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"# REAL TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED "

]

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"# IBM WATSON STUDIO DEPLOYMENT CODE"

]

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"# 1.INSTALLING THE KERAS ,INSTALLING THE TENSORFLOW"

]

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"###### !pip install Keras==2.2.4 !pip install tensorflow==2.7"

]

},

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"# 2.IMPORTING LIBRARIES TO BUILD MODEL."

]

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"#library to train the model\n",

"import keras\n",

"import tensorflow\n",

"\n",

"\n",

"from tensorflow.keras.models import Sequential\n",

"from tensorflow.keras.layers import Dense,Convolution2D,MaxPooling2D, Flatten"

]

},

{

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"# 3.IMPORTING LIBRARIES FOR IMAGE AUGMENTATION."

]

},

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"#image augmentation\n",

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

"train\_datagen=ImageDataGenerator(rescale=1./255,zoom\_range=0.2,shear\_range=0.2,horizontal\_flip=True,vertical\_flip=False)\n",

"test\_datagen=ImageDataGenerator(rescale=1./255)"

]

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"# 4.ADDING STREAMING\_BODY\_OBJECT FOR DATASET.ZIP"

]

},

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"import os, types\n",

"import pandas as pd\n",

"from botocore.client import Config\n",

"import ibm\_boto3\n",

"\n",

"def \_\_iter\_\_(self): return 0\n",

"\n",

"# @hidden\_cell\n",

"# The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.\n",

"# You might want to remove those credentials before you share the notebook.\n",

"cos\_client = ibm\_boto3.client(service\_name='s3',\n",

" ibm\_api\_key\_id='IMzFuAWRpYPnwh2XocJvGqTbHiPAMNnnEcIBBt8bQRGq',\n",

" ibm\_auth\_endpoint=\"https://iam.cloud.ibm.com/oidc/token\",\n",

" config=Config(signature\_version='oauth'),\n",

" endpoint\_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')\n",

"\n",

"bucket = 'realtimecommunication-donotdelete-pr-fx3wrumk8qzbvv'\n",

"object\_key = 'Dataset.zip'\n",

"\n",

"streaming\_body\_7 = cos\_client.get\_object(Bucket=bucket, Key=object\_key)['Body']\n",

"\n",

"# Your data file was loaded into a botocore.response.StreamingBody object.\n",

"# Please read the documentation of ibm\_boto3 and pandas to learn more about the possibilities to load the data.\n",

"# ibm\_boto3 documentation: https://ibm.github.io/ibm-cos-sdk-python/\n",

"# pandas documentation: http://pandas.pydata.org/"

]

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]

},

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"metadata": {},

"output\_type": "execute\_result"

}

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"source": [

"pwd"

]

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"source": [

"# 5.UNZIPPING THE DATASET"

]

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"traceback": [

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"\u001b[1;31mNameError\u001b[0m Traceback (most recent call last)",

"\u001b[1;32m~\\AppData\\Local\\Temp\\ipykernel\_9084\\990811167.py\u001b[0m in \u001b[0;36m<module>\u001b[1;34m\u001b[0m\n\u001b[0;32m 1\u001b[0m \u001b[1;32mfrom\u001b[0m \u001b[0mio\u001b[0m \u001b[1;32mimport\u001b[0m \u001b[0mBytesIO\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n\u001b[0;32m 2\u001b[0m \u001b[1;32mimport\u001b[0m \u001b[0mzipfile\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n\u001b[1;32m----> 3\u001b[1;33m \u001b[0munzip\u001b[0m\u001b[1;33m=\u001b[0m\u001b[0mzipfile\u001b[0m\u001b[1;33m.\u001b[0m\u001b[0mZipFile\u001b[0m\u001b[1;33m(\u001b[0m\u001b[0mBytesIO\u001b[0m\u001b[1;33m(\u001b[0m\u001b[0mstreaming\_body\_6\u001b[0m\u001b[1;33m.\u001b[0m\u001b[0mread\u001b[0m\u001b[1;33m(\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m,\u001b[0m\u001b[1;34m'r'\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n\u001b[0m\u001b[0;32m 4\u001b[0m \u001b[0mfile\_paths\u001b[0m\u001b[1;33m=\u001b[0m\u001b[0munzip\u001b[0m\u001b[1;33m.\u001b[0m\u001b[0mnamelist\u001b[0m\u001b[1;33m(\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n\u001b[0;32m 5\u001b[0m \u001b[1;32mfor\u001b[0m \u001b[0mpath\u001b[0m \u001b[1;32min\u001b[0m \u001b[0mfile\_paths\u001b[0m\u001b[1;33m:\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n",

"\u001b[1;31mNameError\u001b[0m: name 'streaming\_body\_6' is not defined"

]

}

],

"source": [

"from io import BytesIO\n",

"import zipfile\n",

"unzip=zipfile.ZipFile(BytesIO(streaming\_body\_6.read()),'r')\n",

"file\_paths=unzip.namelist()\n",

"for path in file\_paths:\n",

" unzip.extract(path)"

]

},

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" Volume in drive C is Windows 10\n",

" Volume Serial Number is 98E7-6D07\n",

"\n",

" Directory of C:\\Users\\nivet\\Desktop\n",

"\n",

"19-11-2022 12.01 AM <DIR> .\n",

"19-11-2022 12.01 AM <DIR> ..\n",

"18-11-2022 11.55 PM <DIR> .ipynb\_checkpoints\n",

"13-10-2022 02.06 PM 2,216 4045 - Chrome.lnk\n",

"18-11-2022 11.29 AM 283,727 Add\_The \_Flatten\_Layer.ipynb\n",

"18-11-2022 12.58 PM 283,727 Add\_The \_Flatten\_Layer-Copy1.ipynb\n",

"18-11-2022 10.39 AM 283,431 Add\_The\_Pooling\_Layer.ipynb\n",

"16-11-2022 08.28 PM <DIR> anaconda\n",

"18-11-2022 01.30 PM 282,118 Apply\_Image Data Generator\_Functionality\_To\_Train\_And\_Test\_Set.ipynb\n",

"18-11-2022 11.50 PM 2,037 Final\_Spyder\_Deploy\_Code.ipynb\n",

"18-11-2022 12.03 PM 287,241 Fit\_And\_Save\_The\_Model.ipynb\n",

"18-11-2022 02.34 PM 289,254 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel.ipynb\n",

"18-11-2022 02.14 PM 289,408 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel-Copy1.ipynb\n",

"18-11-2022 10.05 AM 282,628 IntializeThe\_model.ipynb\n",

"18-11-2022 05.22 PM 289,757 Model Building.ipynb\n",

"18-11-2022 11.44 PM 283,704 Model\_building.ipynb\n",

"18-11-2022 11.29 PM 289,752 Model\_Building\_And\_\_Test\_The\_Data.ipynb\n",

"22-09-2022 04.12 PM 2,433 Rocket.Chat.lnk\n",

"18-11-2022 05.48 PM 4,811 Test The Model.ipynb\n",

"17-11-2022 10.07 PM 9,691 Untitled.ipynb\n",

"18-11-2022 04.13 PM 3,939 Untitled1.ipynb\n",

"19-11-2022 12.01 AM 4,408 Untitled2.ipynb\n",

"17-11-2022 08.59 PM 3,377 Untitled3.ipynb\n",

" 19 File(s) 3,177,659 bytes\n",

" 4 Dir(s) 51,630,686,208 bytes free\n"

