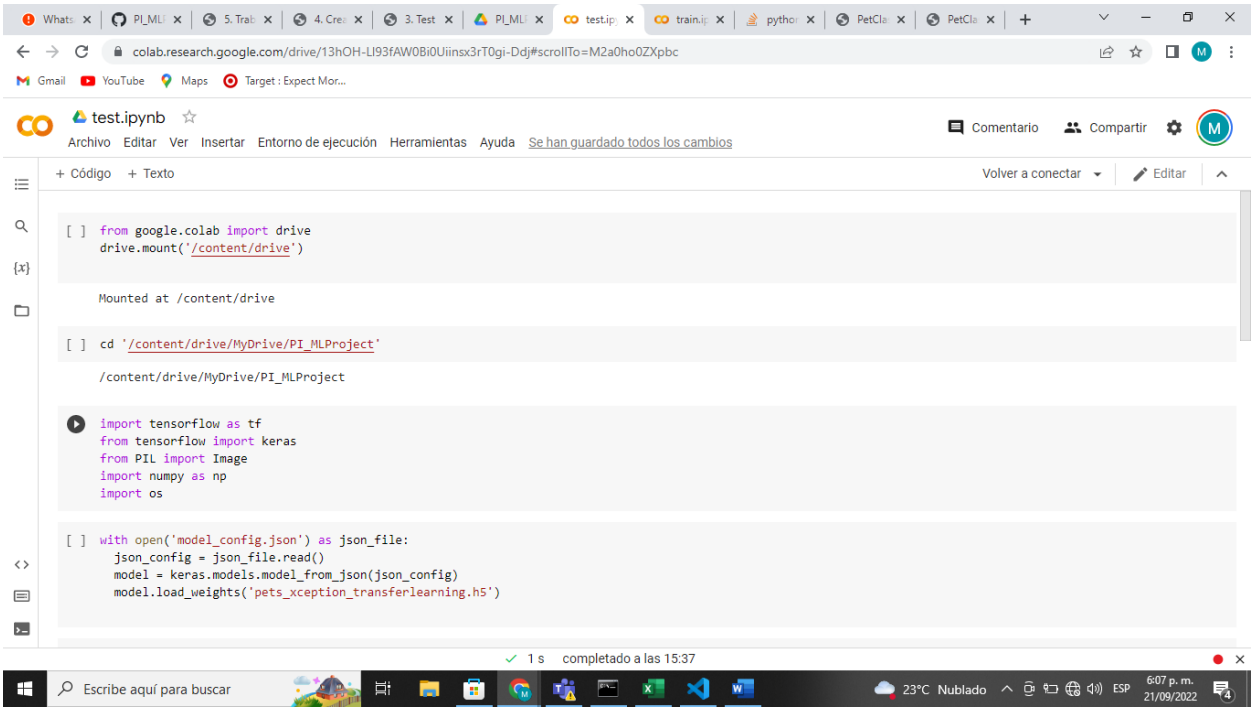

127.0.0.1:8000
Gmail
YouTube
Maps
Target : Expect Mor...
Welcome to the Pet Classifier App
Seleccionar archivo
Ninguno archivo selec.
Upload
dog prob 9.189927368424833e-06, cat prob 0.9999908208847046
Escribe aquí para buscar
23°C Nublado
ESP
6:06 p. m.
21/09/2022


