OPTIMIZED

```
tree= 0, node= 1, feature=15, thr= 21.57, gain=0.621424
tree= 0, node= 2, feature= 4, thr= 41.18, gain=0.587628
tree= 0, node= 3, feature=13, thr= 58.82, gain=0.697235
tree= 0, node= 4, feature= 9, thr= 15.69, gain=0.670083
tree= 0, node= 5, feature=10, thr= 39.22, gain=0.629044
tree= 0, node= 6, feature= 0, thr= 35.29, gain=0.712500
tree= 0, node= 7, feature= 8, thr= 56.86, gain=0.814218
tree= 0, node= 8, feature=14, thr= 60.78, gain=0.475710
tree= 0, node= 9, feature= 5, thr= 64.71, gain=0.620325
tree= 0, node= 10, feature=14, thr= 37.25, gain=0.224713
tree= 0, node= 11, feature= 3, thr= 90.20, gain=0.686759
tree= 0, node= 12, feature=14, thr= 37.25, gain=0.281171
tree= 0, node= 13, feature=10, thr= 29.41, gain=0.584898
tree= 0, node= 14, feature=14, thr= 96.08, gain=0.737506
tree= 0, node= 15, feature= 7, thr= 24.33, gain=0.205385
tree= 0, node= 16, feature= 0, thr= 15.29, gain=0.027989
tree= 0, node= 17, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node= 18, feature=15, thr= 0.41, gain=0.188928
tree= 0, node= 19, feature= 9, thr= 61.25, gain=0.534899
tree= 0, node= 20, feature=12, thr= 30.06, gain=0.640257
tree= 0, node= 21, feature= 8, thr= 34.59, gain=0.140904
tree= 0, node= 22, feature= 6, thr= 72.55, gain=0.509615
tree= 0, node= 23, feature= 7, thr= 72.10, gain=0.392279
tree= 0, node= 24, feature= 1, thr= 77.86, gain=0.455976
tree= 0, node= 25, feature=13, thr= 14.78, gain=0.131381
tree= 0, node= 26, feature=15, thr= 31.02, gain=0.222560
tree= 0, node= 27, feature= 9, thr= 19.61, gain=0.464511
tree= 0, node= 28, feature=11, thr= 31.96, gain=0.157508
tree= 0, node= 29, feature=11, thr= 40.16, gain=0.293796
tree= 0, node= 30, feature= 2, thr= 54.90, gain=0.092930
tree= 0, node= 31, feature= 9, thr= 58.82, gain=0.918296
tree= 0, node= 32, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node= 33, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node= 36, feature= 7, thr= 67.25, gain=0.116556
tree= 0, node= 37, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 38, feature=14, thr= 25.49, gain=0.773412
tree= 0, node= 39, feature= 0, thr= 39.22, gain=0.206441
tree= 0, node= 40, feature=14, thr= 12.33, gain=0.290289
tree= 0, node= 41, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node= 42, feature= 9, thr= 1.43, gain=0.077936
tree= 0, node= 43, feature= 6, thr= 64.41, gain=0.272362
tree= 0, node= 44, feature=14, thr= 96.08, gain=0.341335
tree= 0, node= 45, feature= 1, thr= 82.35, gain=0.324193
tree= 0, node= 46, feature= 4, thr= 57.69, gain=0.225856
tree= 0, node= 47, feature= 6, thr= 68.63, gain=0.665237
```

```
tree= 0, node= 48, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 49, feature=13, thr= 10.06, gain=0.553376
tree= 0, node= 50, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node= 51, feature= 1, thr= 55.82, gain=0.050201
tree= 0, node= 52, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node= 53, feature= 0, thr= 53.41, gain=0.129949
tree= 0, node= 54, feature=15, thr= 68.37, gain=0.265884
tree= 0, node= 55, feature=10, thr= 66.47, gain=0.773029
tree= 0, node= 56, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 57, feature=12, thr= 21.57, gain=0.159034
tree= 0, node= 58, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 59, feature= 5, thr= 75.76, gain=0.022964
tree= 0, node= 60, feature= 6, thr= 96.08, gain=0.024998
tree= 0, node= 61, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 62, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 63, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 72, feature= 5, thr= 13.61, gain=0.035258
tree= 0, node= 73, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 76, feature= 6, thr= 50.51, gain=0.445567
tree= 0, node= 77, feature=10, thr= 60.78, gain=0.870504
tree= 0, node= 78, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node= 79, feature= 8, thr= 38.75, gain=0.054645
tree= 0, node= 80, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node= 81, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node= 84, feature= 8, thr= 18.67, gain=0.368566
tree= 0, node= 85, feature= 7, thr= 73.02, gain=0.050120
tree= 0, node= 86, feature=12, thr= 55.47, gain=0.324909
tree= 0, node= 87, feature= 8, thr= 48.86, gain=0.226467
tree= 0, node= 88, feature= 7, thr= 66.47, gain=0.308576
tree= 0, node= 89, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node= 90, feature= 5, thr= 15.69, gain=0.106446
tree= 0, node= 91, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 92, feature= 2, thr= 58.43, gain=0.769487
tree= 0, node= 93, feature= 2, thr= 93.25, gain=0.132334
tree= 0, node= 94, feature= 2, thr= 50.49, gain=0.336553
tree= 0, node= 95, feature= 0, thr= 54.90, gain=0.921380
tree= 0, node= 98, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node= 99, feature= 6, thr= 49.02, gain=0.497943
tree= 0, node=102, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=103, feature= 8, thr= 1.96, gain=0.036396
tree= 0, node=106, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=107, feature=14, thr= 1.96, gain=0.057144
tree= 0, node=108, feature= 4, thr= 62.75, gain=0.149994
tree= 0, node=109, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=110, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=111, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=114, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=115, feature= 1, thr= 25.49, gain=0.028970
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tree= 0, node=118, feature= 5, thr= 54.41, gain=0.007182
tree= 0, node=119, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=121, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=144, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=145, feature=13, thr= 6.57, gain=0.024443
tree= 0, node=152, feature=13, thr= 5.10, gain=0.498620
tree= 0, node=153, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=154, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=155, feature= 7, thr= 54.73, gain=0.349184
tree= 0, node=158, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=159, feature=12, thr= 50.59, gain=0.023714
tree= 0, node=168, feature= 8, thr= 11.29, gain=0.052314
tree= 0, node=169, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=170, feature= 9, thr= 5.45, gain=0.007149