]

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"ls"

]

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]

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"pwd"

]

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"#checking that the dataset is there are not\n",

"import osC:\\\\Us\n",

"filenamer = os.listdir('C:\\\\USers\\\\nivet\\\\Desktop\\Dataset\\training\_set')"

]

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"# 6.TRAINING AND TESTING IMAGES UNDER CLASSES"

]

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"output\_type": "error",

"traceback": [

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"\u001b[1;31mNameError\u001b[0m Traceback (most recent call last)",

"\u001b[1;32m~\\AppData\\Local\\Temp\\ipykernel\_9084\\2292498113.py\u001b[0m in \u001b[0;36m<module>\u001b[1;34m\u001b[0m\n\u001b[1;32m----> 1\u001b[1;33m \u001b[0mx\_train\u001b[0m\u001b[1;33m=\u001b[0m\u001b[0mtrain\_datagen\u001b[0m\u001b[1;33m.\u001b[0m\u001b[0mflow\_from\_directory\u001b[0m\u001b[1;33m(\u001b[0m\u001b[1;34m\"C:\\\\USers\\\\nivet\\\\Desktop\\Dataset\\training\_set\"\u001b[0m\u001b[1;33m,\u001b[0m\u001b[0mtarget\_size\u001b[0m\u001b[1;33m=\u001b[0m\u001b[1;33m(\u001b[0m\u001b[1;36m64\u001b[0m\u001b[1;33m,\u001b[0m\u001b[1;36m64\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m,\u001b[0m\u001b[0mclass\_mode\u001b[0m\u001b[1;33m=\u001b[0m\u001b[1;34m\"categorical\"\u001b[0m\u001b[1;33m,\u001b[0m\u001b[0mbatch\_size\u001b[0m\u001b[1;33m=\u001b[0m\u001b[1;36m25\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n\u001b[0m",

"\u001b[1;31mNameError\u001b[0m: name 'train\_datagen' is not defined"

]

}

],

"source": [

"x\_train=train\_datagen.flow\_from\_directory(\"C:\\\\USers\\\\nivet\\\\Desktop\\Dataset\\training\_set\",target\_size=(64,64),class\_mode=\"categorical\",batch\_size=25)"

]

},

{

"cell\_type": "code",

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"id": "e695db67",

"metadata": {},

"outputs": [

{

"ename": "NameError",

"evalue": "name 'test\_datagen' is not defined",

"output\_type": "error",

"traceback": [

"\u001b[1;31m---------------------------------------------------------------------------\u001b[0m",

"\u001b[1;31mNameError\u001b[0m Traceback (most recent call last)",

"\u001b[1;32m~\\AppData\\Local\\Temp\\ipykernel\_9084\\1297326587.py\u001b[0m in \u001b[0;36m<module>\u001b[1;34m\u001b[0m\n\u001b[1;32m----> 1\u001b[1;33m x\_test=test\_datagen.flow\_from\_directory(\"C:\\\\USers\\\\nivet\\\\Desktop\\Dataset\\training\_set\",target\_size=(64,64),\n\u001b[0m\u001b[0;32m 2\u001b[0m class\_mode='categorical' , batch\_size=25)\n",

"\u001b[1;31mNameError\u001b[0m: name 'test\_datagen' is not defined"

]

}

],

"source": [

"x\_test=test\_datagen.flow\_from\_directory(\"C:\\\\USers\\\\nivet\\\\Desktop\\Dataset\\training\_set\",target\_size=(64,64),\n",

"class\_mode='categorical' , batch\_size=25)"

]

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"metadata": {},

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"# 7.TOTAL CLASSES UNDER TRAINING AND TESTING."

]

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"x\_train.class\_indices"

]

},

{

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"metadata": {},

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"{'A': 0, 'B': 1, 'C': 2, 'D': 3, 'E': 4, 'F': 5, 'G': 6, 'H': 7, 'I': 8}"

]

},

{

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"metadata": {},

"outputs": [],

"source": [

"x\_test.class\_indices"

]

},

{

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"metadata": {},

"source": [

"{'A': 0, 'B': 1, 'C': 2, 'D': 3, 'E': 4, 'F': 5, 'G': 6, 'H': 7, 'I': 8}"

]

},

{

"cell\_type": "code",

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"metadata": {},

"outputs": [],

"source": [

"train\_datagen=ImageDataGenerator(rescale=1./255,zoom\_range=0.2,horizontal\_flip=True,vertical\_flip=False)"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "7b2affe0",

"metadata": {},

"outputs": [],

"source": [

"test\_datagen=ImageDataGenerator(rescale=1./255)"

]

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{

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"source": [

"# 8.MODEL BUILDING USING CNN"

]

},

{

"cell\_type": "code",

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"source": [

"model=Sequential()"

]

},

{

"cell\_type": "code",

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"source": [

"model.add(Convolution2D(32,(3,3),input\_shape=(64,64,3),activation='relu'))"

]

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{

"cell\_type": "code",

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"outputs": [],

"source": [

"model.add(MaxPooling2D(pool\_size=(2,2)))"

]

},

{

"cell\_type": "code",

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"metadata": {},

"outputs": [],

"source": [

"model.add(MaxPooling2D(pool\_size=(2,2)))"

]

},

{

"cell\_type": "code",

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"id": "47314c70",

"metadata": {},

"outputs": [],

"source": [

"model.add(Flatten())"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "154d497f",

"metadata": {},

"outputs": [],

"source": [

"model.summary()"

]

},

{

"cell\_type": "markdown",

"id": "7744d087",

"metadata": {},

"source": [

"###### Model: \"sequential\"\n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

" Layer (type) Output Shape Param # \n",

"=================================================================\n",

" conv2d (Conv2D) (None, 62, 62, 32) 896 \n",

" \n",

" max\_pooling2d (MaxPooling2D (None, 31, 31, 32) 0 \n",

" ) \n",

" \n",

" flatten (Flatten) (None, 30752) 0 \n",

" \n",

"=================================================================\n",

"Total params: 896\n",

"Trainable params: 896\n",

"Non-trainable params: 0\n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_"

]

},

{

"cell\_type": "markdown",

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"# 9.ADDING LAYERS FOR MODEL TRAINING.\n",

"HIDDEN LAYERS"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "ed98dab5",

"metadata": {},

"outputs": [],

"source": [

"model.add(Dense(units = 300, activation='relu'))\n",

"#model.add(Dense(unit = 150,init = \"uniform\" activation='softmax'))"

]

},

{

"cell\_type": "markdown",

"id": "c93aadf6",

"metadata": {},

"source": [

"# OUTPUT LAYERS"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "1a6b46e1",

"metadata": {},

"outputs": [],

"source": [

"model.add(Dense(units = 9, activation='softmax'))"

]

},

{

"cell\_type": "markdown",

"id": "f53a1d38",

"metadata": {},

"source": [

"# 10.OPTIMIZING THE MODEL"

]

},

{

"cell\_type": "code",

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"metadata": {},

"outputs": [],

"source": [

"model.compile(loss='categorical\_crossentropy',optimizer='adam',metrics=['accuracy'])"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "746f158e",

