

Date	12 November 2022
Team ID	PNT2022TMID46648
Project Name	Real time Communication Powered by AI for specially abled
Maximum Marks	8 Marks

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    "from keras.preprocessing.image import ImageDataGenerator\n",

    "train_datagen=ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2\n",
    ", horizontal_flip= True)\n",

    "test_datagen=ImageDataGenerator(rescale=1./255)"

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c h_size=300, class_mode='categorical',color_mode=\"grayscale\")"

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    "from keras.models import
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    "from keras.layers import
    Convolution2D\n", "from keras.layers
    import MaxPooling2D\n", "from
    keras.layers import Dropout\n",
    "from keras.layers import Flatten"
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"model = Sequential()"


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    "model.add(Convolution2D(32,(3,3),input_shape=(64,64,1),
    activation='relu'))\n", "#no. of feature detectors, size of feature detector, image
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    "model.fit_generator(x_train,steps_per_epoch=24,epochs=10,validation_data
x_test, validation_steps= 40)\n",
    "#steps_per_epoch = no. of train images//batch size"
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UserWarning: `Model.fit_generator` is deprecated and will be removed in a future
version. Please use `Model.fit`, which supports generators.\n",
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"24/24 [=====] - 34s 1s/step - loss: 0.1448 -
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```
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"Epoch 5/10\n",  
  
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accuracy: 0.9826\n",  
  
"Epoch 6/10\n",  
  
"24/24 [=====] - 32s 1s/step - loss: 0.0424 -  
accuracy: 0.9909\n",  
  
"Epoch 7/10\n",  
  
"24/24 [=====] - 32s 1s/step - loss: 0.0373 -  
accuracy: 0.9908\n",  
  
"Epoch 8/10\n",  
  
"24/24 [=====] - 33s 1s/step - loss: 0.0319 -  
accuracy: 0.9915\n",  
  
"Epoch 9/10\n",  
  
"24/24 [=====] - 32s 1s/step - loss: 0.0235 -  
accuracy: 0.9940\n",  
  
"Epoch 10/10\n",  
  
"24/24 [=====] - 32s 1s/step - loss: 0.0170 -  
accuracy: 0.9972\n"
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    resize\n", "def detect(frame):\n",
    " img = resize(frame,(64,64,1))\n",
    "
    img
    =
    np.expand_dims(img,axis=0)\n",
    " if(np.max(img)>1):\n",
    " img = img/255.0\n",
    " prediction =

```

```
model.predict(img)\n",  
print(prediction)\n",  
" prediction = np.argmax(prediction,axis=1)\n",
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    " print(prediction)"
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