tree= 0, node=171, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=172, feature= 2, thr= 37.82, gain=0.084994
tree= 0, node=173, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=174, feature= 0, thr= 73.33, gain=0.052965
tree= 0, node=175, feature=11, thr= 5.76, gain=0.537392
tree= 0, node=176, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=177, feature= 1, thr= 40.67, gain=0.321696
tree= 0, node=180, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=181, feature= 0, thr= 60.78, gain=0.098830
tree= 0, node=184, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=185, feature= 9, thr= 12.90, gain=0.714015
tree= 0, node=186, feature= 9, thr= 18.55, gain=0.126116
tree= 0, node=187, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=188, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=189, feature=13, thr= 18.24, gain=0.272659
tree= 0, node=190, feature=11, thr= 39.61, gain=0.721140
tree= 0, node=191, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=198, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=199, feature=15, thr= 59.12, gain=0.569961
tree= 0, node=206, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=207, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=214, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=215, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=216, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=217, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=230, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=231, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=236, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=237, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=290, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=291, feature= 7, thr= 18.08, gain=0.007701
tree= 0, node=304, feature= 2, thr= 5.29, gain=0.212659
tree= 0, node=305, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=310, feature= 3, thr= -1.00, gain=-1.000000
```

```
tree= 0, node=311, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=318, feature=13, thr= 29.12, gain=0.116048
tree= 0, node=319, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=336, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=337, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=340, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=341, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=344, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=345, feature= 0, thr= 40.00, gain=0.037966
tree= 0, node=348, feature= 0, thr= 7.06, gain=0.017756
tree= 0, node=349, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=350, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=351, feature=11, thr= 30.47, gain=0.268740
tree= 0, node=354, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=355, feature=15, thr= 6.27, gain=0.019428
tree= 0, node=362, feature= 8, thr= 23.10, gain=0.021367
tree= 0, node=363, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=370, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=371, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=372, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=373, feature=14, thr= 52.94, gain=0.059868
tree= 0, node=378, feature=15, thr= 14.33, gain=0.108283
tree= 0, node=379, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=380, feature= 2, thr= 60.75, gain=0.385816
tree= 0, node=381, feature= 2, thr= 45.18, gain=0.177389
tree= 0, node=398, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=399, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=582, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=583, feature= 9, thr= 82.67, gain=0.006832
tree= 0, node=608, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=609, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=636, feature= 6, thr= 19.41, gain=0.091175
tree= 0, node=637, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=690, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=691, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=696, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=697, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=702, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=703, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=710, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=711, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=724, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=725, feature=15, thr= 9.12, gain=0.021405
tree= 0, node=746, feature= 6, thr= 13.90, gain=0.017758
tree= 0, node=747, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=756, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=757, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=760, feature=14, thr= 49.02, gain=0.354715
```

```
tree= 0, node=761, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=762, feature=12, thr= 27.84, gain=0.049903
tree= 0, node=763, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=1166, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=1167, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=1272, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=1273, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=1450, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=1451, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=1492, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=1493, feature=14, thr= 22.43, gain=0.015375
tree= 0, node=1520, feature=12, thr= 41.71, gain=0.102042
tree= 0, node=1521, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=1524, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=1525, feature= 2, thr= 41.47, gain=0.067991
tree= 0, node=2986, feature= 2, thr= 86.53, gain=0.007728
tree= 0, node=2987, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=3040, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=3041, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=3050, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=3051, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=5972, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=5973, feature= 2, thr= -1.00, gain=-1.000000
classification accuracy=0.8814
```

Randomized

```
tree= 0, node= 1, feature= 3, thr= 92.16, gain=0.438164