colab.research.google.com/drive/13hOH-LI93fAW0Bi0Uiinsx3rT0gi-Ddj#scrollTo=M2a0ho0ZXpbc
Gmail
YouTube
Maps
Target : Expect Mor...
test.ipynb
Archivo Editar Ver Insertar Entorno de ejecución Herramientas Ayuda Se han guardado todos los cambios
Comentario
Compartir
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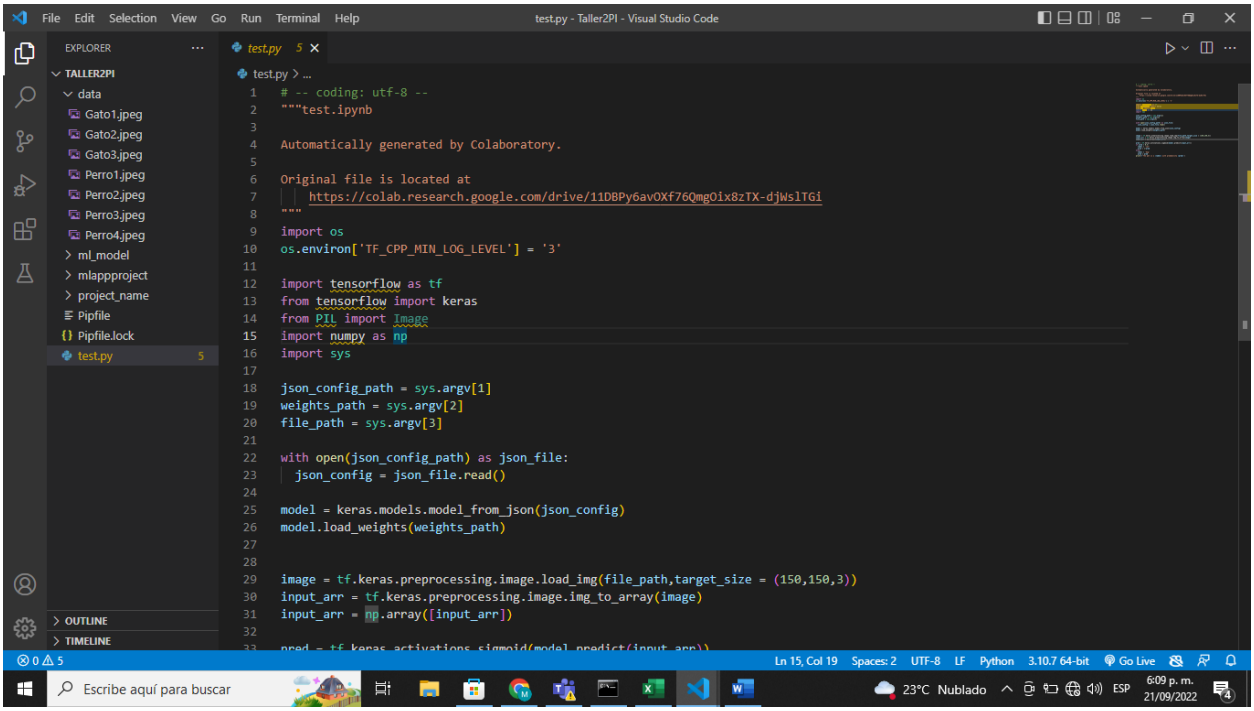
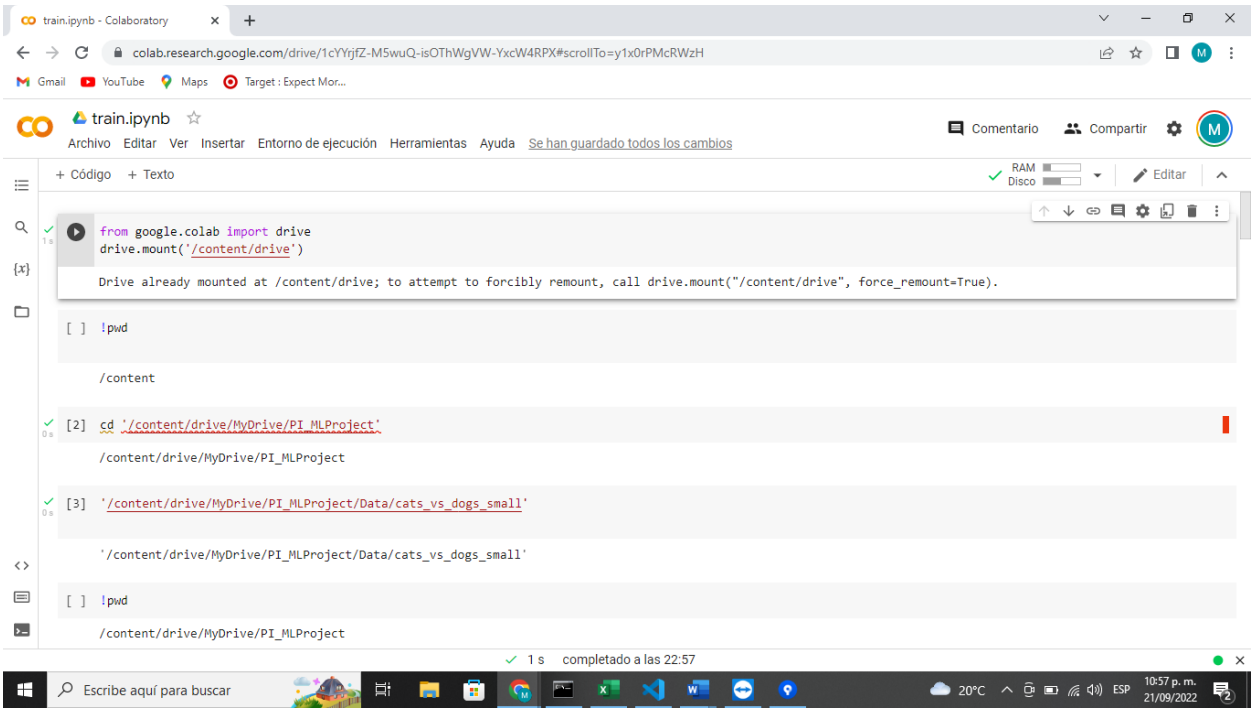
Volver a conectar
Editar
[ ] from google.colab import drive
drive.mount('/content/drive')
Mounted at /content/drive
[ ] cd '/content/drive/MyDrive/PI_MLProject'
/content/drive/MyDrive/PI_MLProject
import tensorflow as tf
from tensorflow import keras
from PIL import Image
import numpy as np
import os
[ ] with open('model_config.json') as json_file:
json_config = json_file.read()
model = keras.models.model_from_json(json_config)
model.load_weights('pets_xception_transferlearning.h5')
1 s completado a las 15:37
Escribe aquí para buscar
23°C Nublado
ESP
6:07 p. m.
21/09/2022