"metadata": {},

"outputs": [],

"source": [

"len(x\_train)"

]

},

{

"cell\_type": "markdown",

"id": "2921a515",

"metadata": {},

"source": [

"630"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "71e3d0e8",

"metadata": {},

"outputs": [],

"source": [

"len(x\_test)"

]

},

{

"cell\_type": "raw",

"id": "3325b993",

"metadata": {},

"source": [

"90"

]

},

{

"cell\_type": "markdown",

"id": "4e0cafbf",

"metadata": {},

"source": [

"# 11.FITTING THE MODEL"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "f9680f9d",

"metadata": {},

"outputs": [],

"source": [

"### model.fit\_generator(x\_train,steps\_per\_epoch=len(x\_train),validation\_data=x\_test,validation\_steps=len(x\_test),epochs=10)\n",

"# Fitting the Model Generator\n",

"model.fit\_generator(x\_train,steps\_per\_epoch=630,epochs=10,validation\_data=x\_test,validation\_steps=90)\n",

"#model.fit(x\_train, epochs=100, verbose=1)"

]

},

{

"cell\_type": "markdown",

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"metadata": {},

"source": [

"###### /tmp/wsuser/ipykernel\_2521/1177640488.py:3: UserWarning: `Model.fit\_generator` is deprecated and will be removed in a future version. Please use `Model.fit`, which supports generators.\n",

" model.fit\_generator(x\_train,steps\_per\_epoch=630,epochs=10,validation\_data=x\_test,validation\_steps=90)\n",

"Epoch 1/10\n",

"630/630 [==============================] - 70s 111ms/step - loss: 0.2427 - accuracy: 0.9357 - val\_loss: 0.2130 - val\_accuracy: 0.9756\n",

"Epoch 2/10\n",

"630/630 [==============================] - 70s 112ms/step - loss: 0.0314 - accuracy: 0.9905 - val\_loss: 0.2702 - val\_accuracy: 0.9778\n",

"Epoch 3/10\n",

"630/630 [==============================] - 71s 113ms/step - loss: 0.0158 - accuracy: 0.9952 - val\_loss: 0.3915 - val\_accuracy: 0.9596\n",

"Epoch 4/10\n",

"630/630 [==============================] - 71s 112ms/step - loss: 0.0094 - accuracy: 0.9969 - val\_loss: 0.3320 - val\_accuracy: 0.9747\n",

"Epoch 5/10\n",

"630/630 [==============================] - 70s 111ms/step - loss: 0.0115 - accuracy: 0.9957 - val\_loss: 0.3552 - val\_accuracy: 0.9760\n",

"Epoch 6/10\n",

"630/630 [==============================] - 71s 112ms/step - loss: 0.0066 - accuracy: 0.9978 - val\_loss: 0.3470 - val\_accuracy: 0.9756\n",

"Epoch 7/10\n",

"630/630 [==============================] - 69s 110ms/step - loss: 0.0094 - accuracy: 0.9973 - val\_loss: 0.3686 - val\_accuracy: 0.9711\n",

"Epoch 8/10\n",

"630/630 [==============================] - 69s 110ms/step - loss: 0.0127 - accuracy: 0.9960 - val\_loss: 0.7356 - val\_accuracy: 0.9751\n",

"Epoch 9/10\n",

"630/630 [==============================] - 69s 109ms/step - loss: 0.0048 - accuracy: 0.9987 - val\_loss: 0.3163 - val\_accuracy: 0.9773\n",

"Epoch 10/10\n",

"630/630 [==============================] - 69s 109ms/step - loss: 0.0047 - accuracy: 0.9988 - val\_loss: 0.4326 - val\_accuracy: 0.9764\n"

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"18-11-2022 11.29 AM 283,727 Add\_The \_Flatten\_Layer.ipynb\n",

"18-11-2022 12.58 PM 283,727 Add\_The \_Flatten\_Layer-Copy1.ipynb\n",

"18-11-2022 10.39 AM 283,431 Add\_The\_Pooling\_Layer.ipynb\n",

"16-11-2022 08.28 PM <DIR> anaconda\n",

"18-11-2022 01.30 PM 282,118 Apply\_Image Data Generator\_Functionality\_To\_Train\_And\_Test\_Set.ipynb\n",

"18-11-2022 11.50 PM 2,037 Final\_Spyder\_Deploy\_Code.ipynb\n",

"18-11-2022 12.03 PM 287,241 Fit\_And\_Save\_The\_Model.ipynb\n",

"18-11-2022 02.34 PM 289,254 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel.ipynb\n",

"18-11-2022 02.14 PM 289,408 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel-Copy1.ipynb\n",

"18-11-2022 10.05 AM 282,628 IntializeThe\_model.ipynb\n",

"18-11-2022 05.22 PM 289,757 Model Building.ipynb\n",

"18-11-2022 11.44 PM 283,704 Model\_building.ipynb\n",

"18-11-2022 11.29 PM 289,752 Model\_Building\_And\_\_Test\_The\_Data.ipynb\n",

"22-09-2022 04.12 PM 2,433 Rocket.Chat.lnk\n",

"18-11-2022 05.48 PM 4,811 Test The Model.ipynb\n",

"17-11-2022 10.07 PM 9,691 Untitled.ipynb\n",

"18-11-2022 04.13 PM 3,939 Untitled1.ipynb\n",

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"\n",

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"\n",

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"18-11-2022 11.55 PM <DIR> .ipynb\_checkpoints\n",

"13-10-2022 02.06 PM 2,216 4045 - Chrome.lnk\n",

"18-11-2022 11.29 AM 283,727 Add\_The \_Flatten\_Layer.ipynb\n",

"18-11-2022 12.58 PM 283,727 Add\_The \_Flatten\_Layer-Copy1.ipynb\n",

"18-11-2022 10.39 AM 283,431 Add\_The\_Pooling\_Layer.ipynb\n",

"16-11-2022 08.28 PM <DIR> anaconda\n",

"18-11-2022 01.30 PM 282,118 Apply\_Image Data Generator\_Functionality\_To\_Train\_And\_Test\_Set.ipynb\n",

"18-11-2022 11.50 PM 2,037 Final\_Spyder\_Deploy\_Code.ipynb\n",

"18-11-2022 12.03 PM 287,241 Fit\_And\_Save\_The\_Model.ipynb\n",

"18-11-2022 02.34 PM 289,254 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel.ipynb\n",

"18-11-2022 02.14 PM 289,408 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel-Copy1.ipynb\n",

"18-11-2022 10.05 AM 282,628 IntializeThe\_model.ipynb\n",

"18-11-2022 05.22 PM 289,757 Model Building.ipynb\n",

"18-11-2022 11.44 PM 283,704 Model\_building.ipynb\n",

"18-11-2022 11.29 PM 289,752 Model\_Building\_And\_\_Test\_The\_Data.ipynb\n",

"22-09-2022 04.12 PM 2,433 Rocket.Chat.lnk\n",

"18-11-2022 05.48 PM 4,811 Test The Model.ipynb\n",

"17-11-2022 10.07 PM 9,691 Untitled.ipynb\n",

"18-11-2022 04.13 PM 3,939 Untitled1.ipynb\n",

"19-11-2022 12.25 AM 22,661 Untitled2.ipynb\n",

"17-11-2022 08.59 PM 3,377 Untitled3.ipynb\n",

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]

