

MODEL BUILDING

Importing The Image Data Generator Library

Date	04 November 2022
Team ID	PNT2022TMID13480
Project Name	Emerging methods for the early detection of forest fires

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    "from tensorflow.keras.preprocessing.image import ImageDataGenerator"
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        "# Training Datagen\n",
        "train_datagen =
ImageDataGenerator(rescale=1/255,zoom_range=0.2,horizontal_flip=True,vertical_flip= False)\n",
        "# Testing Datagen\n",
        "test_datagen = ImageDataGenerator(rescale=1/255)\n"
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g_set',target_size=(64,64), class_mode='categorical',batch_size=900)\n",
        "# Testing Dataset\n",
        "x_test=test_datagen.flow_from_directory(r'/content/drive/MyDrive/Dataset/test_set
',target_size=(64,64), class_mode='categorical',batch_size=900)\n"
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    "print(\"Len x-train : \", len(x_train))\n",
    "print(\"Len x-test : \", len(x_test))"
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      "Len x-test : 3\n"
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    "x_train.class_indices"
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    "# Importing Libraries\n",
    "from tensorflow.keras.models import Sequential\n",
    "from tensorflow.keras.layers import Convolution2D,MaxPooling2D,Flatten,Dense"
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        "model.compile(loss='categorical_crossentropy',optimizer='adam',metrics=['accuracy'])"
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        "# Fitting the Model Generator\n",
        "model.fit_generator(x_train,steps_per_epoch=len(x_train),epochs=10,validation_data=x_test,validation_steps=len(x_test))"
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        "/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:2: UserWarning:
`Model.fit_generator` is deprecated and will be removed in a future version. Please use `Model.fit`,
which supports generators.\n",
        "\n"
      ]
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val_loss: 0.3700 - val_accuracy: 0.9756\n",
        "Epoch 2/10\n",
        "18/18 [=====] - 97s 5s/step - loss: 0.0039 - accuracy: 0.9996 -
val_loss: 0.3347 - val_accuracy: 0.9751\n",
        "Epoch 3/10\n",
        "18/18 [=====] - 95s 5s/step - loss: 0.0036 - accuracy: 0.9996 -
val_loss: 0.3324 - val_accuracy: 0.9756\n",
        "Epoch 4/10\n",
        "18/18 [=====] - 94s 5s/step - loss: 0.0033 - accuracy: 0.9996 -
val_loss: 0.3712 - val_accuracy: 0.9747\n",

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"Epoch 5/10\n",
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val_loss: 0.3011 - val_accuracy: 0.9764\n",
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val_loss: 0.2759 - val_accuracy: 0.9769\n",
  "Epoch 7/10\n",
  "18/18 [=====] - 94s 5s/step - loss: 0.0024 - accuracy: 0.9997 -
val_loss: 0.3056 - val_accuracy: 0.9769\n",
  "Epoch 8/10\n",
  "18/18 [=====] - 95s 5s/step - loss: 0.0021 - accuracy: 0.9997 -
val_loss: 0.3332 - val_accuracy: 0.9760\n",
  "Epoch 9/10\n",
  "18/18 [=====] - 93s 5s/step - loss: 0.0019 - accuracy: 0.9997 -
val_loss: 0.3236 - val_accuracy: 0.9760\n",
  "Epoch 10/10\n",
  "18/18 [=====] - 93s 5s/step - loss: 0.0016 - accuracy: 0.9997 -
val_loss: 0.3429 - val_accuracy: 0.9760\n"
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    "model=load_model('asl_model_84_54.h5')\n",
    "img=image.load_img(r'/content/drive/MyDrive/Dataset/test_set/D/2.png',\n",
    "target_size=(64,64))"
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