Configuration Manual

MSc Research Project
Data Analytics

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Configuration Manual

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1 Creation of GMail Account

In Order to access google colab environment in which the code can be written and executed its necessary to have a Gmail account created. Account can be created using the url [1] Figure 1 represents the account creation window.In which the desired details needs to be updated.

Figure 1: Represents GMail account creation Homepage

2 Accessing G-Drive to download Google colab

Once the account is created,

- Click on G-drive tab, Select NEW option

- Double-click on MORE option

- In the search window, search for google colab software and install

Pictorial steps of accessing and downloading in represented in the Figure 2 Figure 3 respectively
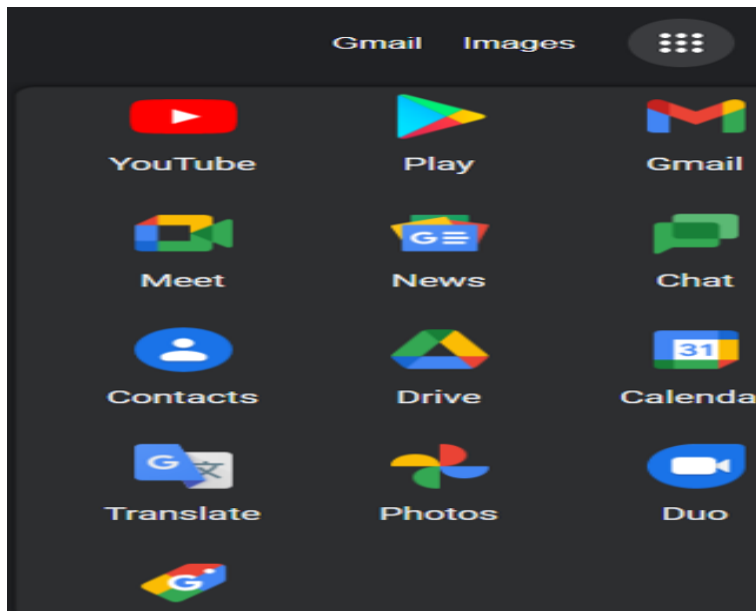
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[1]https://support.google.com/mail/answer/56256?hl=en

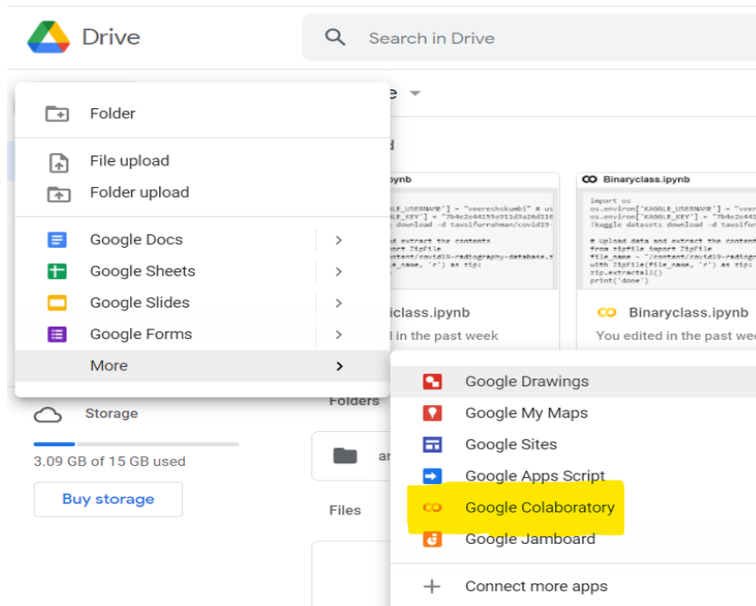Figure 2: Representation of Accessing Google Drive

Figure 3: Representation of Downloading google colab software

3   Creation of Kaggle Account

Kaggle is used to search and post data sets, study and construct models in a web-based data-science environment, collaborate with other data scientists and machine learning experts, and compete to solve data science challenges. Our dataset is considered from kaggle repository. In order to access dataset it is important to create an account. Url of kaggle portal [2] Figure 4 Represents the Kaggle Homepage