tree= 0, node= 2, feature=13, thr= 58.82, gain=0.793301
tree= 0, node= 3, feature=14, thr= 41.18, gain=0.673764
tree= 0, node= 4, feature=15, thr= 1.76, gain=0.562572
tree= 0, node= 5, feature= 5, thr= 28.53, gain=0.188010
tree= 0, node= 6, feature= 8, thr= 50.98, gain=0.374339
tree= 0, node= 7, feature=15, thr= 21.57, gain=0.802815
tree= 0, node= 8, feature= 1, thr= 98.04, gain=0.738925
tree= 0, node= 9, feature=11, thr= 1.96, gain=0.169036
tree= 0, node= 10, feature= 2, thr= 25.49, gain=0.538281
tree= 0, node= 11, feature=12, thr= 56.86, gain=0.819211
tree= 0, node= 12, feature=14, thr= 1.61, gain=0.207696
tree= 0, node= 13, feature= 2, thr= 33.33, gain=0.092794
tree= 0, node= 14, feature=13, thr= 21.41, gain=0.468324
tree= 0, node= 15, feature= 4, thr= 45.10, gain=0.721512
tree= 0, node= 16, feature= 4, thr= 27.45, gain=0.197267
tree= 0, node= 17, feature= 9, thr= 11.76, gain=0.218416
tree= 0, node= 18, feature= 0, thr= 88.24, gain=0.706369
tree= 0, node= 19, feature= 2, thr= 72.55, gain=0.085061
tree= 0, node= 20, feature= 1, thr= 98.76, gain=0.018748
tree= 0, node= 21, feature= 6, thr= 70.59, gain=0.334270
tree= 0, node= 22, feature=13, thr= 82.31, gain=0.327929
tree= 0, node= 23, feature= 0, thr= 1.96, gain=0.051940
tree= 0, node= 24, feature= 1, thr= 83.00, gain=0.316022
tree= 0, node= 25, feature= 6, thr= 27.45, gain=0.754521
tree= 0, node= 26, feature=14, thr= 13.67, gain=0.468499
tree= 0, node= 27, feature= 2, thr= 89.65, gain=0.076002
tree= 0, node= 28, feature= 5, thr= 80.67, gain=0.051025
tree= 0, node= 29, feature= 3, thr= 99.04, gain=0.305259
tree= 0, node= 30, feature=13, thr= 41.04, gain=0.098611
tree= 0, node= 31, feature= 8, thr= 1.96, gain=0.163738
tree= 0, node= 32, feature=12, thr= 61.51, gain=0.076266
tree= 0, node= 33, feature= 7, thr= 84.90, gain=0.048301
tree= 0, node= 34, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node= 35, feature=15, thr= 0.02, gain=0.009644
tree= 0, node= 36, feature= 3, thr= 77.00, gain=0.281600
tree= 0, node= 37, feature= 5, thr= 61.02, gain=0.010087
tree= 0, node= 38, feature=10, thr= 33.33, gain=0.238173
tree= 0, node= 39, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 40, feature=11, thr= 98.75, gain=0.035955
tree= 0, node= 41, feature= 7, thr= 15.04, gain=0.038761
tree= 0, node= 42, feature=15, thr= 90.88, gain=0.323384
tree= 0, node= 43, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 44, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 45, feature= 9, thr= 22.78, gain=0.037376
tree= 0, node= 46, feature= 7, thr= -1.00, gain=-1.000000
```

```
tree= 0, node= 47, feature= 0, thr= 75.02, gain=0.044292
tree= 0, node= 48, feature= 3, thr= 99.04, gain=0.282667
tree= 0, node= 49, feature=11, thr= 22.55, gain=0.715580
tree= 0, node= 50, feature= 2, thr= 89.84, gain=0.138327
tree= 0, node= 51, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 52, feature= 0, thr= 39.69, gain=0.770448
tree= 0, node= 53, feature=12, thr= 58.59, gain=0.665558
tree= 0, node= 54, feature=14, thr= 18.49, gain=0.090706
tree= 0, node= 55, feature= 8, thr= 67.33, gain=0.287992
tree= 0, node= 56, feature=11, thr= 34.59, gain=0.023555
tree= 0, node= 57, feature=10, thr= 35.29, gain=0.153228
tree= 0, node= 58, feature=13, thr= 25.53, gain=0.270223
tree= 0, node= 59, feature= 6, thr= 31.37, gain=0.341389
tree= 0, node= 60, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 61, feature= 4, thr= 23.29, gain=0.042706
tree= 0, node= 62, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node= 63, feature= 2, thr= 32.53, gain=0.004115
tree= 0, node= 64, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 65, feature= 7, thr= 69.80, gain=0.626751
tree= 0, node= 66, feature= 0, thr= 37.25, gain=0.412878
tree= 0, node= 67, feature=11, thr= 54.76, gain=0.139925
tree= 0, node= 70, feature=13, thr= 18.00, gain=0.289377
tree= 0, node= 71, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node= 72, feature= 4, thr= 75.78, gain=0.520719
tree= 0, node= 73, feature=11, thr= 0.02, gain=0.084020
tree= 0, node= 74, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node= 75, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node= 76, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 77, feature=13, thr= 1.14, gain=0.699967
tree= 0, node= 80, feature= 5, thr= 15.37, gain=0.089652
tree= 0, node= 81, feature= 4, thr= 74.51, gain=0.069530
tree= 0, node= 82, feature=15, thr= 93.65, gain=0.044325
tree= 0, node= 83, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node= 84, feature= 2, thr= 42.12, gain=0.115649
tree= 0, node= 85, feature=14, thr= 64.71, gain=0.981714
tree= 0, node= 90, feature= 1, thr= 99.06, gain=0.010091
tree= 0, node= 91, feature= 7, thr= 1.12, gain=0.079490
tree= 0, node= 94, feature= 4, thr= 5.88, gain=0.876816
tree= 0, node= 95, feature= 6, thr= 19.61, gain=0.659086
tree= 0, node= 96, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node= 97, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node= 98, feature= 5, thr= 80.04, gain=0.445962
tree= 0, node= 99, feature= 6, thr= 64.71, gain=0.153581
tree= 0, node=100, feature= 3, thr= 96.02, gain=0.027936
tree= 0, node=101, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=104, feature= 3, thr= 94.10, gain=0.124295
tree= 0, node=105, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=106, feature= 6, thr= -1.00, gain=-1.000000
```

```
tree= 0, node=107, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=108, feature= 6, thr= 37.25, gain=0.253413
tree= 0, node=109, feature= 5, thr= 75.29, gain=0.633665
tree= 0, node=110, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=111, feature=13, thr= 13.25, gain=0.288142
tree= 0, node=112, feature=15, thr= 2.06, gain=0.046003
tree= 0, node=113, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=114, feature=11, thr= 1.65, gain=0.100616
tree= 0, node=115, feature= 1, thr= -1.00, gain=-1.000000
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tree= 0, node=117, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=118, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=119, feature= 0, thr= 64.71, gain=0.886145
tree= 0, node=122, feature=12, thr= 88.82, gain=0.440083
tree= 0, node=123, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=126, feature= 8, thr= 6.86, gain=0.116115