File Edit Selection View Go Run Terminal Help
test.py - Taller2PI - Visual Studio Code
EXPLORER
TALLER2PI
data
Gato1.jpeg
Gato2.jpeg
Gato3.jpeg
Perro1.jpeg
Perro2.jpeg
Perro3.jpeg
Perro4.jpeg
ml_model
mlappproject
project_name
Pipfile
Pipfile.lock
test.py
test.py 5
test.py > ...
-- coding: utf-8 --
"""test.ipynb
Automatically generated by Colaboratory.
Original file is located at
https://colab.research.google.com/drive/11DBPy6avOXf76QmgOix8zTX-djWslTGi
"""
import os
os.environ['TF_CPP_MIN_LOG_LEVEL'] = '3'
import tensorflow as tf
from tensorflow import keras
from PIL import Image
import numpy as np
import sys
json_config_path = sys.argv[1]
weights_path = sys.argv[2]
file_path = sys.argv[3]
with open(json_config_path) as json_file:
json_config = json_file.read()
model = keras.models.model_from_json(json_config)
model.load_weights(weights_path)
image = tf.keras.preprocessing.image.load_img(file_path,target_size = (150,150,3))
input_arr = tf.keras.preprocessing.image.img_to_array(image)
input_arr = np.array([input_arr])
OUTLINE
TIMELINE
Ln 15, Col 19 Spaces: 2 UTF-8 LF Python 3.10.7 64-bit Go Live
Escribe aquí para buscar
23°C Nublado
ESP
6:09 p. m.
21/09/2022


train.ipynb - Colaboratory
colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH
Gmail YouTube Maps Target : Expect Mor...
train.ipynb
Archivo Editar Ver Insertar Entorno de ejecución Herramientas Ayuda Se han guardado todos los cambios
Comentario Compartir
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RAM
Disco
Editar
from google.colab import drive
drive.mount('/content/drive')
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
[ ] !pwd
/content
[2] cd '/content/drive/MyDrive/PI_MLProject'
/content/drive/MyDrive/PI_MLProject
[3] '/content/drive/MyDrive/PI_MLProject/Data/cats_vs_dogs_small'
'/content/drive/MyDrive/PI_MLProject/Data/cats_vs_dogs_small'
[ ] !pwd
/content/drive/MyDrive/PI_MLProject
1 s completado a las 22:57
Escribe aquí para buscar
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ESP
10:57 p. m.
21/09/2022

train.ipynb - Colaboratory

colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH

Gmail YouTube Maps Target : Expect Mor...