- Click on sign IN and mention the required information and register

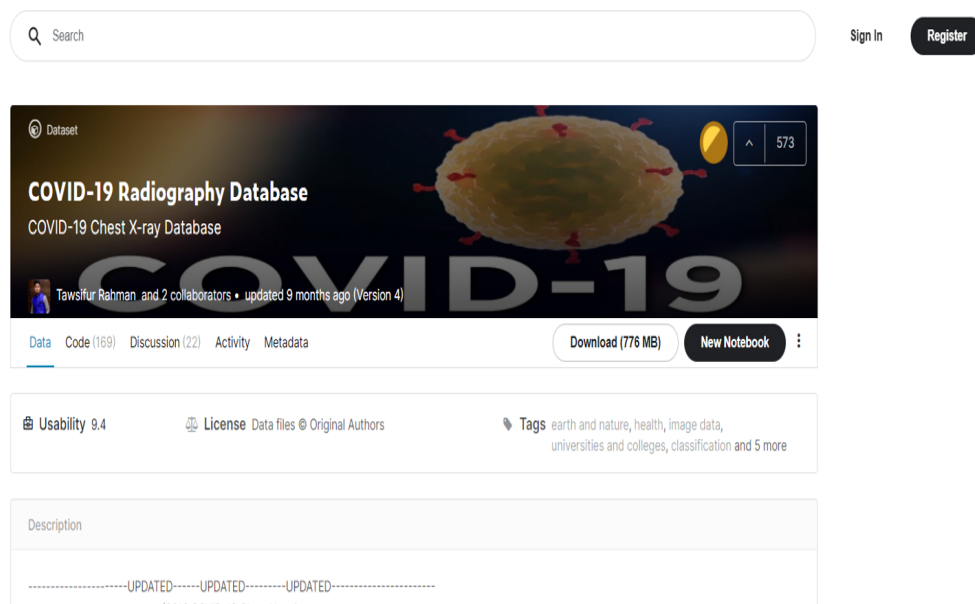- Once the account is created, Dataset needs to be accessed [3]

Figure 4: Representation Kaggle Homepage

4   Copying API Command and Creation of API Key

- Click on the Icon next to New notebook and select the first option " Copy API Command". This needs to be saved in order to read the dataset from kaggle to access in google colab

- Click on the profile tab followed by account tab once scrolled down "we have to click on create new API token " a JSON File will be downloaded.

The representation is defined in Figure 6

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[2]https://www.kaggle.com/

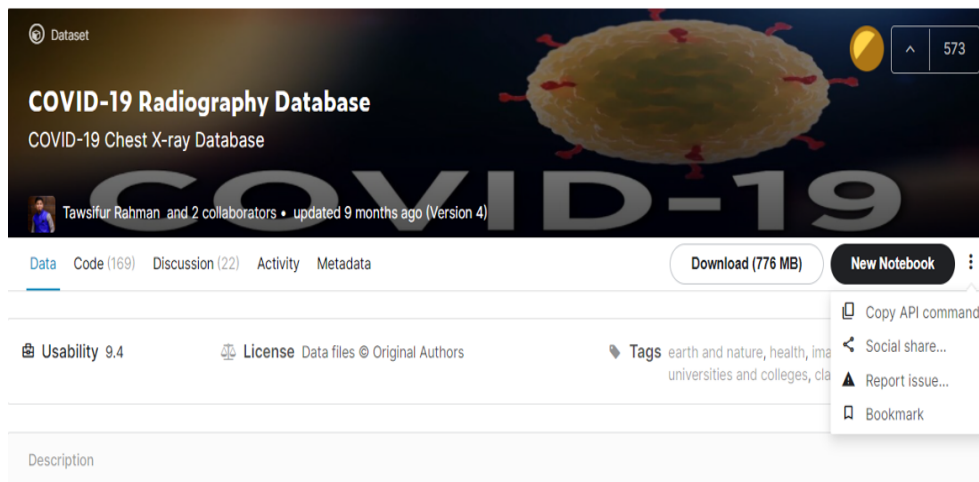[3]https://www.kaggle.com/tawsifurrahman/covid19-radiography-database