tree= 0, node=127, feature=11, thr= 15.06, gain=0.012745
tree= 0, node=130, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=131, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=132, feature= 9, thr= 64.61, gain=0.185189
tree= 0, node=133, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=134, feature= 1, thr= 75.10, gain=0.236706
tree= 0, node=135, feature= 3, thr= 69.76, gain=0.273779
tree= 0, node=140, feature=12, thr= 31.37, gain=0.644850
tree= 0, node=141, feature=11, thr= 49.53, gain=0.015861
tree= 0, node=144, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=145, feature= 1, thr= 50.08, gain=0.169747
tree= 0, node=146, feature=13, thr= 9.22, gain=0.993234
tree= 0, node=147, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=154, feature=10, thr= 69.80, gain=0.230666
tree= 0, node=155, feature=10, thr= 94.41, gain=0.015416
tree= 0, node=160, feature= 6, thr= 19.61, gain=0.261914
tree= 0, node=161, feature= 4, thr= 23.06, gain=0.830435
tree= 0, node=163, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=165, feature= 4, thr= -1.00, gain=-1.000000
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tree= 0, node=171, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=180, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=181, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=182, feature=10, thr= 39.22, gain=0.325082
tree= 0, node=183, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=188, feature=14, thr= 45.00, gain=0.013794
tree= 0, node=189, feature= 8, thr= 35.29, gain=0.085684
tree= 0, node=190, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=191, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=196, feature= 0, thr= 43.14, gain=0.552266
```

```
tree= 0, node=197, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=198, feature= 5, thr= 89.29, gain=0.230141
tree= 0, node=199, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=200, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=201, feature= 9, thr= 29.57, gain=0.181166
tree= 0, node=208, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=209, feature= 8, thr= 81.47, gain=0.066562
tree= 0, node=216, feature= 0, thr= 29.41, gain=0.472863
tree= 0, node=217, feature= 4, thr= 58.82, gain=0.575344
tree= 0, node=218, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=219, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=222, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=223, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=224, feature=10, thr= 42.16, gain=0.068723
tree= 0, node=225, feature= 5, thr= 65.18, gain=0.040222
tree= 0, node=228, feature=15, thr= 9.31, gain=0.042780
tree= 0, node=229, feature= 7, thr= 39.69, gain=0.045929
tree= 0, node=238, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=239, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=244, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=245, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=252, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=253, feature= 4, thr= 57.65, gain=0.079260
tree= 0, node=254, feature=11, thr= 0.29, gain=0.003631
tree= 0, node=255, feature= 2, thr= 60.59, gain=0.018848
tree= 0, node=264, feature= 9, thr= 55.04, gain=0.105940
tree= 0, node=265, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=268, feature=12, thr= 77.18, gain=0.021070
tree= 0, node=269, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=270, feature=13, thr= 20.51, gain=0.251645
tree= 0, node=271, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=280, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=281, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=282, feature= 3, thr= 82.12, gain=0.096010
tree= 0, node=283, feature= 1, thr= 99.02, gain=0.014711
tree= 0, node=290, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=291, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=292, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=293, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=308, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=309, feature= 2, thr= 36.71, gain=0.279851
tree= 0, node=310, feature= 8, thr= 72.55, gain=0.141618
tree= 0, node=311, feature= 4, thr= 43.14, gain=0.061742
tree= 0, node=320, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=322, feature= 4, thr= 16.39, gain=0.043505
tree= 0, node=323, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=364, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=365, feature= 0, thr= -1.00, gain=-1.000000
```

```
tree= 0, node=377, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=378, feature=14, thr= 78.24, gain=0.061735
tree= 0, node=379, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=392, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=393, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=396, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=397, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=402, feature= 9, thr= 8.53, gain=0.026117
tree= 0, node=403, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=418, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=419, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=432, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=433, feature=10, thr= 91.88, gain=0.184338
tree= 0, node=434, feature=12, thr= 46.88, gain=0.136384
tree= 0, node=435, feature= 4, thr= 70.25, gain=0.100210
tree= 0, node=448, feature= 7, thr= 36.88, gain=0.011006
tree= 0, node=449, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=450, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=451, feature=15, thr= 13.04, gain=0.074659
tree= 0, node=456, feature=15, thr= 7.06, gain=0.010977
tree= 0, node=457, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=458, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=459, feature= 4, thr= 1.96, gain=0.033381
tree= 0, node=506, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=507, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=508, feature= 7, thr= 49.53, gain=0.010307
tree= 0, node=509, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=510, feature= 4, thr= 51.16, gain=0.026015
