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

Licensed to: Leo Milea (Evaluation)

Expiration Date: 2022-07-31 80 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 -e5 -o gen0.py train\_data.csv

Start Time: 05/12/2022, 22:29 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: 60% : 40%

Accuracy:

Best-guess accuracy: 77.77%

Training accuracy: 99.80% (2997/3003 correct)

Validation Accuracy: 93.46% (1873/2004 correct)

Combined Model Accuracy: 97.26% (4870/5007 correct)

Model Capacity (MEC): 24581 bits

Generalization Ratio: 0.09 bits/bit

Percent of Data Memorized: 2411.21%

Resilience to Noise: 0.92 dB

Training Confusion Matrix:

Actual | Predicted

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

1.000000000000000000e+00 | 2330 6

0.000000000000000000e+00 | 0 667

Validation Confusion Matrix:

Actual | Predicted

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

1.000000000000000000e+00 | 1507 51

0.000000000000000000e+00 | 80 366

Training Accuracy by Class:

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

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

1.000000000000000000e+00 | 2330 0 667 6 99.74% 100.00% 100.00% 99.11% 99.87% 99.74%

0.000000000000000000e+00 | 667 6 2330 0 100.00% 99.74% 99.11% 100.00% 99.55% 99.11%

Validation Accuracy by Class:

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

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

1.000000000000000000e+00 | 1507 80 366 51 96.73% 82.06% 94.96% 87.77% 95.83% 92.00%

0.000000000000000000e+00 | 366 51 1507 80 82.06% 96.73% 87.77% 94.96% 84.82% 73.64%

**Messages:**

Writing NN predictor file gen0.py

End Time: 05/13/2022, 00:30 PDT

Runtime Duration: 2h 1m 12s