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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=53793
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 ISBINARY: True
12 tipo
13 benign          2510
14 malignant       2510
15 premalignant    2510
16 dtype: int64
17 Valid gen: Img leidas= 0
18 Valid gen: Img leidas= 100
19 Valid gen: Img leidas= 200
20 Valid gen: Img leidas= 300
21 Valid gen: Img leidas= 400
22 Valid gen: Img leidas= 500
23 Valid gen: Img leidas= 600
24 Valid gen: Img leidas= 700
25 Valid gen: Img leidas= 800
26 Valid gen: Img leidas= 900
27 Valid gen: Img leidas= 1000
28 Valid gen: Img leidas= 1100
29 Valid gen: Img leidas= 1200
30 Creando modelo y compilandolo
31 2019-04-27 17:44:58.317978: I tensorflow/core/platform/
  cpu_feature_guard.cc:141] Your CPU supports instructions
  that this TensorFlow binary was not compiled to use: AVX2
32 2019-04-27 17:44:58.558282: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1432] Found device 0 with
  properties:
33 name: GeForce GTX 1070 major: 6 minor: 1 memoryClockRate(
  GHz): 1.835
```

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34 pciBusID: 0000:26:00.0
35 totalMemory: 8.00GiB freeMemory: 6.64GiB
36 2019-04-27 17:44:58.558469: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu
  devices: 0
37 2019-04-27 17:45:01.109133: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:982] Device interconnect
  StreamExecutor with strength 1 edge matrix:
38 2019-04-27 17:45:01.109238: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:988]      0
39 2019-04-27 17:45:01.109291: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1001] 0:    N
40 2019-04-27 17:45:01.126549: 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)
41 Se comienza el entrenamiento del modelo
42 ['loss', 'acc']
43 Epoch 1/40
44   - 65s - loss: 0.7060 - acc: 0.6833 - val_loss: 5.0684 -
  val_acc: 0.4158
45 Epoch 2/40
46   - 68s - loss: 0.5271 - acc: 0.7490 - val_loss: 0.5461 -
  val_acc: 0.7286
47 Epoch 3/40
48   - 62s - loss: 0.4861 - acc: 0.7823 - val_loss: 0.5932 -
  val_acc: 0.8133
49 Epoch 4/40
50   - 59s - loss: 0.4244 - acc: 0.8135 - val_loss: 0.4842 -
  val_acc: 0.7718
51 Epoch 5/40
52   - 56s - loss: 0.4134 - acc: 0.8198 - val_loss: 0.4185 -
  val_acc: 0.8257
53 Epoch 6/40
54   - 82s - loss: 0.3787 - acc: 0.8365 - val_loss: 0.4553 -
  val_acc: 0.8058
55 Epoch 7/40
56   - 53s - loss: 0.3912 - acc: 0.8323 - val_loss: 0.4973 -
  val_acc: 0.7876
57 Epoch 8/40
58   - 49s - loss: 0.3507 - acc: 0.8646 - val_loss: 0.4295 -
  val_acc: 0.8224
59 Epoch 9/40
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60 - 57s - loss: 0.3638 - acc: 0.8427 - val_loss: 0.3945 -  