Figure 5: Representation of Covid-19 Radiography Database Homepage
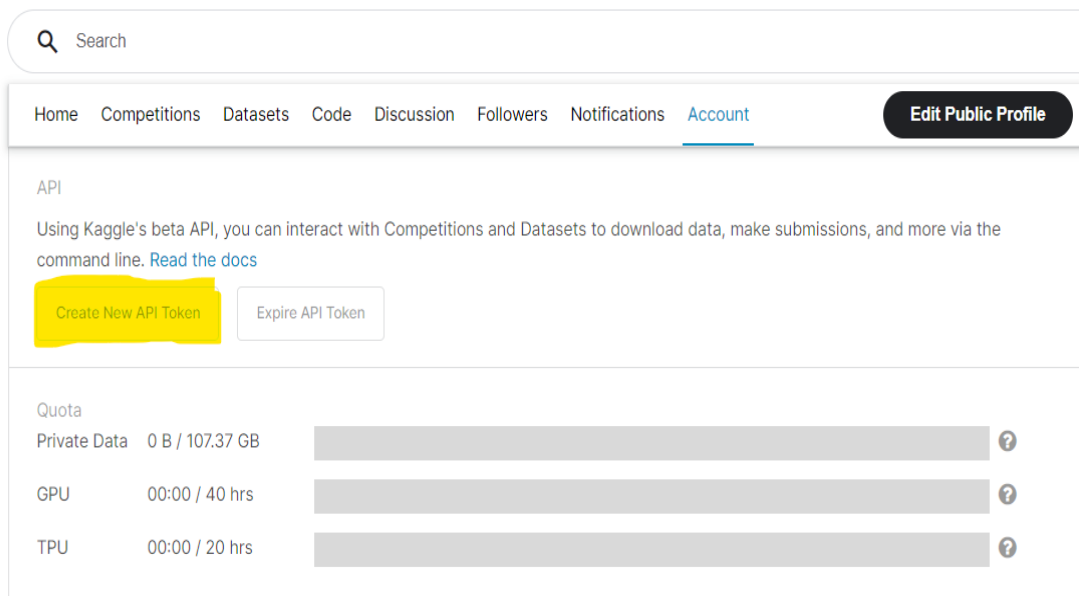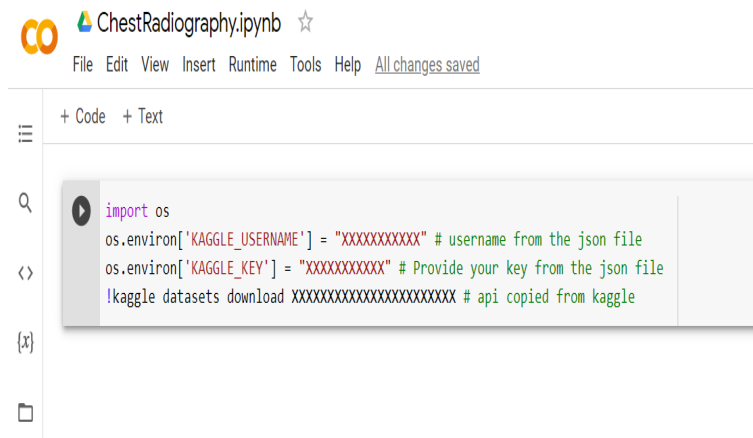

Figure 6: Creation of New API Key

5 Accessing and Downloading the dataset from Kaggle using API token and API Command

- From the Json file downloaded file Kaggle username and Kaggle key needs to be mentioned in the code file