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"# 14.INSTALLING WATSON MACHINE LEARNING CLIENT SOFTWARE"

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"Requirement already satisfied: lomond in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (0.3.3)\n",

"Requirement already satisfied: pandas in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (1.4.4)\n",

"Requirement already satisfied: urllib3 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (1.26.11)\n",

"Requirement already satisfied: ibm-cos-sdk in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (2.12.0)\n",

"Requirement already satisfied: requests in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (2.28.1)\n",

"Requirement already satisfied: certifi in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (2022.9.14)\n",

"Requirement already satisfied: boto3 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from watson\_machine\_learning\_client) (1.24.28)\n",

"Requirement already satisfied: botocore<1.28.0,>=1.27.28 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from boto3->watson\_machine\_learning\_client) (1.27.28)\n",

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"Requirement already satisfied: charset-normalizer<3,>=2 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from requests->watson\_machine\_learning\_client) (2.0.4)\n",

"Requirement already satisfied: idna<4,>=2.5 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from requests->watson\_machine\_learning\_client) (3.3)\n",

"Requirement already satisfied: six>=1.10.0 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from lomond->watson\_machine\_learning\_client) (1.16.0)\n",

"Requirement already satisfied: numpy>=1.18.5 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from pandas->watson\_machine\_learning\_client) (1.21.5)\n",

"Requirement already satisfied: pytz>=2020.1 in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from pandas->watson\_machine\_learning\_client) (2022.1)\n",

"Requirement already satisfied: colorama in c:\\users\\nivet\\desktop\\anaconda\\lib\\site-packages (from tqdm->watson\_machine\_learning\_client) (0.4.5)\n"

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"Requirement already satisfied: tabulate in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson\_machine\_learning\_client) (0.8.9)\n",

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"Requirement already satisfied: pandas in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson\_machine\_learning\_client) (1.3.4)\n",

"Requirement already satisfied: ibm-cos-sdk in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson\_machine\_learning\_client) (2.11.0)\n",

"Requirement already satisfied: requests in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson\_machine\_learning\_client) (2.26.0)\n",

"Requirement already satisfied: jmespath<1.0.0,>=0.7.1 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from boto3->watson\_machine\_learning\_client) (0.10.0)\n",

"Requirement already satisfied: botocore<1.22.0,>=1.21.21 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from boto3->watson\_machine\_learning\_client) (1.21.41)\n",

"Requirement already satisfied: s3transfer<0.6.0,>=0.5.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from boto3->watson\_machine\_learning\_client) (0.5.0)\n",

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"Requirement already satisfied: six>=1.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from python-dateutil<3.0.0,>=2.1->botocore<1.22.0,>=1.21.21->boto3->watson\_machine\_learning\_client) (1.15.0)\n",

"Requirement already satisfied: ibm-cos-sdk-s3transfer==2.11.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk->watson\_machine\_learning\_client) (2.11.0)\n",

"Requirement already satisfied: ibm-cos-sdk-core==2.11.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk->watson\_machine\_learning\_client) (2.11.0)\n",

"Requirement already satisfied: charset-normalizer~=2.0.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from requests->watson\_machine\_learning\_client) (2.0.4)\n",

"Requirement already satisfied: idna<4,>=2.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from requests->watson\_machine\_learning\_client) (3.3)\n",

"Requirement already satisfied: pytz>=2017.3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from pandas->watson\_machine\_learning\_client) (2021.3)\n",

"Requirement already satisfied: numpy>=1.17.3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from pandas->watson\_machine\_learning\_client) (1.20.3)\n",

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"Successfully installed watson-machine-learning-client-1.0.391"

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" \"url\": \"https://us-south.ml.cloud.ibm.com\",\n",

" #\"apikey\": \"sqLVTXSP3nnAKfzJ1rKRKCpNzS\_XZ8\_HXa9FRwV7BvOP\"\n",

" \"apikey\": \"yVlgJh\_0MVtYQmrWl9PAa6M60YXRYSkm0BXYZjlfnmrz\"\n",

"}\n",

"client = APIClient(url\_credentials)"

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"client"

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"# 16.CREATING API\_CLIENT SPACE ID."

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"def guid\_from\_space\_name(client, space\_name):\n",

" space = client.spaces.get\_details()\n",

" return(next(item for item in space['resources'] if item['entity']['name'] == space\_name)['metadata']['id'])"

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"traceback": [

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"\u001b[1;31mNameError\u001b[0m Traceback (most recent call last)",

"\u001b[1;32m~\\AppData\\Local\\Temp\\ipykernel\_9084\\2228809534.py\u001b[0m in \u001b[0;36m<module>\u001b[1;34m\u001b[0m\n\u001b[1;32m----> 1\u001b[1;33m \u001b[0mclient\u001b[0m\u001b[1;33m.\u001b[0m\u001b[0mset\u001b[0m\u001b[1;33m.\u001b[0m\u001b[0mdefault\_space\u001b[0m\u001b[1;33m(\u001b[0m\u001b[0mspace\_uid\u001b[0m\u001b[1;33m)\u001b[0m\u001b[1;33m\u001b[0m\u001b[1;33m\u001b[0m\u001b[0m\n\u001b[0m",

"\u001b[1;31mNameError\u001b[0m: name 'client' is not defined"

]

}

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"client.set.default\_space(space\_uid)"

]

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"client.software\_specifications.list(500)"

]

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"kernel-spark3.2-scala2.12 020d69ce-7ac1-5e68-ac1a-31189867356a base\n",

"pytorch-onnx\_1.3-py3.7-edt 069ea134-3346-5748-b513-49120e15d288 base\n",

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"spark-mllib\_3.0-scala\_2.12 09f4cff0-90a7-5899-b9ed-1ef348aebdee base\n",

"pytorch-onnx\_rt22.1-py3.9 0b848dd4-e681-5599-be41-b5f6fccc6471 base\n",

"ai-function\_0.1-py3.6 0cdb0f1e-5376-4f4d-92dd-da3b69aa9bda base\n",

"shiny-r3.6 0e6e79df-875e-4f24-8ae9-62dcc2148306 base\n",

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"pytorch\_1.1-py3.6 10ac12d6-6b30-4ccd-8392-3e922c096a92 base\n",

"tensorflow\_1.15-py3.6-ddl 111e41b3-de2d-5422-a4d6-bf776828c4b7 base\n",

"autoai-kb\_rt22.2-py3.10 125b6d9a-5b1f-5e8d-972a-b251688ccf40 base\n",

"runtime-22.1-py3.9 12b83a17-24d8-5082-900f-0ab31fbfd3cb base\n",

"scikit-learn\_0.22-py3.6 154010fa-5b3b-4ac1-82af-4d5ee5abbc85 base\n",

"default\_r3.6 1b70aec3-ab34-4b87-8aa0-a4a3c8296a36 base\n",

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"do\_py3.8 295addb5-9ef9-547e-9bf4-92ae3563e720 base\n",

