


Problema: 1era clasificacion realizada tardaba ~12a y pegaba la aplicacion. (esto solo se La primera vez que se llamaba al model.predict)

Profiler muestra lo anterior:

```
out_v1.prof% strip
out_v1.prof% callees read_cam_and_classify
  Random listing order was used
  List reduced from 10599 to 1 due to restriction <'read_cam_and_classify'>

Function                                called...
                                ncalls  tottime  cumtime
final_script.py:104(read_cam_and_classify) -> 1    0.000    0.000  final_script.py:49(gstreamer_pipeline)
                                                1    0.000   13.467  final_script.py:65(classifyImage)
                                                1    0.000    0.001  final_script.py:83(getRegionOfInterest)
                                                1    0.000    0.000  final_script.py:90(cvMatToNumpyArray)
                                                1    0.003    0.003  {destroyAllWindows}
                                                114   0.118    0.118  {getWindowProperty}
                                                114   0.118    0.118  {imshow}
                                                1    0.000    0.000  {method 'isOpened' of 'cv2.VideoCapture' objects}
                                                114   1.381    1.381  {method 'read' of 'cv2.VideoCapture' objects}
                                                1    0.636    0.636  {method 'release' of 'cv2.VideoCapture' objects}
                                                1    0.206    0.206  {namedWindow}
                                                114   0.160    0.160  {putText}
                                                114   0.021    0.021  {rectangle}
                                                114   3.483    3.483  {waitKey}
```



Analisis realizado a la ejecucion de la funcion classifyImage() concluyo que exsitia una Cantidad considerable de tiempo consumida por la carga de la libreria de CUDA Libcublas.s0.10.0

```
Captured data...
input data shape:
(1, 48, 48, 1)
--> Classification started.....
2019-08-26 18:53:08.303633: I tensorflow/stream_executor/dso_loader.cc:153] successfully opened CUDA library libcublas.so.10.0 locally
Classification results:
[[0.86226827 0.07339671 0.06433511]]
```


Se decidio realizar una “falsa llamada” a model.predict justo despues de cargar el modelo con fines de inicializacion y cargar la imagen antes de que la aplicacion inicie a Realizar capturas de video y las posteriores clasificaciones sobre estas

Codigo nuevo


```
# load model (.h5 format)
adaptNet_model = models.load_model('adaptNet_model_v02.h5')

try:
    adaptNet_model.predict(np.empty([1,48,48,1]))
except:
    print("finished init")
```

```
out_v22.prof% callees read_cam_and_classify
Random listing order was used
List reduced from 10599 to 1 due to restriction <'read_cam_and_classify'>
```

Function	called...	ncalls	tottime	cumtime	
final_script.py:104(read_cam_and_classify)	->	1	0.000	0.000	final_script.py:49(gstreamer_pipeline)
		1	0.000	0.116	final_script.py:65(classifyImage) 
		1	0.000	0.001	final_script.py:83(getRegionOfInterest)
		1	0.000	0.001	final_script.py:90(cvMatToNumpyArray)
		1	0.001	0.001	{destroyAllWindows}
		92	0.002	0.002	{getWindowProperty}
		92	0.148	0.148	{imshow}
		1	0.011	0.011	{method 'isOpened' of 'cv2.VideoCapture' objects}
		92	1.003	1.003	{method 'read' of 'cv2.VideoCapture' objects}
		1	0.230	0.230	{method 'release' of 'cv2.VideoCapture' objects}
		1	0.596	0.596	{namedWindow}
		92	0.066	0.066	{putText}
		92	0.010	0.010	{rectangle}
		92	2.769	2.769	{waitKey}

```
out_v22.prof% callees classifyImage
Random listing order was used
List reduced from 10599 to 1 due to restriction <'classifyImage'>
```

Function	called...	ncalls	tottime	cumtime	
final_script.py:65(classifyImage)	->	1	0.000	0.000	<__array_function__ internals>:2(amax)
		1	0.000	0.000	<__array_function__ internals>:2(where)
		1	0.000	0.113	training.py:1302(predict) 
		4	0.001	0.003	{built-in method builtins.print}