tree= 0, node=511, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=528, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=529, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=536, feature= 3, thr= 86.06, gain=0.032230
tree= 0, node=537, feature=15, thr= 0.00, gain=0.000000
tree= 0, node=540, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=541, feature=10, thr= 92.00, gain=0.272061
tree= 0, node=564, feature= 0, thr= 50.98, gain=0.021254
tree= 0, node=565, feature= 7, thr= 67.59, gain=0.637387
tree= 0, node=566, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=567, feature= 2, thr= 18.53, gain=0.007666
tree= 0, node=618, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=619, feature= 6, thr= 54.02, gain=0.410545
tree= 0, node=620, feature=15, thr= 55.71, gain=0.172037
tree= 0, node=621, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=622, feature=13, thr= 44.82, gain=0.037981
tree= 0, node=623, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=645, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=756, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=757, feature= 7, thr= -1.00, gain=-1.000000
```

```
tree= 0, node=804, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=805, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=866, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=867, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=868, feature=15, thr= 15.33, gain=0.117996
tree= 0, node=869, feature= 7, thr= 53.61, gain=0.220663
tree= 0, node=870, feature= 8, thr= 59.45, gain=0.235072
tree= 0, node=871, feature= 4, thr= 88.06, gain=0.023707
tree= 0, node=896, feature= 4, thr= 48.67, gain=0.012844
tree= 0, node=897, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=902, feature= 7, thr= 35.18, gain=0.142802
tree= 0, node=903, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=912, feature=13, thr= 8.20, gain=0.089751
tree= 0, node=913, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=918, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=919, feature= 8, thr= 71.53, gain=0.054551
tree= 0, node=1016, feature= 2, thr= 54.02, gain=0.027645
tree= 0, node=1017, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=1020, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=1021, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=1072, feature= 8, thr= 97.33, gain=0.027023
tree= 0, node=1073, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=1074, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=1075, feature=15, thr= 0.00, gain=0.000000
tree= 0, node=1082, feature= 1, thr= 61.14, gain=0.477469
tree= 0, node=1083, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=1128, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=1129, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=1130, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=1131, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=1134, feature= 6, thr= 98.24, gain=0.010790
tree= 0, node=1135, feature= 8, thr= 21.57, gain=0.030611
tree= 0, node=1238, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=1239, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=1240, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=1241, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=1244, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=1245, feature= 5, thr= -1.00, gain=-1.000000
tree= 0, node=1736, feature=11, thr= 22.12, gain=0.361147
tree= 0, node=1737, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=1738, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=1739, feature= 1, thr= 89.02, gain=0.021667
tree= 0, node=1740, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=1741, feature= 0, thr= 62.75, gain=0.843162
tree= 0, node=1742, feature= 9, thr= 1.24, gain=0.354666
tree= 0, node=1743, feature= 2, thr= 74.98, gain=0.057162
tree= 0, node=1792, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=1793, feature= 9, thr= 5.29, gain=0.012483
```

```
tree= 0, node=1804, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=1805, feature=15, thr= 6.14, gain=0.049410
tree= 0, node=1824, feature= 2, thr= 54.43, gain=0.334510
tree= 0, node=1825, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=1838, feature=13, thr= 3.29, gain=0.008017
tree= 0, node=1839, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=2032, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=2033, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=2144, feature=14, thr= 1.96, gain=0.020207
tree= 0, node=2145, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=2150, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=2151, feature= 4, thr= 65.35, gain=0.059177
tree= 0, node=2164, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=2165, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=2268, feature=10, thr= 97.96, gain=0.026060
tree= 0, node=2269, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=2270, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=2271, feature=15, thr= 0.00, gain=0.000000
tree= 0, node=3472, feature= 4, thr= -1.00, gain=-1.000000
tree= 0, node=3473, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=3478, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=3479, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=3482, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=3483, feature= 8, thr= -1.00, gain=-1.000000
tree= 0, node=3484, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node=3485, feature= 2, thr= 86.84, gain=0.029441
tree= 0, node=3486, feature=10, thr= 89.94, gain=0.024614
tree= 0, node=3487, feature=15, thr= 25.49, gain=0.193643
tree= 0, node=3586, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=3587, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=3610, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=3611, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=3648, feature=13, thr= 4.08, gain=0.021529
tree= 0, node=3649, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=3676, feature= 8, thr= 45.94, gain=0.030355
tree= 0, node=3677, feature= 5, thr= 88.08, gain=0.041720
tree= 0, node=4288, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=4289, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=4302, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=4303, feature=12, thr= 90.08, gain=0.039577
