

# Configuration Manual

MSc Research Project Cloud Computing

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## Configuration Manual

Honey Rajendra Gugale x20133685

### 1 Section 1

Step 1 - Install python on the local machine according your Operating system.

Python		PSF	Docs		РуРІ	Jobs	Community
<mark>ệ</mark> pyth	າວກ່				Donate	Search	GO Socializ
	About	Downloads	Documentation	Community	Success Sto	ories News	Events
Down Down Looking <u>Linux/U</u> Want to <u>Docker i</u> Looking	Inload Ioad Pythor (for Python NIX, macOS help test d images (for Python	the latest v n3.10.1 with a different OS? 5, <u>Other</u> evelopment version 2.7? See below for s	<b>version for Wir</b> ? Python for <u>Windows</u> , s of Python? <u>Prereleases</u> , specific releases	ndows			
hon.org/jobs/							Activate Windows Go to Settings to activat

Figure 1: Install Python

Step 2 - Upgrade package installer for Python using the Following Command.

Figure 2: Upgrade pip

Step 3 - Install or Upgrade packages related OpenCV library using the Following Command.

C:\Users\dell>python -m pip install --upgrade opencv-python

Figure 3: OpenCV

Step 4 - Install or Upgrade packages related tensorflow library using the Following Command.

C:\Users\dell>python -m pip install --upgrade tensorflow

Figure 4: TensorFlow

Step 5 - Install or Upgrade packages related Scikit-image library using the Following Command.

C:\Users\dell>python -m pip install scikit-image

Figure 5: Scikit-image

Step 6 - Install or Upgrade packages related TensorFlow Hub library using the Following Command.

C:\Users\dell>python -m pip install tensorflow-hub

Figure 6: TensorFlow Hub

### 2 Section 2

Step 1 - Sign into the Google account

Create your	Google Account	
, First name	Last name	
Username	@gmail.com	
You can use letters, nur	mbers & periods	
Use my current ema	il address instead	029
Password	Confirm	
Use 8 or more characte symbols	ers with a mix of letters, numbers &	One account. All of Google working for you.

Figure 7: Google Sign in

Step 2 - Type 'Google Colab' on the Google search bar and Click on the highlighted link.



Figure 8: Google Colab



Step 3 - Navigate and Upload the ipynb files for training the model.



a l	Examples	Recent	Google Drive	Git	tHub	Uplo	oad	n
F	ilter notebooks		Ŧ					Î
i	Title			Last opened 🔺	First opened 👻		ŧ.	
e	RNN_train.ipynb			22:11	22:11	۵		I
i	🝐 Istm_train.ipynb			22:10	22:10	۵	Z	l
s	A GRU_train.ipynb			22:10	22:10	۵		l
a P								ł
h								Ŧ
							Cancel	

Step 4 - After uploading ipynb files, we can view that files in recent tab.

Figure 10: Google Colab Recent

Step 5 - Select the any of the deep learning algorithm. For the time I have selected GRU.



Figure 11: GRU

Step 6 - Select the Runtime which is located at top Left-Hand side. Which will drop down list. After that Select Change Runtime Type . Which will land to the following page.



Figure 12: Runtime Setting

Step 7 - Select GRU for Hardware accelerator and Click on save button below.

g U	Notebook settings	
l pa U is	Hardware accelerator GPU	s
it t usi num	Background execution     Want your notebook to keep running even after you     close your browser? Upgrade to Colab Prot	
ten enso ran pic cv2	Omit code cell output when saving this notebook	
sea ten os	Cancel Save	

Figure 13: GRU Setting

Step 8 - Add dataset using the following step. Clicking on the location which the blue Arrow in the Figure below is showing will land you to navigate pkl files from the local machine, and We should add three pkl files named Dataset, Feature, Label.

⊟ Files	×	+ Code + Text
Q 🔂 C∂ 🖎	-	Training Using GRU
{x}		<pre>[ ] we will pass the series of image feature vectors through GRU the GRU is responsible for running th series in both directions we split the 300 videos in training (240) and testing(60) we are using the testing set for validation  import numpy as np import tensorflow as tf from tensorflow import keras import random import pickle import cv2 import seaborn as sns import tensorflow hub as hub</pre>

Figure 14: Add dataset Setting

Step 9 - After adding the Dataset files in Google Colab. You can View that files in the drop down below.



Figure 15: After adding dataset

Step 10 - After we can view the datasets which are mentioned in the figure above. Now We need to Run the Model . Follow the steps mentioned in the below figure.

CO & GRU_train.ipynb	☆	All also and a second	
File Edit View Insert	Runtime Tools Help	All changes save	<u>D</u>
≔ Files	Run all	Ctrl+F9	
	Run before	Ctrl+F8	
o, 🗗 🖸 🗖			
Cu	Run selection	Ctrl+Shift+Enter	ng GRU
<> 🖌 💼 sample_data	Run after	Ctrl+F10	
{x} dataset.pkl	Interrupt execution	Ctrl+M I	the series of image feature vect
🖿 📔 label.pkl	Restart runtime	Ctri+M .	esponsible for running th series
-	Restart and run all Factory reset runtime		300 videos in training (240) and the testing set for validation
	Change runtime type		as np
	Manage sessions		rflow as tf Low import keras
	View runtime logs		n

Figure 16: Run the model

Step 11 - Google Colab and GPU will run the model and provide us with the desired output. We can follow the same process in section 2 for other 2 models. At the end, We will choose the right model with more accuracy to implement in the following process. In the figure below we can see the output for GRU.



Figure 17: Output of the model

Step 12 - We can save the model to drive and Access it locally.



Figure 18: Save the model

## 3 Section 3

Step 1 - Using Google, Navigate and save some Fighting and non-fighting videos.



Figure 19: Navigate and save videos

Step 2 - Save the video within the folder of your code and Rename that mp4 file.

File name:	Test++.mp4			~
Save as type:	MP4 Video File (VLC) (*.mp4)			$\sim$
Hide Folders		Save	Cancel	

Figure 20: Rename the Video

Step 3 - Go to Terminal Again. Navigate the folder in the terminal. I have put in Example in the figure below.



Figure 21: Navigate folder from the terminal

Step 4 - Run the Demo.py file with the saved videos name at the end.

C:\Users\dell\Desktop\Voilence>python demo.py Test++.mp4

Figure 22: query to Run the Demo.py file

Step 5 - According the actions in the video, the output is given. As I have mentioned accuracy is 93



Figure 23: Final Output

Step 6 - System Specification

Operating System	Windows 10
GPU	NVIDIA Titan
	RTX
RAM	32 GB
Hard Disk	256 GB
Programming Language	Python
User Interface	Google Collab
Library Implemented	OpenCV, pandas,
	numpy, matplotlib,
	random, Keras,
	TensorFlow

 Table 2 : System Specification

### References