

Logistic regression

Full Dataset

```
Test set evaluation:
[[1199 261]
 [ 147 839]]
      precision    recall  f1-score   support

     0       0.89      0.82      0.85      1460
     1       0.76      0.85      0.80       986

   accuracy              0.83      2446
  macro avg       0.83      0.84      0.83      2446
 weighted avg     0.84      0.83      0.83      2446

Validation set evaluation:
[[1207 255]
 [ 132 413]]
      precision    recall  f1-score   support

     0       0.90      0.83      0.86      1462
     1       0.62      0.76      0.68       545

   accuracy              0.81      2007
  macro avg       0.76      0.79      0.77      2007
 weighted avg     0.82      0.81      0.81      2007
```

Without dummies and coordinates

```
Test set evaluation:
[[836 624]
 [ 85 901]]
      precision    recall  f1-score   support

     0       0.91      0.57      0.70      1460
     1       0.59      0.91      0.72       986

   accuracy              0.71      2446
  macro avg       0.75      0.74      0.71      2446
 weighted avg     0.78      0.71      0.71      2446

Validation set evaluation:
[[868 594]
 [ 84 461]]
      precision    recall  f1-score   support

     0       0.91      0.59      0.72      1462
     1       0.44      0.85      0.58       545

   accuracy              0.66      2007
  macro avg       0.67      0.72      0.65      2007
 weighted avg     0.78      0.66      0.68      2007
```

Without profiles

```
Test set evaluation:
[[1389 70]
 [ 96 890]]
      precision    recall  f1-score   support

     0       0.94      0.95      0.94      1459
     1       0.93      0.90      0.91       986

   accuracy              0.93      2445
  macro avg       0.93      0.93      0.93      2445
 weighted avg     0.93      0.93      0.93      2445

Validation set evaluation:
[[1345 116]
 [ 74 471]]
      precision    recall  f1-score   support

     0       0.95      0.92      0.93      1461
     1       0.80      0.86      0.83       545

   accuracy              0.91      2006
  macro avg       0.88      0.89      0.88      2006
 weighted avg     0.91      0.91      0.91      2006
```

Random forest

Full Dataset

```
Test set evaluation:
[[1377  83]
 [ 101 885]]
      precision    recall  f1-score   support

     0       0.93      0.94      0.94      1460
     1       0.91      0.90      0.91       986

 accuracy      0.92
 macro avg      0.92
 weighted avg    0.92

Validation set evaluation:
[[1370  92]
 [  71 474]]
      precision    recall  f1-score   support

     0       0.95      0.94      0.94      1462
     1       0.84      0.87      0.85       545

 accuracy      0.92
 macro avg      0.89
 weighted avg    0.92
```

Without dummies and coordinates

```
Test set evaluation:
[[1316 144]
 [ 125 861]]
      precision    recall  f1-score   support

     0       0.91      0.90      0.91      1460
     1       0.86      0.87      0.86       986

 accuracy      0.89
 macro avg      0.88
 weighted avg    0.89

Validation set evaluation:
[[1330 132]
 [ 125 420]]
      precision    recall  f1-score   support

     0       0.91      0.91      0.91      1462
     1       0.76      0.77      0.77       545

 accuracy      0.87
 macro avg      0.84
 weighted avg    0.87
```

Without profiles

```
Test set evaluation:
[[1373  86]
 [  74 912]]
      precision    recall  f1-score   support

     0       0.95      0.94      0.94      1459
     1       0.91      0.92      0.92       986

 accuracy      0.93
 macro avg      0.93
 weighted avg    0.93

Validation set evaluation:
[[1294 167]
 [  51 494]]
      precision    recall  f1-score   support

     0       0.96      0.89      0.92      1461
     1       0.75      0.91      0.82       545

 accuracy      0.89
 macro avg      0.85
 weighted avg    0.90
```

Neural network

Full Dataset

```
Evaluation for batch_size=64, epochs=10, learning_rate=0.01:
Test set evaluation:
[[1327 133]
 [ 114 872]]
      precision    recall  f1-score   support

     0       0.92      0.91      0.91      1460
     1       0.87      0.88      0.88       986

 accuracy          0.90      2446
 macro avg       0.89      0.90      0.90      2446
 weighted avg    0.90      0.90      0.90      2446

63/63 [=====] - 1s 9ms/step
Validation set evaluation:
[[1334 128]
 [  95 450]]
      precision    recall  f1-score   support

     0       0.93      0.91      0.92      1462
     1       0.78      0.83      0.80       545

 accuracy          0.89      2007
 macro avg       0.86      0.87      0.86      2007
 weighted avg    0.89      0.89      0.89      2007
```

Without dummies and coordinates

```
Evaluation for batch_size=64, epochs=20, learning_rate=0.001:
Test set evaluation:
[[1334 126]
 [ 118 868]]
      precision    recall  f1-score   support

     0       0.92      0.91      0.92      1460
     1       0.87      0.88      0.88       986

 accuracy          0.90      2446
 macro avg       0.90      0.90      0.90      2446
 weighted avg    0.90      0.90      0.90      2446

63/63 [=====] - 0s 1ms/step
Validation set evaluation:
[[1328 134]
 [ 131 414]]
      precision    recall  f1-score   support

     0       0.91      0.91      0.91      1462
     1       0.76      0.76      0.76       545

 accuracy          0.87      2007
 macro avg       0.83      0.83      0.83      2007
 weighted avg    0.87      0.87      0.87      2007
```

Without profiles

```
Evaluation for batch_size=16, epochs=20, learning_rate=0.01:
Test set evaluation:
[[1373 86]
 [  91 895]]
      precision    recall  f1-score   support

     0       0.94      0.94      0.94      1459
     1       0.91      0.91      0.91       986

 accuracy          0.93      2445
 macro avg       0.93      0.92      0.92      2445
 weighted avg    0.93      0.93      0.93      2445

63/63 [=====] - 0s 1ms/step
Validation set evaluation:
[[1320 141]
 [ 100 445]]
      precision    recall  f1-score   support

     0       0.93      0.90      0.92      1461
     1       0.76      0.82      0.79       545

 accuracy          0.88      2006
 macro avg       0.84      0.86      0.85      2006
 weighted avg    0.88      0.88      0.88      2006
```