"autoai-ts\_3.8-py3.8 2aa0c932-798f-5ae9-abd6-15e0c2402fb5 base\n",

"tensorflow\_1.15-py3.6 2b73a275-7cbf-420b-a912-eae7f436e0bc base\n",

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"tensorflow\_1.15-py3.6-horovod 8964680e-d5e4-5bb8-919b-8342c6c0dfd8 base\n",

"hybrid\_0.1 8c1a58c6-62b5-4dc4-987a-df751c2756b6 base\n",

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"spss-modeler\_17.1 902d0051-84bd-4af6-ab6b-8f6aa6fdeabb base\n",

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"hybrid\_0.2 9b3f9040-9cee-4ead-8d7a-780600f542f7 base\n",

"spark-mllib\_3.0-py38 9f7a8fc1-4d3c-5e65-ab90-41fa8de2d418 base\n",

"autoai-kb\_3.3-py3.7 a545cca3-02df-5c61-9e88-998b09dc79af base\n",

"spark-mllib\_3.0-py39 a6082a27-5acc-5163-b02c-6b96916eb5e0 base\n",

"runtime-22.1-py3.9-do a7e7dbf1-1d03-5544-994d-e5ec845ce99a base\n",

"default\_py3.8 ab9e1b80-f2ce-592c-a7d2-4f2344f77194 base\n",

"tensorflow\_rt22.1-py3.9 acd9c798-6974-5d2f-a657-ce06e986df4d base\n",

"kernel-spark3.2-py3.9 ad7033ee-794e-58cf-812e-a95f4b64b207 base\n",

"autoai-obm\_2.0 with Spark 3.0 af10f35f-69fa-5d66-9bf5-acb58434263a base\n",

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"autoai-kb\_3.0-py3.6 d139f196-e04b-5d8b-9140-9a10ca1fa91a base\n",

"spark-mllib\_3.0-py36 d82546d5-dd78-5fbb-9131-2ec309bc56ed base\n",

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"kernel-spark3.2-r3.6 db2fe4d6-d641-5d05-9972-73c654c60e0a base\n",

"autoai-kb\_rt22.1-py3.9 db6afe93-665f-5910-b117-d879897404d9 base\n",

"tensorflow\_rt22.1-py3.9-horovod dda170cc-ca67-5da7-9b7a-cf84c6987fae base\n",

"autoai-ts\_1.0-py3.7 deef04f0-0c42-5147-9711-89f9904299db base\n",

"tensorflow\_2.1-py3.7-horovod e384fce5-fdd1-53f8-bc71-11326c9c635f base\n",

"default\_py3.7 e4429883-c883-42b6-87a8-f419d64088cd base\n",

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"tensorflow\_rt22.2-py3.10 f65bd165-f057-55de-b5cb-f97cf2c0f393 base\n",

"do\_20.1 f686cdd9-7904-5f9d-a732-01b0d6b10dc5 base\n",

"pytorch-onnx\_rt22.2-py3.10-edt f8a05d07-e7cd-57bb-a10b-23f1d4b837ac base\n",

"scikit-learn\_0.19-py3.6 f963fa9d-4bb7-5652-9c5d-8d9289ef6ad9 base\n",

"tensorflow\_2.4-py3.8 fe185c44-9a99-5425-986b-59bd1d2eda46 base\n",

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"# 17.STORING THE MODEL\_ID FOR DATASET.H5"

]

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"#store the model\n",

"model\_details = client.repository.store\_model(model='image-Classification-model\_new.tgz',meta\_props={\n",

" client.repository.ModelMetaNames.NAME: \"CNN\",\n",

" client.repository.ModelMetaNames.TYPE: \"keras\_2.2.4\",\n",

" client.repository.ModelMetaNames.SOFTWARE\_SPEC\_UID:software\_spec\_uid\n",

"})\n",

"model\_id = client.repository.get\_model\_uid(model\_details)"

]

},

{

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"Failure during getting trained models details. (GET https://us-south.ml.cloud.ibm.com/ml/v4/trainings/image-Classification-model\_new.tgz?version=2021-06-24&space\_id=26031c6a-3567-437f-9ccb-d8ca0f32a42f)\n",

"Status code: 404, body: {\"trace\":\"c329ba91cff4ca75927bb9394e755a21\",\"errors\":[{\"code\":\"training\_job\_run\_not\_found\",\"message\":\"Backend persistence error (404): GET request failed\",\"more\_info\":\"http://watson-ml-api.mybluemix.net/\"}],\"status\_code\":\"404\"}\n",

"Unexpected type of 'model parameter', expected: model path / training\_id, actual: 'image-Classification-model\_new.tgz'.\n",

"---------------------------------------------------------------------------\n",

"ApiRequestFailure Traceback (most recent call last)\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/models.py in \_publish\_from\_training(self, model\_uid, meta\_props, subtrainingId, feature\_names, label\_column\_names, round\_number)\n",

" 529 try:\n",

"--> 530 details = self.\_client.training.get\_details(model\_uid, \_internal=True)\n",

" 531 \n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/training.py in get\_details(self, training\_uid, limit, asynchronous, get\_all, training\_type, state, tag\_value, training\_definition\_id, \_internal)\n",

" 165 else:\n",

"--> 166 details = self.\_get\_artifact\_details(url, training\_uid, limit, 'trained models')\n",

" 167 \n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/wml\_resource.py in \_get\_artifact\_details(self, base\_url, uid, limit, resource\_name, summary, pre\_defined, query\_params, \_async, \_all)\n",

" 225 \n",

"--> 226 return self.\_handle\_response(200, op\_name, response\_get)\n",

" 227 \n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/wml\_resource.py in \_handle\_response(self, expected\_status\_code, operationName, response, json\_response)\n",

" 72 else:\n",

"---> 73 raise ApiRequestFailure(u'Failure during {}.'.format(operationName), response)\n",

" 74 \n",

"\n",

"ApiRequestFailure: Failure during getting trained models details. (GET https://us-south.ml.cloud.ibm.com/ml/v4/trainings/image-Classification-model\_new.tgz?version=2021-06-24&space\_id=26031c6a-3567-437f-9ccb-d8ca0f32a42f)\n",

"Status code: 404, body: {\"trace\":\"c329ba91cff4ca75927bb9394e755a21\",\"errors\":[{\"code\":\"training\_job\_run\_not\_found\",\"message\":\"Backend persistence error (404): GET request failed\",\"more\_info\":\"http://watson-ml-api.mybluemix.net/\"}],\"status\_code\":\"404\"}\n",

"\n",

"During handling of the above exception, another exception occurred:\n",

"\n",

"UnexpectedType Traceback (most recent call last)\n",

"/tmp/wsuser/ipykernel\_2521/2273796809.py in \n",

" 1 #store the model\n",

"----> 2 model\_details = client.repository.store\_model(model='image-Classification-model\_new.tgz',meta\_props={\n",

" 3 client.repository.ModelMetaNames.NAME: \"CNN\",\n",

" 4 client.repository.ModelMetaNames.TYPE: \"keras\_2.2.4\",\n",

" 5 client.repository.ModelMetaNames.SOFTWARE\_SPEC\_UID:software\_spec\_uid\n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/repository.py in store\_model(self, model, meta\_props, training\_data, training\_target, pipeline, feature\_names, label\_column\_names, subtrainingId, round\_number, experiment\_metadata)\n",