    val_acc: 0.8382  
61 Epoch 10/40  
62 - 51s - loss: 0.3095 - acc: 0.8823 - val_loss: 0.3850 -  
    val_acc: 0.8307  
63 Epoch 11/40  
64 - 51s - loss: 0.3057 - acc: 0.8906 - val_loss: 0.3698 -  
    val_acc: 0.8290  
65 Epoch 12/40  
66 - 55s - loss: 0.2783 - acc: 0.8979 - val_loss: 0.5629 -  
    val_acc: 0.8091  
67 Epoch 13/40  
68 - 53s - loss: 0.3164 - acc: 0.8698 - val_loss: 0.6784 -  
    val_acc: 0.7552  
69 Epoch 14/40  
70 - 63s - loss: 0.2801 - acc: 0.8917 - val_loss: 0.3739 -  
    val_acc: 0.8440  
71 Epoch 15/40  
72 - 60s - loss: 0.2407 - acc: 0.9052 - val_loss: 0.4933 -  
    val_acc: 0.8100  
73 Epoch 16/40  
74 - 51s - loss: 0.2315 - acc: 0.9135 - val_loss: 0.3669 -  
    val_acc: 0.8730  
75 Epoch 17/40  
76 - 63s - loss: 0.2240 - acc: 0.9125 - val_loss: 0.7736 -  
    val_acc: 0.6614  
77 Epoch 18/40  
78 - 51s - loss: 0.2125 - acc: 0.9094 - val_loss: 0.5054 -  
    val_acc: 0.8423  
79 Epoch 19/40  
80 - 53s - loss: 0.2156 - acc: 0.9167 - val_loss: 0.5021 -  
    val_acc: 0.8249  
81 Epoch 20/40  
82 - 61s - loss: 0.2293 - acc: 0.9281 - val_loss: 0.5377 -  
    val_acc: 0.8282  
83 Epoch 21/40  
84 - 57s - loss: 0.1995 - acc: 0.9219 - val_loss: 0.6320 -  
    val_acc: 0.8083  
85  
86 Epoch 00021: ReduceLROnPlateau reducing learning rate to  
    0.000200000000949949026.  
87 Epoch 22/40  
88 - 59s - loss: 0.1554 - acc: 0.9417 - val_loss: 0.4644 -  
    val_acc: 0.8432  
89 Epoch 23/40
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90 - 62s - loss: 0.1539 - acc: 0.9448 - val_loss: 0.3560 -  
    val_acc: 0.8689  
91 Epoch 24/40  
92 - 60s - loss: 0.1471 - acc: 0.9448 - val_loss: 0.3205 -  
    val_acc: 0.8846  
93 Epoch 25/40  
94 - 56s - loss: 0.1314 - acc: 0.9448 - val_loss: 0.3235 -  
    val_acc: 0.8680  
95 Epoch 26/40  
96 - 57s - loss: 0.0982 - acc: 0.9615 - val_loss: 0.3404 -  
    val_acc: 0.8739  
97 Epoch 27/40  
98 - 99s - loss: 0.1094 - acc: 0.9646 - val_loss: 0.3148 -  
    val_acc: 0.8813  
99 Epoch 28/40  
100 - 56s - loss: 0.0626 - acc: 0.9833 - val_loss: 0.3048 -  
    val_acc: 0.8863  
101 Epoch 29/40  
102 - 59s - loss: 0.0736 - acc: 0.9792 - val_loss: 0.3268 -  
    val_acc: 0.8846  
103 Epoch 30/40  
104 - 52s - loss: 0.0781 - acc: 0.9698 - val_loss: 0.3331 -  
    val_acc: 0.8805  
105 Epoch 31/40  
106 - 57s - loss: 0.0758 - acc: 0.9771 - val_loss: 0.3275 -  
    val_acc: 0.8863  
107 Epoch 32/40  
108 - 55s - loss: 0.0624 - acc: 0.9781 - val_loss: 0.3348 -  
    val_acc: 0.8888  
109 Epoch 33/40  
110 - 56s - loss: 0.0653 - acc: 0.9750 - val_loss: 0.3515 -  
    val_acc: 0.8813  
111  
112 Epoch 00033: ReduceLROnPlateau reducing learning rate to  
    2.0000000949949027e-05.  
