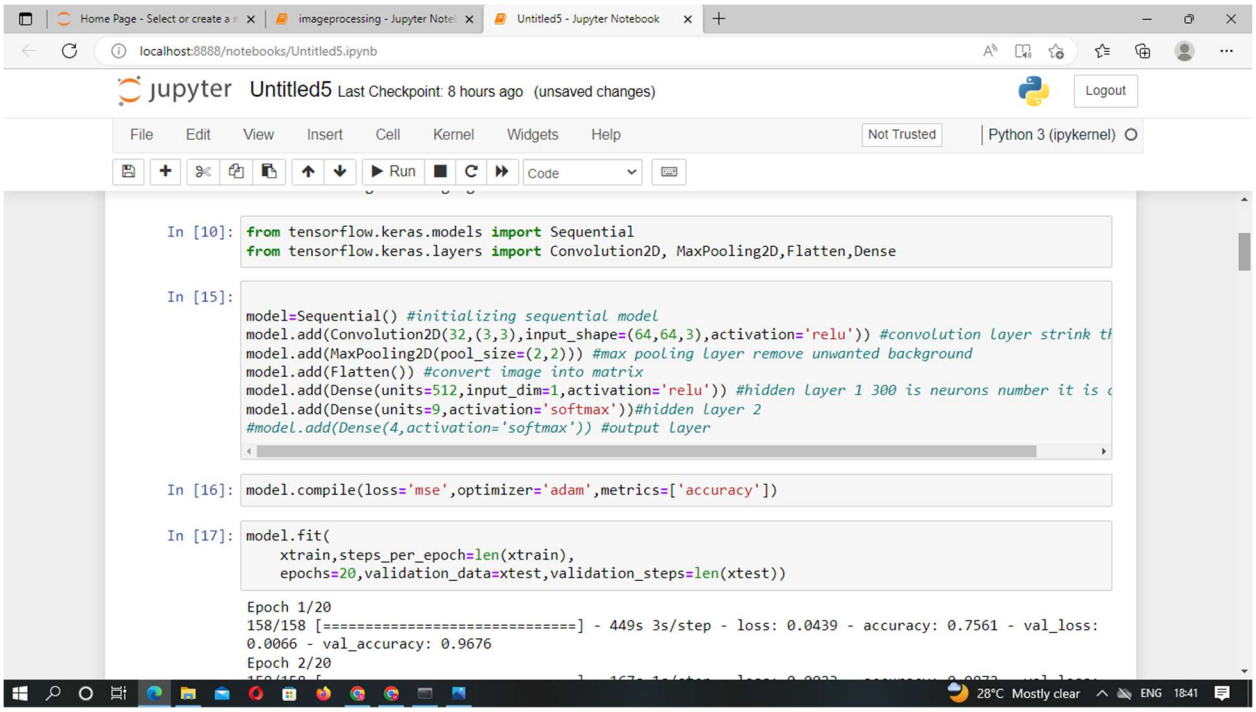
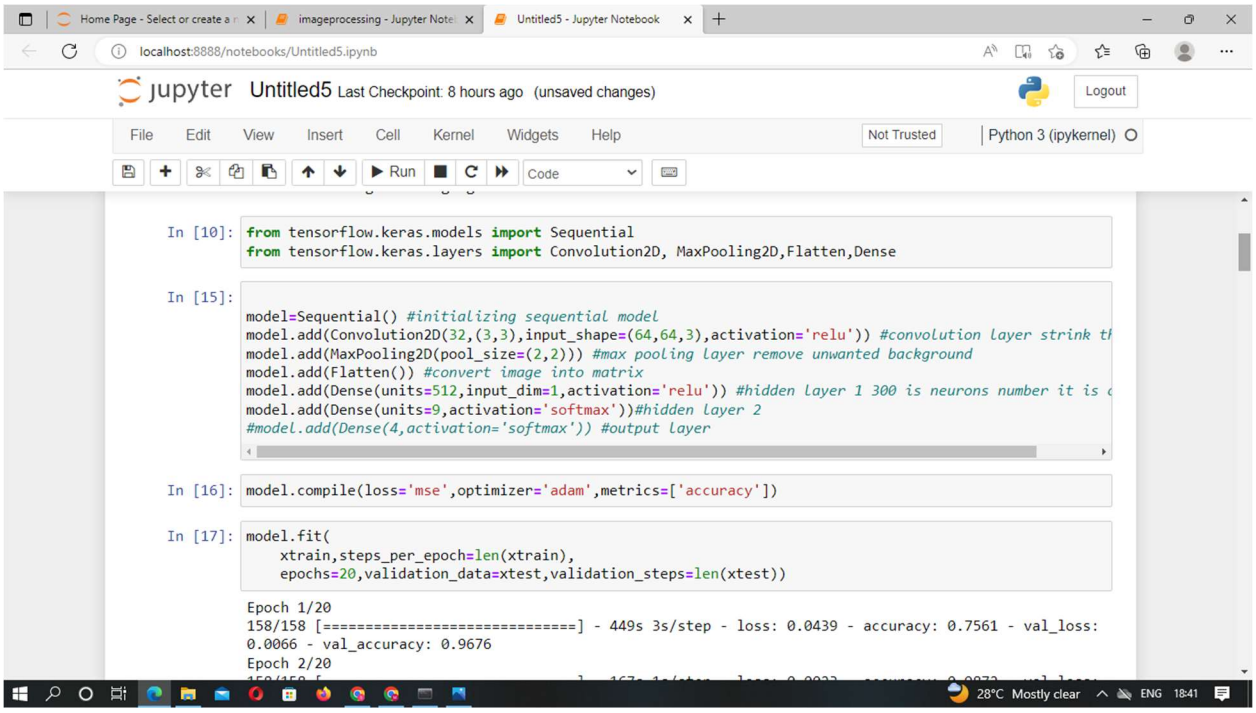
Team id	PNT2022TMID51228
Project Name	REAL TIME COMMUNICATION SYSTEM FOR SPECIALLY AIDED PEOPLES
Date and sprint no	3-11-2022 AND 2

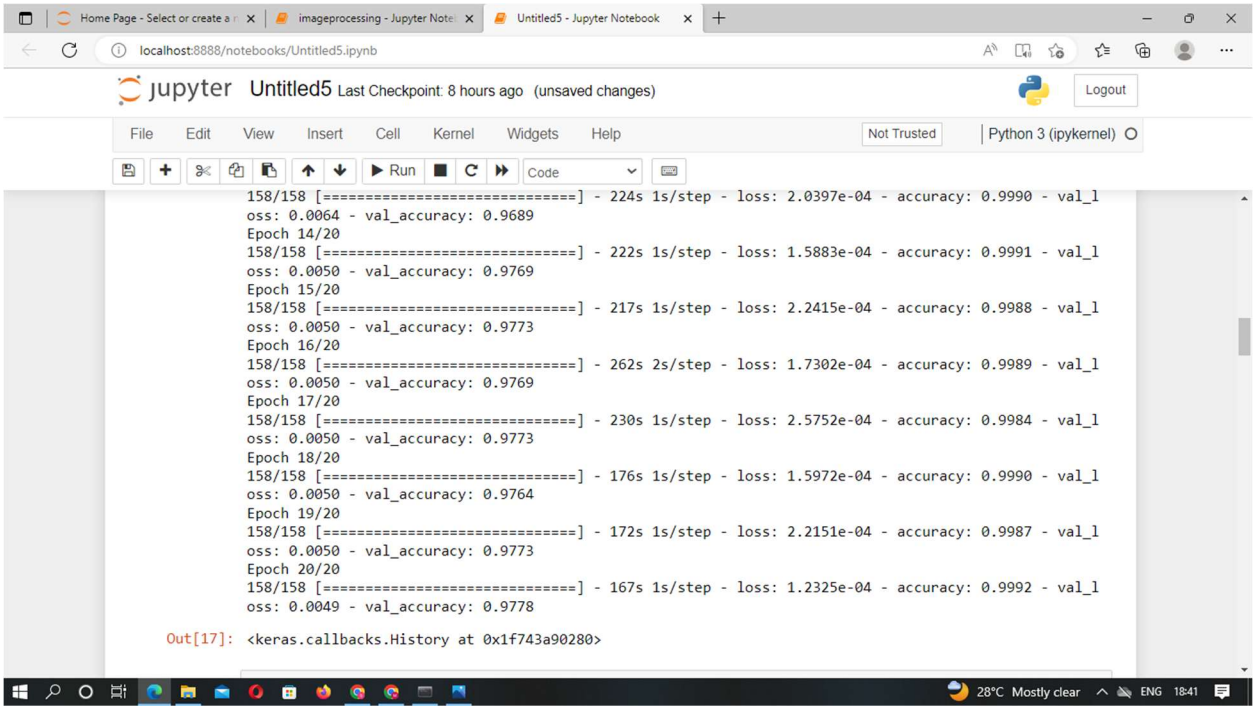
MODEL BUILDING

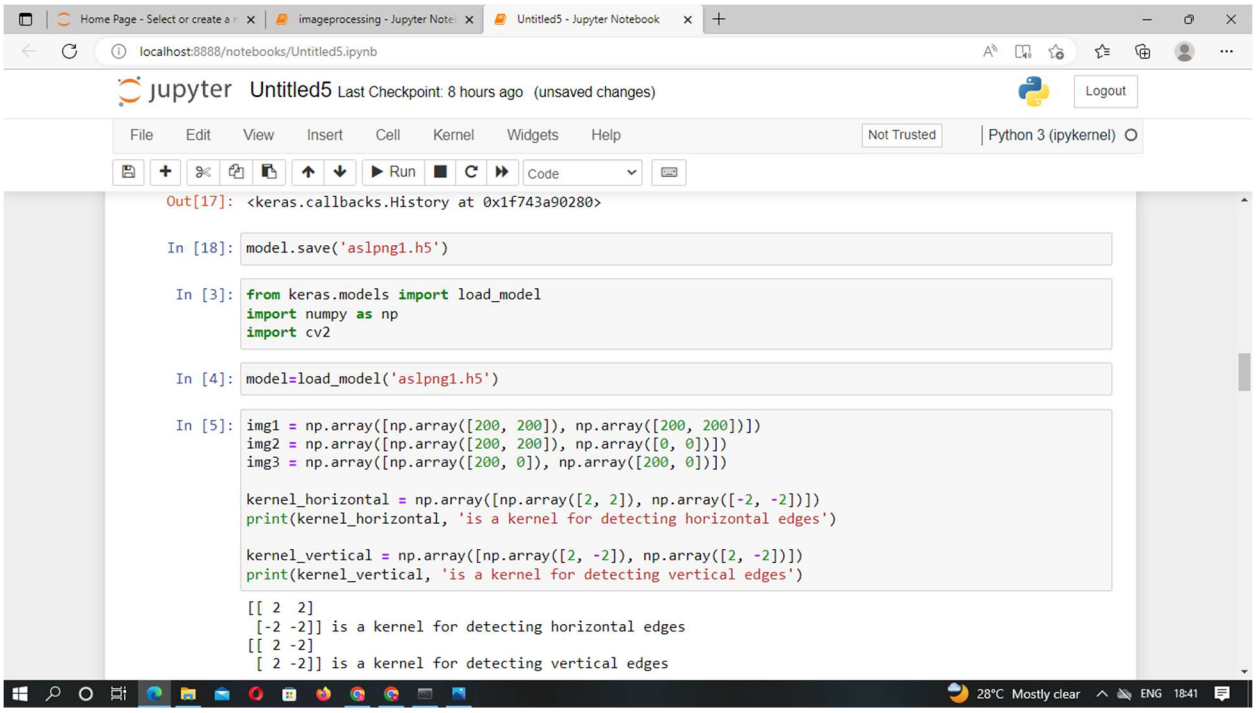
1)Adding layers



2)Compile and fit the model


Home Page - Select or create a
imageprocessing - Jupyter Note
Untitled5 - Jupyter Notebook
localhost:8888/notebooks/Untitled5.ipynb
jupyter Untitled5 Last Checkpoint: 8 hours ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Run
Code
In [10]:
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Convolution2D, MaxPooling2D,Flatten,Dense
In [15]:
model=Sequential() #initializing sequential model
model.add(Convolution2D(32,(3,3),input_shape=(64,64,3),activation='relu')) #convolution layer strink th
model.add(MaxPooling2D(pool_size=(2,2))) #max pooling layer remove unwanted background
model.add(Flatten()) #convert image into matrix