" 410 \"\"\"\n",

" 411 \n",

"--> 412 return self.\_client.\_models.store(model, meta\_props=meta\_props, training\_data=training\_data, training\_target=training\_target, pipeline=pipeline, feature\_names=feature\_names, label\_column\_names=label\_column\_names,subtrainingId=subtrainingId,round\_number=round\_number,experiment\_metadata=experiment\_metadata)\n",

" 413 \n",

" 414 @docstring\_parameter({'str\_type': STR\_TYPE\_NAME})\n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/models.py in store(self, model, meta\_props, training\_data, training\_target, pipeline, version, artifactid, feature\_names, label\_column\_names, subtrainingId, round\_number, experiment\_metadata)\n",

" 1646 label\_column\_names=label\_column\_names)\n",

" 1647 else:\n",

"-> 1648 saved\_model = self.\_publish\_from\_training(model\_uid=model, meta\_props=meta\_props,\n",

" 1649 subtrainingId=subtrainingId, feature\_names=feature\_names,\n",

" 1650 label\_column\_names=label\_column\_names, round\_number=round\_number)\n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/models.py in \_publish\_from\_training(self, model\_uid, meta\_props, subtrainingId, feature\_names, label\_column\_names, round\_number)\n",

" 531 \n",

" 532 except ApiRequestFailure as e:\n",

"--> 533 raise UnexpectedType('model parameter', 'model path / training\_id', model\_uid)\n",

" 534 model\_type = \"\"\n",

" 535 \n",

"\n",

"UnexpectedType: Unexpected type of 'model parameter', expected: model path / training\_id, actual: 'image-Classification-model\_new.tgz'."

]

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"model\_details=client.repository.store\_model(model=\"Dataset.tgz\",meta\_props={\n",

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"client.repository.ModelMetaNames.TYPE: \"tensorflow\_2.7\",\n",

"client.repository.ModelMetaNames.SOFTWARE\_SPEC\_UID: software\_spec\_uid\n",

"})"

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"metadata": {},

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"Status code: 404, body: {\"trace\":\"dbe1af66b8507aae3a76a6586d1f46cd\",\"errors\":[{\"code\":\"training\_job\_run\_not\_found\",\"message\":\"Backend persistence error (404): GET request failed\",\"more\_info\":\"http://watson-ml-api.mybluemix.net/\"}],\"status\_code\":\"404\"}\n",

"Unexpected type of 'model parameter', expected: model path / training\_id, actual: 'Dataset.tgz'.\n",

"---------------------------------------------------------------------------\n",

"ApiRequestFailure Traceback (most recent call last)\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/models.py in \_publish\_from\_training(self, model\_uid, meta\_props, subtrainingId, feature\_names, label\_column\_names, round\_number)\n",

" 529 try:\n",

"--> 530 details = self.\_client.training.get\_details(model\_uid, \_internal=True)\n",

" 531 \n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/training.py in get\_details(self, training\_uid, limit, asynchronous, get\_all, training\_type, state, tag\_value, training\_definition\_id, \_internal)\n",

" 165 else:\n",

"--> 166 details = self.\_get\_artifact\_details(url, training\_uid, limit, 'trained models')\n",

" 167 \n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/wml\_resource.py in \_get\_artifact\_details(self, base\_url, uid, limit, resource\_name, summary, pre\_defined, query\_params, \_async, \_all)\n",

" 225 \n",

"--> 226 return self.\_handle\_response(200, op\_name, response\_get)\n",

" 227 \n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/wml\_resource.py in \_handle\_response(self, expected\_status\_code, operationName, response, json\_response)\n",

" 72 else:\n",

"---> 73 raise ApiRequestFailure(u'Failure during {}.'.format(operationName), response)\n",

" 74 \n",

"\n",

"ApiRequestFailure: Failure during getting trained models details. (GET https://us-south.ml.cloud.ibm.com/ml/v4/trainings/Dataset.tgz?version=2021-06-24&space\_id=26031c6a-3567-437f-9ccb-d8ca0f32a42f)\n",

"Status code: 404, body: {\"trace\":\"dbe1af66b8507aae3a76a6586d1f46cd\",\"errors\":[{\"code\":\"training\_job\_run\_not\_found\",\"message\":\"Backend persistence error (404): GET request failed\",\"more\_info\":\"http://watson-ml-api.mybluemix.net/\"}],\"status\_code\":\"404\"}\n",

"\n",

"During handling of the above exception, another exception occurred:\n",

"\n",

"UnexpectedType Traceback (most recent call last)\n",

"/tmp/wsuser/ipykernel\_2521/3184001983.py in \n",

"----> 1 model\_details=client.repository.store\_model(model=\"Dataset.tgz\",meta\_props={\n",

" 2 client.repository.ModelMetaNames.NAME: \"CNN Model Building\",\n",

" 3 client.repository.ModelMetaNames.TYPE: \"tensorflow\_2.7\",\n",

" 4 client.repository.ModelMetaNames.SOFTWARE\_SPEC\_UID: software\_spec\_uid\n",

" 5 })\n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/repository.py in store\_model(self, model, meta\_props, training\_data, training\_target, pipeline, feature\_names, label\_column\_names, subtrainingId, round\_number, experiment\_metadata)\n",

" 410 \"\"\"\n",

" 411 \n",

"--> 412 return self.\_client.\_models.store(model, meta\_props=meta\_props, training\_data=training\_data, training\_target=training\_target, pipeline=pipeline, feature\_names=feature\_names, label\_column\_names=label\_column\_names,subtrainingId=subtrainingId,round\_number=round\_number,experiment\_metadata=experiment\_metadata)\n",

" 413 \n",

" 414 @docstring\_parameter({'str\_type': STR\_TYPE\_NAME})\n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/models.py in store(self, model, meta\_props, training\_data, training\_target, pipeline, version, artifactid, feature\_names, label\_column\_names, subtrainingId, round\_number, experiment\_metadata)\n",

" 1646 label\_column\_names=label\_column\_names)\n",

" 1647 else:\n",

"-> 1648 saved\_model = self.\_publish\_from\_training(model\_uid=model, meta\_props=meta\_props,\n",

" 1649 subtrainingId=subtrainingId, feature\_names=feature\_names,\n",

" 1650 label\_column\_names=label\_column\_names, round\_number=round\_number)\n",

"\n",

"/opt/conda/envs/Python-3.9/lib/python3.9/site-packages/ibm\_watson\_machine\_learning/models.py in \_publish\_from\_training(self, model\_uid, meta\_props, subtrainingId, feature\_names, label\_column\_names, round\_number)\n",

" 531 \n",

" 532 except ApiRequestFailure as e:\n",

"--> 533 raise UnexpectedType('model parameter', 'model path / training\_id', model\_uid)\n",

" 534 model\_type = \"\"\n",

" 535 \n",

"\n",

"UnexpectedType: Unexpected type of 'model parameter', expected: model path / training\_id, actual: 'Dataset.tgz'."

]

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"\u001b[1;31mNameError\u001b[0m Traceback (most recent call last)",

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"\u001b[1;31mNameError\u001b[0m: name 'model\_id' is not defined"

]

}

],

"source": [

"model\_id"

]

},

{

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"id": "7b76344a",

"metadata": {},

"source": [

"# 18.DOWNLOADING THE TAR FILE ON CLIENT REPOSITORY"

]

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{

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"# 19.TEST THE MODEL"

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"import numpy as np\n",

"from tensorflow.keras.models import load\_model\n",

"from keras.preprocessing import image"

]

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"metadata": {},

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"# 20.LOADING THE DATASET"

]

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{

"cell\_type": "code",

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"id": "68b7ff19",

"metadata": {},

"outputs": [],

"source": [

"#Load the model\n",

"model=load\_model('Dataset.h5')"

]

},

{

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"metadata": {},

"source": [

"# 21.ADDING STREAMING\_BODY FOR TEST IMAGE."

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},

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"id": "12da3a4e",

"metadata": {},

"source": [

"# 22.TESTING ON SEVERAL TESTING IMAGES"

]

},

{

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"id": "5d9f934d",

"metadata": {},

"outputs": [],

"source": [

"import os, types\n",

"import pandas as pd\n",

"from botocore.client import Config\n",

"import ibm\_boto3\n",

"\n",

"def \_\_iter\_\_(self): return 0\n",

"\n",

"# @hidden\_cell\n",

"# The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.\n",

"# You might want to remove those credentials before you share the notebook.\n",

"cos\_client = ibm\_boto3.client(service\_name='s3',\n",

" ibm\_api\_key\_id='IMzFuAWRpYPnwh2XocJvGqTbHiPAMNnnEcIBBt8bQRGq',\n",

" ibm\_auth\_endpoint=\"https://iam.cloud.ibm.com/oidc/token\",\n",

" config=Config(signature\_version='oauth'),\n",

" endpoint\_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')\n",

"\n",

"bucket = 'realtimecommunication-donotdelete-pr-fx3wrumk8qzbvv'\n",

"object\_key = '11.png'\n",

"\n",

"streaming\_body\_8 = cos\_client.get\_object(Bucket=bucket, Key=object\_key)['Body']\n",

"\n",

"# Your data file was loaded into a botocore.response.StreamingBody object.\n",

"# Please read the documentation of ibm\_boto3 and pandas to learn more about the possibilities to load the data.\n",

"# ibm\_boto3 documentation: https://ibm.github.io/ibm-cos-sdk-python/\n",

"# pandas documentation: http://pandas.pydata.org/"

]

},

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"metadata": {},

"outputs": [

{

"name": "stdout",

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"text": [

" Volume in drive C is Windows 10\n",

" Volume Serial Number is 98E7-6D07\n",

"\n",

" Directory of C:\\Users\\nivet\\Desktop\n",

"\n",

"19-11-2022 12.39 AM <DIR> .\n",

"19-11-2022 12.39 AM <DIR> ..\n",

"18-11-2022 11.55 PM <DIR> .ipynb\_checkpoints\n",

"13-10-2022 02.06 PM 2,216 4045 - Chrome.lnk\n",

"18-11-2022 11.29 AM 283,727 Add\_The \_Flatten\_Layer.ipynb\n",

"18-11-2022 12.58 PM 283,727 Add\_The \_Flatten\_Layer-Copy1.ipynb\n",

"18-11-2022 10.39 AM 283,431 Add\_The\_Pooling\_Layer.ipynb\n",

"16-11-2022 08.28 PM <DIR> anaconda\n",

"18-11-2022 01.30 PM 282,118 Apply\_Image Data Generator\_Functionality\_To\_Train\_And\_Test\_Set.ipynb\n",

"18-11-2022 11.50 PM 2,037 Final\_Spyder\_Deploy\_Code.ipynb\n",

"18-11-2022 12.03 PM 287,241 Fit\_And\_Save\_The\_Model.ipynb\n",

"18-11-2022 02.34 PM 289,254 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel.ipynb\n",

"18-11-2022 02.14 PM 289,408 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel-Copy1.ipynb\n",

"18-11-2022 10.05 AM 282,628 IntializeThe\_model.ipynb\n",

"18-11-2022 05.22 PM 289,757 Model Building.ipynb\n",

"18-11-2022 11.44 PM 283,704 Model\_building.ipynb\n",

"18-11-2022 11.29 PM 289,752 Model\_Building\_And\_\_Test\_The\_Data.ipynb\n",

"22-09-2022 04.12 PM 2,433 Rocket.Chat.lnk\n",

"18-11-2022 05.48 PM 4,811 Test The Model.ipynb\n",

"17-11-2022 10.07 PM 9,691 Untitled.ipynb\n",

"18-11-2022 04.13 PM 3,939 Untitled1.ipynb\n",

"19-11-2022 12.39 AM 61,225 Untitled2.ipynb\n",

"17-11-2022 08.59 PM 3,377 Untitled3.ipynb\n",

" 19 File(s) 3,234,476 bytes\n",

" 4 Dir(s) 51,612,176,384 bytes free\n"

]

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"ls"

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"metadata": {},

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"text/plain": [

"'C:\\\\Users\\\\nivet\\\\Desktop'"

]

},

"execution\_count": 23,

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"output\_type": "execute\_result"

}

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"source": [

"pwd"

]

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{

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"metadata": {},

"outputs": [

{

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"output\_type": "stream",

"text": [

"[WinError 53] The network path was not found: \"\\\\\\\\'C:\\\\\\\\Users\\\\\\\\nivet\\\\\\\\Desktop'Dataset\\\\test\_set\\\\\"\n",

"C:\\Users\\nivet\\Desktop\n"

]

}

],

"source": [

"cd \\\\'C:\\\\Users\\\\nivet\\\\Desktop'Dataset\\test\_set\\"

]

},

{

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"outputs": [

{

"name": "stdout",

"output\_type": "stream",

"text": [

" Volume in drive C is Windows 10\n",

" Volume Serial Number is 98E7-6D07\n",

"\n",

" Directory of C:\\Users\\nivet\\Desktop\n",

"\n",

"19-11-2022 12.41 AM <DIR> .\n",

"19-11-2022 12.41 AM <DIR> ..\n",

"18-11-2022 11.55 PM <DIR> .ipynb\_checkpoints\n",

"13-10-2022 02.06 PM 2,216 4045 - Chrome.lnk\n",

"18-11-2022 11.29 AM 283,727 Add\_The \_Flatten\_Layer.ipynb\n",

"18-11-2022 12.58 PM 283,727 Add\_The \_Flatten\_Layer-Copy1.ipynb\n",

"18-11-2022 10.39 AM 283,431 Add\_The\_Pooling\_Layer.ipynb\n",

"16-11-2022 08.28 PM <DIR> anaconda\n",

"18-11-2022 01.30 PM 282,118 Apply\_Image Data Generator\_Functionality\_To\_Train\_And\_Test\_Set.ipynb\n",

"18-11-2022 11.50 PM 2,037 Final\_Spyder\_Deploy\_Code.ipynb\n",

"18-11-2022 12.03 PM 287,241 Fit\_And\_Save\_The\_Model.ipynb\n",

"18-11-2022 02.34 PM 289,254 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel.ipynb\n",

"18-11-2022 02.14 PM 289,408 Import\_The\_Packages\_And\_Load\_The\_Saved\_Modeel-Copy1.ipynb\n",