113 Epoch 34/40  
114 - 53s - loss: 0.0415 - acc: 0.9885 - val_loss: 0.3424 -  
    val_acc: 0.8880  
115 Epoch 35/40  
116 - 59s - loss: 0.0566 - acc: 0.9771 - val_loss: 0.3413 -  
    val_acc: 0.8846  
117 Epoch 36/40  
118 - 57s - loss: 0.0790 - acc: 0.9719 - val_loss: 0.3393 -  
    val_acc: 0.8888  
119 Epoch 37/40
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120 - 54s - loss: 0.0424 - acc: 0.9906 - val_loss: 0.3399 -  
    val_acc: 0.8871  
121 Epoch 38/40  
122 - 55s - loss: 0.0430 - acc: 0.9854 - val_loss: 0.3389 -  
    val_acc: 0.8896  
123  
124 Epoch 00038: ReduceLROnPlateau reducing learning rate to  
    2.0000001313746906e-06.  
125 Entrenamiento completado, se procede al test final  
126  
127 32/1506 [.....] - ETA: 5s  
128 64/1506 [>.....] - ETA: 5s  
129 96/1506 [>.....] - ETA: 5s  
130 128/1506 [=>.....] - ETA: 4s  
131 160/1506 [==>.....] - ETA: 4s  
132 192/1506 [==>.....] - ETA: 4s  
133 224/1506 [===>.....] - ETA: 4s  
134 256/1506 [===>.....] - ETA: 4s  
135 288/1506 [===>.....] - ETA: 4s  
136 320/1506 [====>.....] - ETA: 3s  
137 352/1506 [====>.....] - ETA: 3s  
138 384/1506 [====>.....] - ETA: 3s  
139 416/1506 [====>.....] - ETA: 3s  
140 448/1506 [====>.....] - ETA: 3s  
141 480/1506 [====>.....] - ETA: 3s  
142 512/1506 [====>.....] - ETA: 3s  
143 544/1506 [====>.....] - ETA: 3s  
144 576/1506 [====>.....] - ETA: 3s  
145 608/1506 [====>.....] - ETA: 2s  
146 640/1506 [====>.....] - ETA: 2s  
147 672/1506 [====>.....] - ETA: 2s  
148 704/1506 [====>.....] - ETA: 2s  
149 736/1506 [====>.....] - ETA: 2s  
150 768/1506 [====>.....] - ETA: 2s  
151 800/1506 [====>.....] - ETA: 2s  
152 832/1506 [====>.....] - ETA: 2s  
153 864/1506 [====>.....] - ETA: 2s  
154 896/1506 [====>.....] - ETA: 2s  
155 928/1506 [====>.....] - ETA: 1s  
156 960/1506 [====>.....] - ETA: 1s  
157 992/1506 [====>.....] - ETA: 1s  
158 1024/1506 [====>.....] - ETA: 1s  
159 1056/1506 [====>.....] - ETA: 1s  
160 1088/1506 [====>.....] - ETA: 1s  
161 1120/1506 [====>.....] - ETA: 1s
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162 1152/1506 [=====>.....] - ETA: 1s
163 1184/1506 [=====>.....] - ETA: 1s
164 1216/1506 [=====>.....] - ETA: 0s
165 1248/1506 [=====>.....] - ETA: 0s
166 1280/1506 [=====>.....] - ETA: 0s
167 1312/1506 [=====>....] - ETA: 0s
168 1344/1506 [=====>....] - ETA: 0s
169 1376/1506 [=====>...] - ETA: 0s
170 1408/1506 [=====>..] - ETA: 0s
171 1440/1506 [=====>..] - ETA: 0s
172 1472/1506 [=====>.] - ETA: 0s
173 1504/1506 [=====>.] - ETA: 0s
174 1506/1506 [=====] - 5s 4ms/step
175 ['loss', 'acc']
176 [0.27958729077170136, 0.8877822045152722]
177 Ahora vamos a dibujar la matriz de confusion
178 ['benign', 'prealignant', 'malignant']
179 Normalized confusion matrix
180 [[0.88308977 0.10229645 0.01461378]
181  [0.19961612 0.79270633 0.00767754]
182  [0.00988142 0.          0.99011858]]
183 El entrenamiento ha llevado : 2453.185046672821
184
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