tree= 0, node=4536, feature=15, thr= 0.00, gain=0.000000
tree= 0, node=4537, feature=12, thr= 70.57, gain=0.148949
tree= 0, node=4542, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=4543, feature=12, thr= 53.20, gain=0.021837
tree= 0, node=6970, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=6971, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=6972, feature= 9, thr= 20.08, gain=0.236925
tree= 0, node=6973, feature= 8, thr= 71.18, gain=0.116204
```

```
tree= 0, node=6974, feature=10, thr= 76.35, gain=0.215384
tree= 0, node=6975, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=7296, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=7297, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=7352, feature= 4, thr= 51.06, gain=0.048531
tree= 0, node=7353, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=7354, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=7355, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=8606, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=8607, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=9072, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=9073, feature= 4, thr= 11.25, gain=0.005722
tree= 0, node=9074, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=9075, feature= 1, thr=100.00, gain=0.000000
tree= 0, node=9086, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=9087, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=13944, feature= 7, thr= -1.00, gain=-1.000000
tree= 0, node=13945, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=13946, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=13947, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=13948, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=13949, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=14704, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=14705, feature= 5, thr= 97.02, gain=0.036254
tree= 0, node=18146, feature= 8, thr= 94.04, gain=0.000425
tree= 0, node=18147, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=18150, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=18151, feature=14, thr= 58.57, gain=0.126505
tree= 0, node=29410, feature= 2, thr= 54.59, gain=0.033224
tree= 0, node=29411, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=36292, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=36293, feature=14, thr= 58.82, gain=0.021898
tree= 0, node=36302, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=36303, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=58820, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=58821, feature= 1, thr= -1.00, gain=-1.000000
tree= 0, node=72586, feature= 2, thr= 4.24, gain=0.011557
tree= 0, node=72587, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=145172, feature= 3, thr= -1.00, gain=-1.000000
tree= 0, node=145173, feature= 3, thr= -1.00, gain=-1.000000
classification accuracy=0.8047
```

Random Forest 3

```
tree= 0, node= 1, feature=11, thr= 35.29, gain=0.466267
tree= 0, node= 2, feature=14, thr= 45.10, gain=0.744144
tree= 0, node= 3, feature= 6, thr= 74.51, gain=0.272258
tree= 0, node= 4, feature= 9, thr= 24.41, gain=0.841756
tree= 0, node= 5, feature=10, thr= 68.63, gain=0.218689
tree= 0, node= 6, feature= 8, thr= 50.98, gain=0.652556
tree= 0, node= 7, feature=10, thr= 27.45, gain=0.197986
tree= 0, node= 8, feature= 7, thr= 36.00, gain=0.156031
tree= 0, node= 9, feature= 8, thr= 62.75, gain=0.245599
tree= 0, node= 10, feature= 6, thr= 49.02, gain=0.131784
tree= 0, node= 11, feature=11, thr= 10.29, gain=0.557158
tree= 0, node= 12, feature=15, thr= 66.67, gain=0.537112
tree= 0, node= 13, feature=12, thr= 67.33, gain=0.067246
tree= 0, node= 14, feature= 2, thr= 22.86, gain=0.253506
tree= 0, node= 15, feature= 7, thr= 72.55, gain=0.823486
tree= 0, node= 16, feature=13, thr= 57.16, gain=0.190641
tree= 0, node= 17, feature= 3, thr= 99.24, gain=0.129423
tree= 0, node= 18, feature= 7, thr= 80.67, gain=0.367185
tree= 0, node= 19, feature= 3, thr= 97.29, gain=0.210521
tree= 0, node= 20, feature=12, thr= 47.06, gain=0.451669
tree= 0, node= 21, feature= 7, thr= 42.25, gain=0.168533
tree= 0, node= 22, feature= 6, thr= -1.00, gain=-1.000000
tree= 0, node= 23, feature= 2, thr= 45.02, gain=0.296520
tree= 0, node= 24, feature=15, thr= 16.57, gain=0.650022
tree= 0, node= 25, feature= 6, thr= 1.45, gain=0.063664
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tree= 0, node=2500, feature= 2, thr= -1.00, gain=-1.000000
tree= 0, node=2501, feature= 6, thr= 40.37, gain=0.015871
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tree= 0, node=2658, feature=12, thr= 55.24, gain=0.120456
tree= 0, node=2659, feature= 1, thr= -1.00, gain=-1.000000
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tree= 0, node=3372, feature= 6, thr= 60.41, gain=0.029769
tree= 0, node=3373, feature= 3, thr= -1.00, gain=-1.000000
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tree= 0, node=8191, feature= 0, thr= -1.00, gain=-1.000000
tree= 0, node=9988, feature= 8, thr= -1.00, gain=-1.000000
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tree= 0, node=13061, feature= 4, thr= -1.00, gain=-1.000000
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tree= 1, node= 17, feature=10, thr= 60.78, gain=0.408619
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tree= 1, node= 20, feature= 7, thr= 27.00, gain=0.255216
tree= 1, node= 21, feature= 0, thr= 48.94, gain=0.381971
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tree= 1, node= 27, feature= 2, thr= 84.31, gain=0.446145
tree= 1, node= 28, feature= 7, thr= 34.78, gain=0.155759
tree= 1, node= 29, feature=14, thr= 45.10, gain=0.248322
tree= 1, node= 30, feature= 7, thr= 39.22, gain=0.907146
tree= 1, node= 31, feature= 6, thr= 72.55, gain=0.559351
tree= 1, node= 32, feature=12, thr= 50.98, gain=0.514468
tree= 1, node= 33, feature= 5, thr= 69.00, gain=0.079603
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tree= 1, node= 37, feature= 0, thr= 17.65, gain=0.095981
tree= 1, node= 38, feature=12, thr= 41.18, gain=0.106637
tree= 1, node= 39, feature= 6, thr= 48.24, gain=0.211148
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tree= 1, node= 49, feature=14, thr= 70.59, gain=0.277102
