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1 D:\OneDrive\TFG\TFG_Python\venv\Scripts\python.exe C:\
  Users\elias\AppData\Local\JetBrains\Toolbox\apps\PyCharm-P
  \ch-0\183.4284.139\helpers\pydev\pydevconsole.py --mode=
  client --port=61362
2
3 import sys; print('Python %s on %s' % (sys.version, sys.
  platform))
4 sys.path.extend(['D:\\OneDrive\\TFG\\TFG_Python', 'D:/
  OneDrive/TFG/TFG_Python'])
5
6 PyDev console: starting.
7
8 Python 3.6.7 (v3.6.7:6ec5cf24b7, Oct 20 2018, 13:35:33) [
  MSC v.1900 64 bit (AMD64)] on win32
9 >>> runfile('D:/OneDrive/TFG/TFG_Python/core/model.py',
  wdir='D:/OneDrive/TFG/TFG_Python/core')
10 Using TensorFlow backend.
11 >>> model_training()
12 ISBINARY: True
13 tipo
14 benign          2510
15 malignant       2510
16 premalignant    2510
17 dtype: int64
18 Valid gen: Img leidas= 0
19 Valid gen: Img leidas= 100
20 Valid gen: Img leidas= 200
21 Valid gen: Img leidas= 300
22 Valid gen: Img leidas= 400
23 Valid gen: Img leidas= 500
24 Valid gen: Img leidas= 600
25 Valid gen: Img leidas= 700
26 Valid gen: Img leidas= 800
27 Valid gen: Img leidas= 900
28 Valid gen: Img leidas= 1000
29 Valid gen: Img leidas= 1100
30 Valid gen: Img leidas= 1200
31 Creando modelo y compilandolo
32 2019-04-26 08:20:28.511171: I tensorflow/core/platform/
  cpu_feature_guard.cc:141] Your CPU supports instructions
  that this TensorFlow binary was not compiled to use: AVX2
33 2019-04-26 08:20:28.724616: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1432] Found device 0 with
  properties:
34 name: GeForce GTX 1070 major: 6 minor: 1 memoryClockRate(
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34 GHz): 1.835
35 pciBusID: 0000:26:00.0
36 totalMemory: 8.00GiB freeMemory: 6.64GiB
37 2019-04-26 08:20:28.724786: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu
  devices: 0
38 2019-04-26 08:20:29.667505: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:982] Device interconnect
  StreamExecutor with strength 1 edge matrix:
39 2019-04-26 08:20:29.667597: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:988] 0
40 2019-04-26 08:20:29.667648: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1001] 0: N
41 2019-04-26 08:20:29.667822: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow
  device (/job:localhost/replica:0/task:0/device:GPU:0 with
  6397 MB memory) -> physical GPU (device: 0, name: GeForce
  GTX 1070, pci bus id: 0000:26:00.0, compute capability: 6.
  1)
42 Se comienza el entrenamiento del modelo
43 ['loss', 'acc']
44 Epoch 1/40
45 2019-04-26 08:21:53.111818: W tensorflow/core/
  common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc
  ) ran out of memory trying to allocate 2.03GiB. The caller
  indicates that this is not a failure, but may mean that
  there could be performance gains if more memory were
  available.
46 2019-04-26 08:21:53.195011: W tensorflow/core/
  common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc
  ) ran out of memory trying to allocate 2.00GiB. The caller
  indicates that this is not a failure, but may mean that
  there could be performance gains if more memory were
  available.
47 2019-04-26 08:21:53.197909: W tensorflow/core/
  common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc
  ) ran out of memory trying to allocate 2.15GiB. The caller
  indicates that this is not a failure, but may mean that
  there could be performance gains if more memory were
  available.