- API copied from kaggle needs to be mentioned as referred in the Figure 7

Figure 7: API key, API command and USERNAME details

6 Importing and installing Python library

Importing and installing the libraries for code to execute Figure 8

7 Execution

Once all the execution data is imposed. Click on Run Option. Figure 9

```
import tensorflow as tf
from tensorflow import keras
```

```
# Data preprocessing
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import matplotlib.image as mpimg
from matplotlib.offsetbox import OffsetImage, AnnotationBbox
from glob import glob
from PIL import Image
import os
import random
import cv2
#Model
import keras
from keras.models import Sequential, Model,load_model
from keras.layers import Activation,Dense, Dropout, Flatten, Conv2D, MaxPooling2D,MaxPool2D,AveragePooling2D,GlobalMaxPooling2D
from keras import backend as K
from keras.wrappers.scikit_learn import KerasClassifier
from tensorflow.keras.layers import BatchNormalization
from keras.utils.np_utils import to_categorical # convert to one-hot-encoding
from keras import regularizers
from tensorflow.keras.optimizers import Adam
from keras.preprocessing.image import ImageDataGenerator,array_to_img
from keras.callbacks import ReduceLROnPlateau, EarlyStopping,ModelCheckpoint
from keras.metrics import PrecisionAtRecall,Recall
```

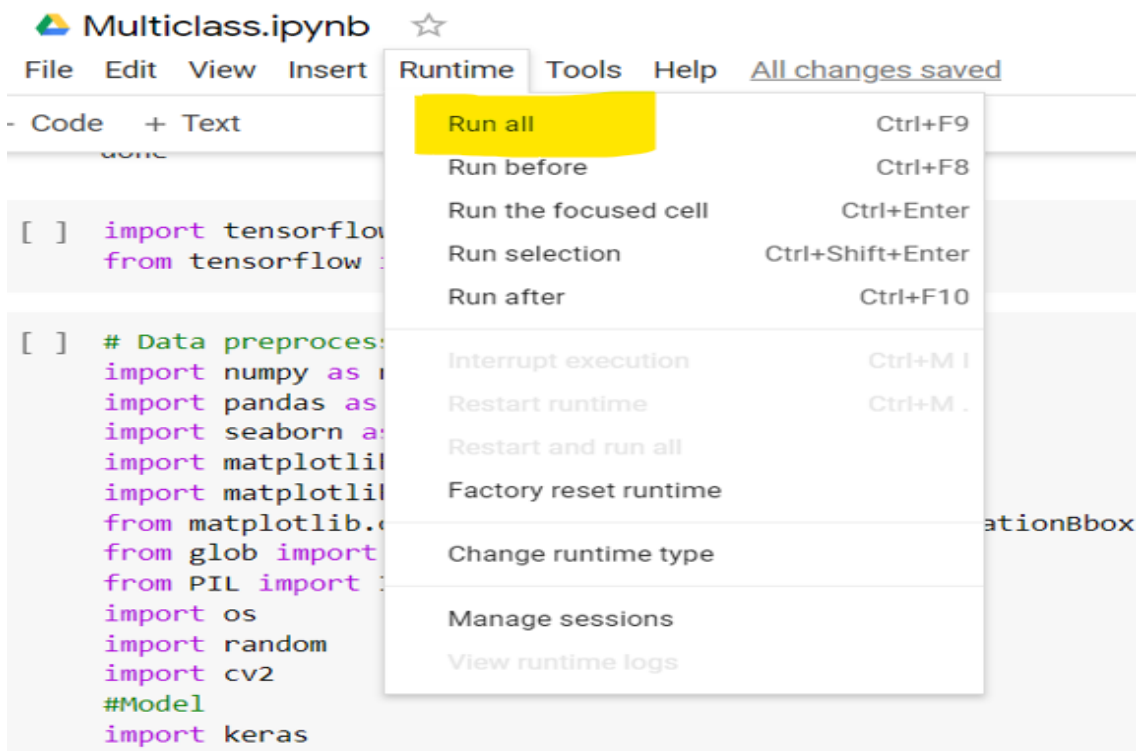Figure 8: Importing and installing the libraries for code to execute

Figure 9: Importing and installing the libraries for code to execute

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