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tree= 1, node=154, feature= 6, thr= 41.18, gain=0.009298
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tree= 1, node=163, feature= 7, thr= -1.00, gain=-1.000000
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tree= 1, node=485, feature= 4, thr= -1.00, gain=-1.000000
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tree= 2, node=211, feature=13, thr= 15.69, gain=0.621630
tree= 2, node=224, feature= 2, thr= 56.37, gain=0.100483
tree= 2, node=225, feature= 4, thr= -1.00, gain=-1.000000
tree= 2, node=228, feature= 5, thr= 62.27, gain=0.345374
tree= 2, node=229, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=230, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=231, feature= 7, thr= 24.29, gain=0.524426
tree= 2, node=234, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=235, feature=15, thr= 87.37, gain=0.044321
tree= 2, node=240, feature= 2, thr= 25.49, gain=0.576123
tree= 2, node=241, feature=10, thr=100.00, gain=0.000000
tree= 2, node=242, feature= 0, thr= 79.29, gain=0.240609
tree= 2, node=243, feature=12, thr= 35.29, gain=0.138539
tree= 2, node=244, feature= 7, thr= 7.84, gain=0.999848
tree= 2, node=245, feature= 3, thr= -1.00, gain=-1.000000
tree= 2, node=246, feature=11, thr= 67.47, gain=0.366253
tree= 2, node=247, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=248, feature=14, thr= 0.02, gain=0.011453
```

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tree= 2, node=249, feature= 1, thr= 68.63, gain=0.192808
tree= 2, node=250, feature=11, thr= 74.51, gain=0.558703
tree= 2, node=251, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=252, feature= 8, thr= 73.47, gain=0.436749
tree= 2, node=253, feature=12, thr= 32.67, gain=0.623880
tree= 2, node=254, feature= 9, thr= 39.22, gain=0.378959
tree= 2, node=255, feature= 2, thr= 25.41, gain=0.376421
tree= 2, node=256, feature=12, thr= 47.41, gain=0.069854
tree= 2, node=257, feature= 7, thr= 69.35, gain=0.111910
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tree= 2, node=259, feature=15, thr= 0.00, gain=0.000000
tree= 2, node=260, feature= 2, thr= -1.00, gain=-1.000000
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tree= 2, node=267, feature= 8, thr= -1.00, gain=-1.000000
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tree= 2, node=299, feature= 4, thr= -1.00, gain=-1.000000
tree= 2, node=308, feature=15, thr= 18.06, gain=0.051483
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tree= 2, node=323, feature= 5, thr= -1.00, gain=-1.000000
tree= 2, node=344, feature= 0, thr= 54.90, gain=0.225838
tree= 2, node=345, feature= 6, thr= 76.47, gain=0.150032
tree= 2, node=356, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=357, feature= 0, thr= 47.06, gain=0.173295
tree= 2, node=358, feature= 0, thr= 23.53, gain=0.827329
tree= 2, node=359, feature= 3, thr= 96.24, gain=0.056325
tree= 2, node=368, feature= 6, thr= -1.00, gain=-1.000000
tree= 2, node=369, feature=13, thr= 43.51, gain=0.062721
tree= 2, node=372, feature= 9, thr= 0.14, gain=0.044886
tree= 2, node=373, feature= 5, thr= -1.00, gain=-1.000000
tree= 2, node=404, feature= 9, thr= 31.76, gain=0.232928
tree= 2, node=405, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=410, feature= 6, thr= -1.00, gain=-1.000000
tree= 2, node=411, feature=14, thr= 52.76, gain=0.128810
tree= 2, node=412, feature=10, thr= 63.29, gain=0.081058
tree= 2, node=413, feature=10, thr= 29.29, gain=0.087626
tree= 2, node=414, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=415, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=422, feature= 4, thr= 68.24, gain=0.038701
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tree= 2, node=456, feature= 3, thr= 63.47, gain=0.057666
tree= 2, node=457, feature=13, thr= 23.06, gain=0.063921
tree= 2, node=462, feature= 2, thr= 51.88, gain=0.091450
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tree= 2, node=470, feature= 7, thr= -1.00, gain=-1.000000
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tree= 2, node=481, feature= 4, thr= 50.98, gain=0.585118
tree= 2, node=482, feature= 0, thr= -1.00, gain=-1.000000
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tree= 2, node=487, feature= 4, thr= 0.73, gain=0.167731
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tree= 2, node=492, feature= 9, thr= 58.24, gain=0.690215
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tree= 2, node=514, feature= 4, thr= 57.92, gain=0.021437
tree= 2, node=515, feature= 4, thr= -1.00, gain=-1.000000
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tree= 2, node=524, feature= 3, thr= -1.00, gain=-1.000000
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tree= 2, node=528, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=529, feature=13, thr= 24.12, gain=0.041603
tree= 2, node=596, feature= 0, thr= -1.00, gain=-1.000000
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tree= 2, node=616, feature=12, thr= 50.47, gain=0.204140
tree= 2, node=617, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=688, feature=13, thr= 82.12, gain=0.044481
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tree= 2, node=689, feature= 7, thr= -1.00, gain=-1.000000
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tree= 2, node=691, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=714, feature= 6, thr= 89.22, gain=0.142124
tree= 2, node=715, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=716, feature= 1, thr= 72.55, gain=0.098638
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tree= 2, node=718, feature= 7, thr= -1.00, gain=-1.000000
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tree= 2, node=738, feature= 1, thr= 97.45, gain=0.120194
tree= 2, node=739, feature= 5, thr= -1.00, gain=-1.000000
tree= 2, node=744, feature=11, thr= 18.69, gain=0.280086
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tree= 2, node=809, feature= 2, thr= -1.00, gain=-1.000000
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tree= 2, node=826, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=827, feature= 0, thr= 0.02, gain=0.053633
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tree= 2, node=978, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=979, feature=14, thr= 19.06, gain=0.149811