48 - 93s - loss: 0.6862 - acc: 0.6781 - val_loss: 1.0123 -
  val_acc: 0.7104
49 Epoch 2/40
50 - 61s - loss: 0.4942 - acc: 0.7771 - val_loss: 2.3194 -
  val_acc: 0.6871
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51 Epoch 3/40
52   - 67s - loss: 0.4393 - acc: 0.8083 - val_loss: 0.5115 -
   val_acc: 0.7485
53 Epoch 4/40
54   - 58s - loss: 0.4001 - acc: 0.8250 - val_loss: 0.6232 -
   val_acc: 0.7494
55 Epoch 5/40
56   - 59s - loss: 0.4110 - acc: 0.8448 - val_loss: 0.5009 -
   val_acc: 0.7710
57 Epoch 6/40
58   - 66s - loss: 0.4421 - acc: 0.8250 - val_loss: 0.9983 -
   val_acc: 0.7768
59 Epoch 7/40
60   - 53s - loss: 0.3156 - acc: 0.8635 - val_loss: 0.7128 -
   val_acc: 0.7087
61 Epoch 8/40
62   - 59s - loss: 0.3576 - acc: 0.8385 - val_loss: 0.4736 -
   val_acc: 0.7975
63 Epoch 9/40
64   - 63s - loss: 0.2863 - acc: 0.8833 - val_loss: 0.4133 -
   val_acc: 0.8415
65 Epoch 10/40
66   - 58s - loss: 0.2831 - acc: 0.8906 - val_loss: 0.4105 -
   val_acc: 0.8315
67 Epoch 11/40
68   - 61s - loss: 0.2954 - acc: 0.8740 - val_loss: 1.3273 -
   val_acc: 0.7004
69 Epoch 12/40
70   - 61s - loss: 0.2220 - acc: 0.9219 - val_loss: 0.4003 -
   val_acc: 0.8448
71 Epoch 13/40
72   - 54s - loss: 0.2140 - acc: 0.9198 - val_loss: 0.4785 -
   val_acc: 0.7983
73 Epoch 14/40
74   - 58s - loss: 0.2264 - acc: 0.9219 - val_loss: 0.3901 -
   val_acc: 0.8506
75 Epoch 15/40
76   - 54s - loss: 0.2006 - acc: 0.9198 - val_loss: 0.4145 -
   val_acc: 0.8224
77 Epoch 16/40
78   - 50s - loss: 0.2090 - acc: 0.9229 - val_loss: 0.5463 -
   val_acc: 0.8174
79 Epoch 17/40
80   - 55s - loss: 0.1802 - acc: 0.9354 - val_loss: 0.5378 -
   val_acc: 0.8307
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81 Epoch 18/40
82   - 61s - loss: 0.1773 - acc: 0.9354 - val_loss: 0.5212 -
    val_acc: 0.8332
83 Epoch 19/40
84   - 52s - loss: 0.1669 - acc: 0.9375 - val_loss: 0.4378 -
    val_acc: 0.8398
85
86 Epoch 00019: ReduceLROnPlateau reducing learning rate to
    0.00020000000949949026.
87 Epoch 20/40
88   - 57s - loss: 0.1548 - acc: 0.9365 - val_loss: 0.3655 -
    val_acc: 0.8573
89 Epoch 21/40
90   - 52s - loss: 0.1149 - acc: 0.9646 - val_loss: 0.3259 -
    val_acc: 0.8680
91 Epoch 22/40
92   - 82s - loss: 0.0935 - acc: 0.9698 - val_loss: 0.3316 -
    val_acc: 0.8763
93 Epoch 23/40
94   - 58s - loss: 0.0923 - acc: 0.9635 - val_loss: 0.3312 -
    val_acc: 0.8747
95 Epoch 24/40
96   - 60s - loss: 0.0816 - acc: 0.9708 - val_loss: 0.3466 -
    val_acc: 0.8689
97 Epoch 25/40
98   - 67s - loss: 0.0924 - acc: 0.9646 - val_loss: 0.3543 -
    val_acc: 0.8680
99 Epoch 26/40
100  - 59s - loss: 0.0733 - acc: 0.9760 - val_loss: 0.3576 -
    val_acc: 0.8739
101
102 Epoch 00026: ReduceLROnPlateau reducing learning rate to
    2.0000000949949027e-05.
103 Epoch 27/40
104  - 56s - loss: 0.0446 - acc: 0.9896 - val_loss: 0.3541 -
    val_acc: 0.8730
105 Epoch 28/40
106  - 56s - loss: 0.0483 - acc: 0.9812 - val_loss: 0.3551 -
    val_acc: 0.8739
107 Epoch 29/40
108  - 51s - loss: 0.0845 - acc: 0.9719 - val_loss: 0.3555 -
    val_acc: 0.8763
109 Epoch 30/40
110  - 54s - loss: 0.0663 - acc: 0.9802 - val_loss: 0.3528 -
    val_acc: 0.8780
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111 Epoch 31/40
112   - 56s - loss: 0.0574 - acc: 0.9760 - val_loss: 0.3543 -
    val_acc: 0.8813
113
114 Epoch 00031: ReduceLROnPlateau reducing learning rate to
    2.0000001313746906e-06.
115 Entrenamiento completado, se procede al test final
116
117   32/1506 [.....] - ETA: 10s
118   64/1506 [>.....] - ETA: 9s
119   96/1506 [>.....] - ETA: 9s
120  128/1506 [=>.....] - ETA: 9s
121  160/1506 [==>.....] - ETA: 8s
122  192/1506 [==>.....] - ETA: 8s
123  224/1506 [===>.....] - ETA: 8s
124  256/1506 [===>.....] - ETA: 8s
125  288/1506 [===>.....] - ETA: 7s
126  320/1506 [====>.....] - ETA: 7s
127  352/1506 [====>.....] - ETA: 7s
128  384/1506 [====>.....] - ETA: 7s
129  416/1506 [====>.....] - ETA: 7s
130  448/1506 [====>.....] - ETA: 6s
131  480/1506 [====>.....] - ETA: 6s
132  512/1506 [====>.....] - ETA: 6s
133  544/1506 [====>.....] - ETA: 6s
134  576/1506 [====>.....] - ETA: 6s
135  608/1506 [====>.....] - ETA: 5s
136  640/1506 [====>.....] - ETA: 5s
137  672/1506 [====>.....] - ETA: 5s
138  704/1506 [====>.....] - ETA: 5s
139  736/1506 [====>.....] - ETA: 4s
140  768/1506 [====>.....] - ETA: 4s
141  800/1506 [====>.....] - ETA: 4s
142  832/1506 [====>.....] - ETA: 4s
143  864/1506 [====>.....] - ETA: 4s
144  896/1506 [====>.....] - ETA: 3s
145  928/1506 [====>.....] - ETA: 3s
146  960/1506 [====>.....] - ETA: 3s
147  992/1506 [====>.....] - ETA: 3s
148 1024/1506 [====>.....] - ETA: 3s
149 1056/1506 [====>.....] - ETA: 2s
150 1088/1506 [====>.....] - ETA: 2s
151 1120/1506 [====>.....] - ETA: 2s
152 1152/1506 [====>.....] - ETA: 2s
153 1184/1506 [====>.....] - ETA: 2s
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154 1216/1506 [=====>.....] - ETA: 1s
155 1248/1506 [=====>.....] - ETA: 1s
156 1280/1506 [=====>.....] - ETA: 1s
157 1312/1506 [=====>....] - ETA: 1s
158 1344/1506 [=====>....] - ETA: 1s
159 1376/1506 [=====>...] - ETA: 0s
160 1408/1506 [=====>..] - ETA: 0s
161 1440/1506 [=====>..] - ETA: 0s
162 1472/1506 [=====>.] - ETA: 0s
163 1504/1506 [=====>.] - ETA: 0s
164 1506/1506 [=====] - 10s 7ms/step
165 ['loss', 'acc']
166 [0.34391784096064953, 0.8711819389110226]
167 Ahora vamos a dibujar la matriz de confusion
168 ['benign', 'prealignant', 'malignant']
169 Normalized confusion matrix
170 [[0.78926441 0.1888668 0.02186879]
171  [0.14940239 0.83864542 0.01195219]
172  [0.01397206 0.          0.98602794]]
173 El entrenamiento ha llevado : 2142.791204214096
174
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