model.add(Dense(units=512,input_dim=1,activation='relu')) #hidden layer 1 300 is neurons number it is
model.add(Dense(units=9,activation='softmax'))#hidden layer 2
#model.add(Dense(4,activation='softmax')) #output layer
In [16]:
model.compile(loss='mse',optimizer='adam',metrics=['accuracy'])
In [17]:
model.fit(
xtrain,steps_per_epoch=len(xtrain),
epochs=20,validation_data=xtest,validation_steps=len(xtest))
Epoch 1/20
158/158 [==============================] - 449s 3s/step - loss: 0.0439 - accuracy: 0.7561 - val_loss:
0.0066 - val_accuracy: 0.9676
Epoch 2/20
28°C Mostly clear
ENG
18:41


Home Page - Select or create a
imageprocessing - Jupyter Note
Untitled5 - Jupyter Notebook
localhost:8888/notebooks/Untitled5.ipynb
jupyter Untitled5 Last Checkpoint: 8 hours ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Run
Code
158/158 [==============================] - 224s 1s/step - loss: 2.0397e-04 - accuracy: 0.9990 - val_l
oss: 0.0064 - val_accuracy: 0.9689
Epoch 14/20
158/158 [==============================] - 222s 1s/step - loss: 1.5883e-04 - accuracy: 0.9991 - val_l