train.ipynb

Archivo Editar Ver Insertar Entorno de ejecución Herramientas Ayuda Se han guardado todos los cambios

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```
[4] data_path = '/content/drive/MyDrive/PI_MLProject/Data/cats_vs_dogs_small'
```

```
[ ] !pwd
```

```
/content/drive/MyDrive/PI_MLProject
```

```
[5] import tensorflow as tf
    from tensorflow import keras
    from tensorflow.keras.preprocessing import image_dataset_from_directory
```

```
print(tf.keras.__version__)
print(tf.__version__)
```

```
2.8.0
2.8.2
```

```
[7] from PIL import Image # to load images
    from IPython.display import display # to display images
    import matplotlib.pyplot as plt
    import numpy as np
    import os
```

1 s completado a las 22:57

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train.ipynb - Colaboratory

colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH

Gmail YouTube Maps Target : Expect Mor...

train.ipynb

Archivo Editar Ver Insertar Entorno de ejecución Herramientas Ayuda Se han guardado todos los cambios

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```
[8] set_name = 'train'
    class_name = "dog"
    file_name = 'dog.10.jpg'
    file_path = os.path.join(data_path,set_name,class_name,file_name)
    print(file_path)
```

```
/content/drive/MyDrive/PI_MLProject/Data/cats_vs_dogs_small/train/dog/dog.10.jpg
```

```
img = Image.open(file_path)
display(img)
img_array = np.array(img)
print(img_array.shape)
```

1 s completado a las 22:57

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train.ipynb - Colaboratory

colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH

Gmail YouTube Maps Target : Expect Mor...

train.ipynb

Archivo Editar Ver Insertar Entorno de ejecución Herramientas Ayuda Se han guardado todos los cambios

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```
training_path = os.path.join(data_path,'train')
training_set = image_dataset_from_directory(training_path,
shuffle=True,
batch_size=32,
image_size=(150, 150),
validation_split = 0.2,
subset = 'training',
seed = 1234,
)
validation_set = image_dataset_from_directory(training_path,
shuffle=True,
batch_size=32,
image_size=(150, 150),
validation_split = 0.2,
subset = 'validation',
seed = 1234,
)
```

```
Found 1066 files belonging to 2 classes.
Using 853 files for training.
Found 1066 files belonging to 2 classes.
Using 213 files for validation.
```

```
[11] training_set.class_names
```

1 s completado a las 22:57

Escribe aquí para buscar

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train.ipynb - Colaboratory

colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH

Gmail YouTube Maps Target : Expect Mor...

train.ipynb

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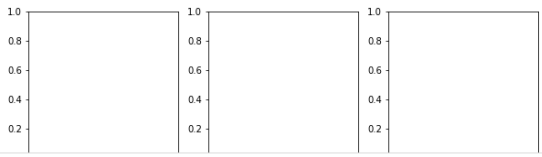
Found 1066 files belonging to 2 classes.
Using 213 files for validation.

[11] training_set.class_names

```
['cat', 'dog']
```

```
class_names = training_set.class_names
plt.figure(figsize=(10, 10))
for images, labels in training_set.take(1):
  for i in range(9):
    ax = plt.subplot(3, 3, i + 1)
  plt.imshow(images[i].numpy().astype("uint8"))
  plt.title(class_names[labels[i]])
  plt.axis("off")
```



1 s completado a las 22:57

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train.ipynb - Colaboratory

colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH

Gmail YouTube Maps Target : Expect Mor...

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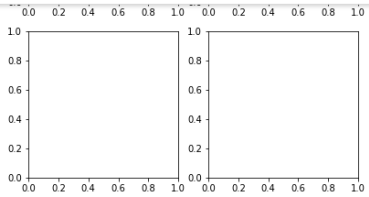
[12]