"18-11-2022 10.05 AM 282,628 IntializeThe\_model.ipynb\n",

"18-11-2022 05.22 PM 289,757 Model Building.ipynb\n",

"18-11-2022 11.44 PM 283,704 Model\_building.ipynb\n",

"18-11-2022 11.29 PM 289,752 Model\_Building\_And\_\_Test\_The\_Data.ipynb\n",

"22-09-2022 04.12 PM 2,433 Rocket.Chat.lnk\n",

"18-11-2022 05.48 PM 4,811 Test The Model.ipynb\n",

"17-11-2022 10.07 PM 9,691 Untitled.ipynb\n",

"18-11-2022 04.13 PM 3,939 Untitled1.ipynb\n",

"19-11-2022 12.41 AM 65,486 Untitled2.ipynb\n",

"17-11-2022 08.59 PM 3,377 Untitled3.ipynb\n",

" 19 File(s) 3,238,737 bytes\n",

" 4 Dir(s) 51,613,642,752 bytes free\n"

]

}

],

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"ls"

]

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"execution\_count": null,

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"metadata": {},

"outputs": [],

"source": [

"ls"

]

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{

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"id": "85b33231",

"metadata": {},

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"100.png 126.png 151.png 177.png 201.png 227.png 26.png 51.png 77.png\n",

"101.png 127.png 152.png 178.png 202.png 228.png 27.png 52.png 78.png\n",

"102.png 128.png 153.png 179.png 203.png 229.png 28.png 53.png 79.png\n",

"103.png 129.png 154.png 17.png 204.png 22.png 29.png 54.png 7.png\n",

"104.png 12.png 155.png 180.png 205.png 230.png 2.png 55.png 80.png\n",

"105.png 130.png 156.png 181.png 206.png 231.png 30.png 56.png 81.png\n",

"106.png 131.png 157.png 182.png 207.png 232.png 31.png 57.png 82.png\n",

"107.png 132.png 158.png 183.png 208.png 233.png 32.png 58.png 83.png\n",

"108.png 133.png 159.png 184.png 209.png 234.png 33.png 59.png 84.png\n",

"109.png 134.png 15.png 185.png 20.png 235.png 34.png 5.png 85.png\n",

"10.png 135.png 160.png 186.png 210.png 236.png 35.png 60.png 86.png\n",

"110.png 136.png 161.png 187.png 211.png 237.png 36.png 61.png 87.png\n",

"111.png 137.png 162.png 188.png 212.png 238.png 37.png 62.png 88.png\n",

"112.png 138.png 163.png 189.png 213.png 239.png 38.png 63.png 89.png\n",

"113.png 139.png 164.png 18.png 214.png 23.png 39.png 64.png 8.png\n",

"114.png 13.png 165.png 190.png 215.png 240.png 3.png 65.png 90.png\n",

"115.png 140.png 166.png 191.png 216.png 241.png 40.png 66.png 91.png\n",

"116.png 141.png 167.png 192.png 217.png 242.png 41.png 67.png 92.png\n",

"117.png 142.png 168.png 193.png 218.png 243.png 42.png 68.png 93.png\n",

"118.png 143.png 169.png 194.png 219.png 244.png 43.png 69.png 94.png\n",

"119.png 144.png 16.png 195.png 21.png 245.png 44.png 6.png 95.png\n",

"11.png 145.png 170.png 196.png 220.png 246.png 45.png 70.png 96.png\n",

"120.png 146.png 171.png 197.png 221.png 247.png 46.png 71.png 97.png\n",

"121.png 147.png 172.png 198.png 222.png 248.png 47.png 72.png 98.png\n",

"122.png 148.png 173.png 199.png 223.png 249.png 48.png 73.png 99.png\n",

"123.png 149.png 174.png 19.png 224.png 24.png 49.png 74.png 9.png\n",

"124.png 14.png 175.png 1.png 225.png 250.png 4.png 75.png\n",

"125.png 150.png 176.png 200.png 226.png 25.png 50.png 76.png"

]

},

{

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"execution\_count": null,

"id": "9bb5bba3",

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"outputs": [],

"source": [

"x"

]

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{

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"id": "431995da",

"metadata": {},

"source": [

"array([[[0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" ...,\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.]],\n",

"\n",

" [[0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" ...,\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.]],\n",

"\n",

" [[0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" ...,\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.]],\n",

"\n",

" ...,\n",

"\n",

" [[0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" ...,\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.]],\n",

"\n",

" [[0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" ...,\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.]],\n",

"\n",

" [[0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" ...,\n",

" [0., 0., 0.],\n",

" [0., 0., 0.],\n",

" [0., 0., 0.]]], dtype=float32)"

]

},

{

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"metadata": {},

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"name": "stderr",

"output\_type": "stream",

"text": [

"Using TensorFlow backend.\n"

]

},

{

"data": {

"text/plain": [

"'2.10.1'"

]

},

"execution\_count": 27,

"metadata": {},

"output\_type": "execute\_result"

}

],

"source": [

"import tensorflow as tf\n",

"tf .\_\_version\_\_"

]

},

{

"cell\_type": "markdown",

"id": "84d8ba88",

"metadata": {},

"source": [

"# 23.IBM DEPLOYMENT"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"id": "86e4b4f7",

"metadata": {},

"outputs": [],

"source": [

"!pip install watson-machine-learning-client "

]

},

{

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"id": "3dd5c7fd",

"metadata": {},

"outputs": [],

"source": [

"from ibm\_watson\_machine learning import APIClient\n",

"wml\_credentials={\n",

"\"url\":\"https://us-south.ml.cloud.ibm.com\",\n",

"\"apikey\":\"x91CJTUTrrIfLvrXsKf8yLyI1KHb3JV0Y7Qrwy1zilb2\"\n",

"}\n",

"client=APIClient(wml\_credentials)"

]

},

{

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"metadata": {},

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"# CLIENT"

]

},

{

"cell\_type": "code",

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"metadata": {},

"outputs": [],

"source": [

"def guid\_space\_name(client,animal\_deploy):\n",

"space-client.spaces.get\_details()\n",

"return(next(item for item in space[' resources'] if iten['entity']['name']= animal\_deploy)[\"metadata']['id'])"

]

},

{

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"space\_uid-guid\_space\_name(client,'animal\_deploy\")\n",

"print(\"Space UID \"+space\_uid)"

]

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]

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{

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"client,software specifications.list(200)"

]

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"cell\_type": "code",

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"metadata": {},

"outputs": [],

"source": [

"software\_space\_uid=client.software\_specifications.get\_uid\_by\_name('tensorflow\_rt22.1-py3.9¹)"

]

},

{

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"execution\_count": null,

"id": "7f5e5306",

"metadata": {},

"outputs": [],

"source": [

"software\_space\_uid"

]

},

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"cell\_type": "code",

"execution\_count": null,

"id": "49f9beb5",

"metadata": {},

"outputs": [],

"source": []

}

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"metadata": {

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"name": "python3"

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"language\_info": {

"codemirror\_mode": {

"name": "ipython",

"version": 3

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"mimetype": "text/x-python",

"name": "python",

"nbconvert\_exporter": "python",

"pygments\_lexer": "ipython3",

"version": "3.9.13"

}

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