tree= 2, node=984, feature= 3, thr= -1.00, gain=-1.000000
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tree= 2, node=992, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=993, feature= 0, thr= -1.00, gain=-1.000000
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tree= 2, node=1014, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=1015, feature= 8, thr= -1.00, gain=-1.000000
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tree= 2, node=1019, feature= 3, thr= -1.00, gain=-1.000000
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tree= 2, node=1027, feature= 8, thr= 37.75, gain=0.194786
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tree= 2, node=1029, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=1038, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=1039, feature=15, thr= 0.00, gain=0.000000
tree= 2, node=1050, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=1051, feature= 8, thr= 42.08, gain=0.100185
tree= 2, node=1058, feature= 3, thr= -1.00, gain=-1.000000
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tree= 2, node=1194, feature=11, thr= 0.02, gain=0.039625
tree= 2, node=1195, feature= 5, thr= -1.00, gain=-1.000000
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tree= 2, node=1233, feature= 2, thr= 69.61, gain=0.035905
tree= 2, node=1376, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=1377, feature= 1, thr= 66.41, gain=0.006913
tree= 2, node=1380, feature= 5, thr= 46.55, gain=0.012234
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tree= 2, node=1477, feature= 5, thr= -1.00, gain=-1.000000
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tree= 2, node=1654, feature= 6, thr= 99.20, gain=0.033992
tree= 2, node=1655, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=1796, feature=10, thr= 99.24, gain=0.213771
tree= 2, node=1797, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=1826, feature=10, thr= 99.12, gain=0.017552
tree= 2, node=1827, feature= 4, thr= 3.14, gain=0.178972
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tree= 2, node=1926, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=1927, feature=15, thr= 35.37, gain=0.093778
```

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tree= 2, node=1939, feature= 6, thr= 56.29, gain=0.059495
tree= 2, node=1948, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=1949, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=1950, feature= 0, thr= -1.00, gain=-1.000000
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tree= 2, node=1999, feature=15, thr= 16.18, gain=0.380947
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tree= 2, node=2078, feature= 0, thr= -1.00, gain=-1.000000
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tree= 2, node=2103, feature= 4, thr= -1.00, gain=-1.000000
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tree= 2, node=3655, feature= 0, thr= 76.55, gain=0.041637
```

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tree= 2, node=3870, feature=12, thr= 57.06, gain=0.021988
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tree= 2, node=3996, feature= 9, thr= 37.08, gain=0.220299
tree= 2, node=3997, feature= 2, thr= -1.00, gain=-1.000000
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tree= 2, node=5753, feature= 6, thr= -1.00, gain=-1.000000
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tree= 2, node=7740, feature=14, thr= 0.00, gain=0.000000
tree= 2, node=7741, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=7758, feature=15, thr= 0.00, gain=0.000000
tree= 2, node=7759, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=7992, feature= 2, thr= -1.00, gain=-1.000000
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tree= 2, node=7993, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=9860, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=9861, feature= 6, thr= 48.00, gain=0.121900
tree= 2, node=9866, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=9867, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=11040, feature= 5, thr= 35.41, gain=0.177648
tree= 2, node=11041, feature=10, thr= 29.06, gain=0.097941
tree= 2, node=13198, feature= 8, thr= -1.00, gain=-1.000000
tree= 2, node=13199, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=13236, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=13237, feature= 3, thr= 84.90, gain=0.282905
tree= 2, node=14612, feature= 3, thr= -1.00, gain=-1.000000
tree= 2, node=14613, feature= 3, thr= -1.00, gain=-1.000000
tree= 2, node=14618, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=14619, feature= 9, thr= 19.41, gain=0.806091
tree= 2, node=15416, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=15417, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=15418, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=15419, feature= 4, thr= 79.33, gain=0.108557
tree= 2, node=15480, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=15481, feature=10, thr=100.00, gain=0.000000
tree= 2, node=15516, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=15517, feature= 2, thr= 4.00, gain=0.019331
tree= 2, node=19722, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=19723, feature= 1, thr= -1.00, gain=-1.000000
tree= 2, node=22080, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=22081, feature= 4, thr= -1.00, gain=-1.000000
tree= 2, node=22082, feature= 4, thr= -1.00, gain=-1.000000
tree= 2, node=22083, feature= 7, thr= -1.00, gain=-1.000000
tree= 2, node=26474, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=26475, feature= 6, thr= -1.00, gain=-1.000000
tree= 2, node=29238, feature= 5, thr= -1.00, gain=-1.000000
tree= 2, node=29239, feature= 3, thr= -1.00, gain=-1.000000
tree= 2, node=30838, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=30839, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=30962, feature= 0, thr= -1.00, gain=-1.000000
tree= 2, node=30963, feature= 0, thr= 44.71, gain=0.049466
tree= 2, node=31034, feature= 3, thr= -1.00, gain=-1.000000
tree= 2, node=31035, feature= 3, thr= -1.00, gain=-1.000000
tree= 2, node=61926, feature= 2, thr= -1.00, gain=-1.000000
tree= 2, node=61927, feature= 2, thr= -1.00, gain=-1.000000
classification accuracy=0.8453
```