oss: 0.0050 - val_accuracy: 0.9769
Epoch 15/20
158/158 [==============================] - 217s 1s/step - loss: 2.2415e-04 - accuracy: 0.9988 - val_l
oss: 0.0050 - val_accuracy: 0.9773
Epoch 16/20
158/158 [==============================] - 262s 2s/step - loss: 1.7302e-04 - accuracy: 0.9989 - val_l
oss: 0.0050 - val_accuracy: 0.9769
Epoch 17/20
158/158 [==============================] - 230s 1s/step - loss: 2.5752e-04 - accuracy: 0.9984 - val_l
oss: 0.0050 - val_accuracy: 0.9773
Epoch 18/20
158/158 [==============================] - 176s 1s/step - loss: 1.5972e-04 - accuracy: 0.9990 - val_l
oss: 0.0050 - val_accuracy: 0.9764
Epoch 19/20
158/158 [==============================] - 172s 1s/step - loss: 2.2151e-04 - accuracy: 0.9987 - val_l
oss: 0.0050 - val_accuracy: 0.9773
Epoch 20/20
158/158 [==============================] - 167s 1s/step - loss: 1.2325e-04 - accuracy: 0.9992 - val_l
oss: 0.0049 - val_accuracy: 0.9778
Out[17]:
<keras.callbacks.History at 0x1f743a90280>
28°C Mostly clear
ENG
18:41


Home Page - Select or create a
imageprocessing - Jupyter Note
Untitled5 - Jupyter Notebook
localhost:8888/notebooks/Untitled5.ipynb
jupyter Untitled5 Last Checkpoint: 8 hours ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Run
Code
Out[17]: <keras.callbacks.History at 0x1f743a90280>
In [18]: model.save('aslpng1.h5')
In [3]: from keras.models import load_model
import numpy as np
import cv2
In [4]: model=load_model('aslpng1.h5')
In [5]: img1 = np.array([np.array([200, 200]), np.array([200, 200])])
img2 = np.array([np.array([200, 200]), np.array([0, 0])])
img3 = np.array([np.array([200, 0]), np.array([200, 0])])
kernel_horizontal = np.array([np.array([2, 2]), np.array([-2, -2])])
print(kernel_horizontal, 'is a kernel for detecting horizontal edges')
kernel_vertical = np.array([np.array([2, -2]), np.array([2, -2])])
print(kernel_vertical, 'is a kernel for detecting vertical edges')
[[2 2]
[-2 -2]] is a kernel for detecting horizontal edges
[[2 -2]
[2 -2]] is a kernel for detecting vertical edges
28°C Mostly clear
ENG
18:41