```
[0]     validation_0-error:0.447368
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.5
[2]     validation_0-error:0.552632
[3]     validation_0-error:0.447368
[4]     validation_0-error:0.394737
[5]     validation_0-error:0.421053
[6]     validation_0-error:0.421053
[7]     validation_0-error:0.394737
[8]     validation_0-error:0.394737
[9]     validation_0-error:0.394737
Stopping. Best iteration:
[4]     validation_0-error:0.394737


[0]     validation_0-error:0.105263
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.105263
[2]     validation_0-error:0.105263
[3]     validation_0-error:0.131579
[4]     validation_0-error:0.131579
[5]     validation_0-error:0.131579
Stopping. Best iteration:
[0]     validation_0-error:0.105263


[0]     validation_0-error:0.289474
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.210526
[2]     validation_0-error:0.236842
[3]     validation_0-error:0.210526
[4]     validation_0-error:0.210526
[5]     validation_0-error:0.210526
[6]     validation_0-error:0.236842
Stopping. Best iteration:
[1]     validation_0-error:0.210526


[0]     validation_0-error:0.184211
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.184211
[2]     validation_0-error:0.210526
[3]     validation_0-error:0.184211
[4]     validation_0-error:0.157895
[5]     validation_0-error:0.157895
[6]     validation_0-error:0.184211
[7]     validation_0-error:0.184211
[8]     validation_0-error:0.184211
[9]     validation_0-error:0.184211
Stopping. Best iteration:
[4]     validation_0-error:0.157895


[0]     validation_0-error:0.157895
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.131579
[2]     validation_0-error:0.157895
[3]     validation_0-error:0.157895
[4]     validation_0-error:0.157895
[5]     validation_0-error:0.157895
[6]     validation_0-error:0.157895
Stopping. Best iteration:
[1]     validation_0-error:0.131579
```

```
[0]     validation_0-error:0.263158
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.263158
[2]     validation_0-error:0.236842
[3]     validation_0-error:0.263158
[4]     validation_0-error:0.263158
[5]     validation_0-error:0.236842
[6]     validation_0-error:0.210526
[7]     validation_0-error:0.236842
[8]     validation_0-error:0.236842
[9]     validation_0-error:0.263158
[10]    validation_0-error:0.236842
[11]    validation_0-error:0.236842
Stopping. Best iteration:
[6]     validation_0-error:0.210526

[0]     validation_0-error:0.394737
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.368421
[2]     validation_0-error:0.342105
[3]     validation_0-error:0.368421
[4]     validation_0-error:0.368421
[5]     validation_0-error:0.342105
[6]     validation_0-error:0.315789
[7]     validation_0-error:0.315789
[8]     validation_0-error:0.315789
[9]     validation_0-error:0.315789
[10]    validation_0-error:0.315789
[11]    validation_0-error:0.315789
Stopping. Best iteration:
[6]     validation_0-error:0.315789

[0]     validation_0-error:0.184211
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.236842
[2]     validation_0-error:0.263158
[3]     validation_0-error:0.263158
[4]     validation_0-error:0.236842
[5]     validation_0-error:0.236842
Stopping. Best iteration:
[0]     validation_0-error:0.184211

[0]     validation_0-error:0.236842
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.289474
[2]     validation_0-error:0.263158
[3]     validation_0-error:0.263158
[4]     validation_0-error:0.263158
[5]     validation_0-error:0.236842
Stopping. Best iteration:
[0]     validation_0-error:0.236842

[0]     validation_0-error:0.315789
Will train until validation_0-error hasn't improved in 5 rounds.
[1]     validation_0-error:0.289474
[2]     validation_0-error:0.236842
[3]     validation_0-error:0.289474
[4]     validation_0-error:0.263158
[5]     validation_0-error:0.263158
[6]     validation_0-error:0.289474
[7]     validation_0-error:0.289474
Stopping. Best iteration:
```

```
[2]      validation_0-error:0.236842

best score: 0.236842, best iteration: 2, best ntree limit 3
[[14  5]
 [11  8]]


Scores: [0.64888568]
Mean: 0.649
Std: 0.000
[[18  3]
 [ 3 14]]


Scores: [0.64888568 0.39735971]
Mean: 0.523
Std: 0.126
[[20  3]
 [ 6  9]]


Scores: [0.64888568 0.39735971 0.48666426]
Mean: 0.511
Std: 0.104
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
[[15  3]
 [ 3 17]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971]
Mean: 0.483
Std: 0.103
[[19  5]
 [ 2 12]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971 0.42919754]
Mean: 0.472
Std: 0.094
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
[[15  5]
 [ 5 13]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971 0.42919754 0.51298918]
Mean: 0.479
Std: 0.087
```

```
[[16  2]
 [10 10]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971 0.42919754 0.51298918
 0.56195149]
Mean: 0.491
Std: 0.086
[[14  5]
 [ 4 15]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971 0.42919754 0.51298918
 0.56195149 0.48666426]
Mean: 0.490
Std: 0.080
[[13  5]
 [ 4 16]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971 0.42919754 0.51298918
 0.56195149 0.48666426 0.48666426]
Mean: 0.490
Std: 0.076
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:143: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
[[16  3]
 [ 8 11]]


Scores: [0.64888568 0.39735971 0.48666426 0.39735971 0.42919754 0.51298918
 0.56195149 0.48666426 0.48666426 0.53802759]
Mean: 0.495
Std: 0.073
Acertos  de Vitória:125/164 - 76.22%
Acertos de "não vitória":160/216 - 74.07%
```

In [**59**]: