Copyright (c) 2019-2022 Brainome, Inc. All Rights Reserved.

Licensed to: Leo Milea (Evaluation)

Expiration Date: 2022-07-31 79 days left

Maximum File Size: 30 GB

Maximum Instances: unlimited

Maximum Attributes: unlimited

Maximum Classes: unlimited

Connected to: daimensions.brainome.ai (local execution)

**Command:**

brainome -f NN -e4 -split 90 -o gen\_e4\_s90.py train\_data.csv

Start Time: 05/13/2022, 16:04 PDT

**Pre-training Measurements**

Data:

Input: train\_data.csv

Target Column: 1.000000000000000000e+00

Number of instances: 5007

Number of attributes: 12288 out of 12288

Number of classes: 2

Class Balance:

1.000000000000000000e+00: 77.77%

0.000000000000000000e+00: 22.23%

Learnability:

Best guess accuracy: 77.77%

Data Sufficiency: Maybe enough data to generalize. [yellow]

Capacity Progression at [ 5%, 10%, 20%, 40%, 80%, 100% ]

8, 9, 10, 10, 11, 11

RF NN DT SVM

------ ------ ------ ------

Expected Training Accuracy: 100.00% ---- 100.00% ----

Expected Validation Accuracy: 93.77% ---- 66.65% ----

Recommendations:

Warning: Attribute count greater than number of instances. Collect more data to get better results.

**Predictor:**

Classifier Type: Neural Network

System Type: Binary classifier

Training / Validation Split: 90% : 10%

Accuracy:

Best-guess accuracy: 77.77%

Training accuracy: 92.94% (4187/4505 correct)

Validation Accuracy: 92.62% (465/502 correct)

Combined Model Accuracy: 92.90% (4652/5007 correct)

Model Capacity (MEC): 71 bits

Generalization Ratio: 45.06 bits/bit

Percent of Data Memorized: 4.91%

Resilience to Noise: -1.77 dB

Training Confusion Matrix:

Actual | Predicted

------ | ---------

1.000000000000000000e+00 | 3380 124

0.000000000000000000e+00 | 194 807

Validation Confusion Matrix:

Actual | Predicted

------ | ---------

1.000000000000000000e+00 | 375 15

0.000000000000000000e+00 | 22 90

Training Accuracy by Class:

1.000000000000000000e+00 | TP FP TN FN TPR TNR PPV NPV F1 TS

------------------------ | ----- ----- ----- ----- -------- -------- -------- -------- -------- --------

1.000000000000000000e+00 | 3380 194 807 124 96.46% 80.62% 94.57% 86.68% 95.51% 91.40%

0.000000000000000000e+00 | 807 124 3380 194 80.62% 96.46% 86.68% 94.57% 83.54% 71.73%

Validation Accuracy by Class:

1.000000000000000000e+00 | TP FP TN FN TPR TNR PPV NPV F1 TS

------------------------ | ----- ----- ----- ----- -------- -------- -------- -------- -------- --------

1.000000000000000000e+00 | 375 22 90 15 96.15% 80.36% 94.46% 85.71% 95.30% 91.02%

0.000000000000000000e+00 | 90 15 375 22 80.36% 96.15% 85.71% 94.46% 82.95% 70.87%

**Messages:**

Writing NN predictor file gen\_e4\_s90.py

End Time: 05/13/2022, 17:38 PDT

Runtime Duration: 1h 33m 57s