```
base_model = keras.applications.VGG16(
weights = 'imagenet',
input_shape = (150,150,3),
include_top = False,
)
base_model.trainable = False
```

```
Downloading data from https://storage.googleapis.com/tensorflow/keras-applications/vgg16/vgg16_weights_tf_dim_ordering_tf_kernels_notop.h5
58892288/58889256 [==============================] - 0s 0us/step
58900480/58889256 [==============================] - 0s 0us/step
```

```
[15] inputs = keras.Input(shape = (150,150,3))
     x = tf.keras.applications.vgg16.preprocess_input(inputs)
```

1 s completado a las 22:57

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train.ipynb - Colaboratory

colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH

Gmail YouTube Maps Target : Expect Mor...

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```
58892288/58889256 [==============================] - 0s 0us/step
58900480/58889256 [==============================] - 0s 0us/step
```

```
[15] inputs = keras.Input(shape = (150,150,3))
     x = tf.keras.applications.vgg16.preprocess_input(inputs)
     x = base_model(x, training=False)
     x = keras.layers.GlobalAveragePooling2D()(x)
     x = keras.layers.Dropout(0.2)(x)
     outputs = keras.layers.Dense(1)(x)
     model = keras.Model(inputs,outputs)
```

```
model.compile(optimizer='adam', loss =
tf.keras.losses.BinaryCrossentropy(from_logits = True),metrics =
keras.metrics.BinaryAccuracy())
model.fit(training_set, epochs = 20, validation_data = validation_set)
```

```
Epoch 1/20
27/27 [==============================] - 28s 556ms/step - loss: 1.4434 - binary_accuracy: 0.8781 - val_loss: 1.3116 - val_binary_accuracy: 0.9155
Epoch 2/20
27/27 [==============================] - 4s 120ms/step - loss: 0.7727 - binary_accuracy: 0.9191 - val_loss: 0.5578 - val_binary_accuracy: 0.9437
Epoch 3/20
27/27 [==============================] - 4s 144ms/step - loss: 0.4238 - binary_accuracy: 0.9390 - val_loss: 0.4247 - val_binary_accuracy: 0.9484
Epoch 4/20
27/27 [==============================] - 4s 120ms/step - loss: 0.3708 - binary_accuracy: 0.9555 - val_loss: 0.2954 - val_binary_accuracy: 0.9671
```

1 s completado a las 22:57

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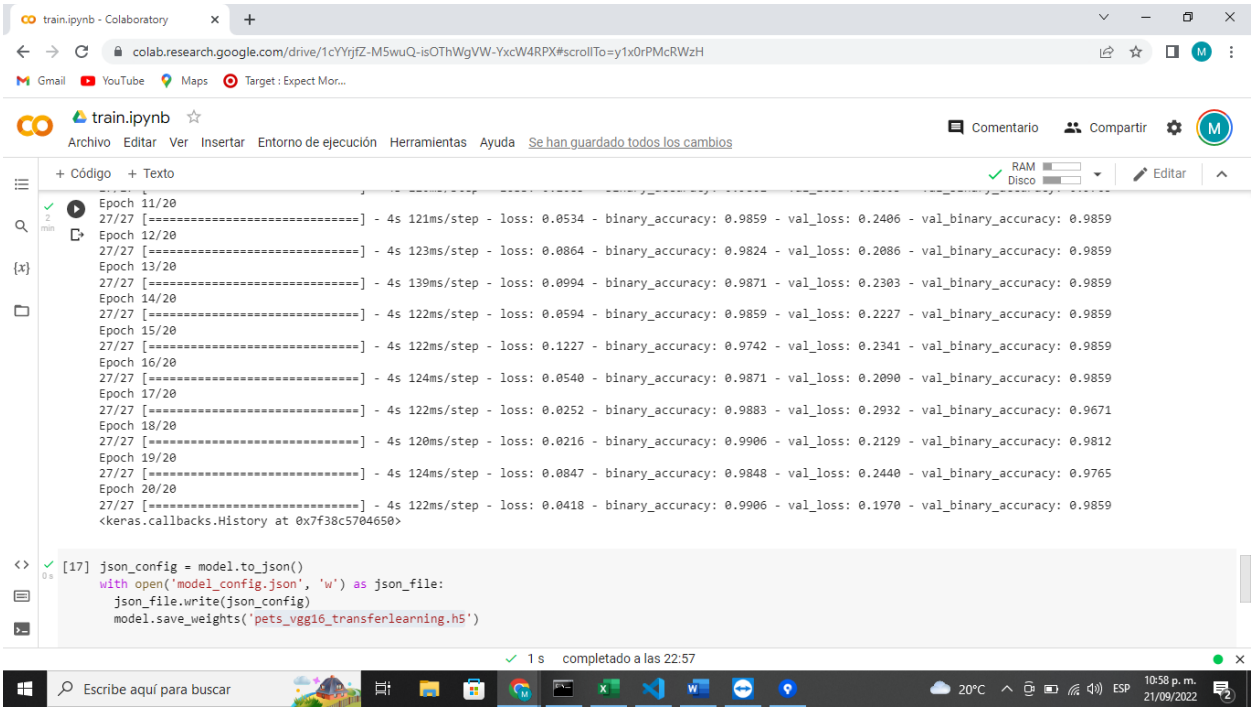
train.ipynb - Colaboratory
colab.research.google.com/drive/1cYYrjfZ-M5wuQ-isOThWgVW-YxcW4RPX#scrollTo=y1x0rPMcRWzH
Gmail
YouTube
Maps
Target : Expect Mor...
train.ipynb
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RAM
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Editar
Epoch 11/20
27/27 [==============================] - 4s 121ms/step - loss: 0.0534 - binary_accuracy: 0.9859 - val_loss: 0.2406 - val_binary_accuracy: 0.9859
Epoch 12/20
27/27 [==============================] - 4s 123ms/step - loss: 0.0864 - binary_accuracy: 0.9824 - val_loss: 0.2086 - val_binary_accuracy: 0.9859
Epoch 13/20
27/27 [==============================] - 4s 139ms/step - loss: 0.0994 - binary_accuracy: 0.9871 - val_loss: 0.2303 - val_binary_accuracy: 0.9859
Epoch 14/20
27/27 [==============================] - 4s 122ms/step - loss: 0.0594 - binary_accuracy: 0.9859 - val_loss: 0.2227 - val_binary_accuracy: 0.9859
Epoch 15/20
27/27 [==============================] - 4s 122ms/step - loss: 0.1227 - binary_accuracy: 0.9742 - val_loss: 0.2341 - val_binary_accuracy: 0.9859
Epoch 16/20
27/27 [==============================] - 4s 124ms/step - loss: 0.0540 - binary_accuracy: 0.9871 - val_loss: 0.2090 - val_binary_accuracy: 0.9859
Epoch 17/20
27/27 [==============================] - 4s 122ms/step - loss: 0.0252 - binary_accuracy: 0.9883 - val_loss: 0.2932 - val_binary_accuracy: 0.9671
Epoch 18/20
27/27 [==============================] - 4s 120ms/step - loss: 0.0216 - binary_accuracy: 0.9906 - val_loss: 0.2129 - val_binary_accuracy: 0.9812
Epoch 19/20
27/27 [==============================] - 4s 124ms/step - loss: 0.0847 - binary_accuracy: 0.9848 - val_loss: 0.2440 - val_binary_accuracy: 0.9765
Epoch 20/20
27/27 [==============================] - 4s 122ms/step - loss: 0.0418 - binary_accuracy: 0.9906 - val_loss: 0.1970 - val_binary_accuracy: 0.9859
<keras.callbacks.History at 0x7f38c5704650>
[17] json_config = model.to_json()
with open('model_config.json', 'w') as json_file:
json_file.write(json_config)
model.save_weights('pets_vgg16_transferlearning.h5')
1 s completado a las 22:57
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20°C
ESP
10:58 p. m.
21/09/2022