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1 C:\Users\vince\anaconda3\python.exe "D:/
  Documents/Choses école/UQAC/Session7/8INF436-
  Forage_de_donnees/TP3/main.py"
2 2021-04-06 11:42:29.411525: W tensorflow/
  stream_executor/platform/default/dso_loader.
  cc:60] Could not load dynamic library '
  cudart64_110.dll'; dlerror: cudart64_110.dll
  not found
3 2021-04-06 11:42:29.411629: I tensorflow/
  stream_executor/cuda/cudart_stub.cc:29]
  Ignore above cudart dlerror if you do not
  have a GPU set up on your machine.
4 Missing values per attribute:
5 id                                0
6 gender                            0
7 age                               0
8 hypertension                      0
9 heart_disease                    0
10 ever_married                     0
11 work_type                         0
12 Residence_type                   0
13 avg_glucose_level                0
14 bmi                              0
15 smoking_status                   0
16 stroke                           0
17 dtype: int64
18 C:\Users\vince\anaconda3\lib\site-packages\
  pandas\core\indexing.py:1736:
  SettingWithCopyWarning:
19 A value is trying to be set on a copy of a
  slice from a DataFrame.
20 Try using .loc[row_indexer,col_indexer] =
  value instead
21
22 See the caveats in the documentation: https
  ://pandas.pydata.org/pandas-docs/stable/
  user_guide/indexing.html#returning-a-view-
  versus-a-copy
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23  isetter(loc, value[:, i].tolist())
24  <class 'pandas.core.frame.DataFrame'>
25  Int64Index: 4860 entries, 0 to 5109
26  Data columns (total 10 columns):
27  #      Column              Non-Null Count  Dtype
28  ---  -
29  0     gender              4860 non-null
      float64
30  1     age                4860 non-null
      float64
31  2     hypertension       4860 non-null
      float64
32  3     heart_disease      4860 non-null
      float64
33  4     ever_married       4860 non-null
      float64
34  5     work_type          4860 non-null
      float64
35  6     Residence_type     4860 non-null
      float64
36  7     avg_glucose_level  4860 non-null
      float64
37  8     bmi                4860 non-null
      float64
38  9     smoking_status     4860 non-null
      float64
39  dtypes: float64(10)
40  memory usage: 417.7 KB
41  None
42
43  Auto-encodeurs linéaires incomplets à 2
      couches avec sparsity et dropout de 0.05
44  La couche 1 possède 2 unités
45  2021-04-06 11:42:31.143576: I tensorflow/
      compiler/jit/xla_cpu_device.cc:41] Not
      creating XLA devices,

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45 tf_xla_enable_xla_devices not set
46 2021-04-06 11:42:31.144021: I tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:49] Successfully opened dynamic library
    nvcuda.dll
47 2021-04-06 11:42:31.166301: I tensorflow/core
    /common_runtime/gpu/gpu_device.cc:1720] Found
    device 0 with properties:
48 pciBusID: 0000:08:00.0 name: GeForce RTX 2080
    computeCapability: 7.5
49 coreClock: 1.71GHz coreCount: 46
    deviceMemorySize: 8.00GiB
    deviceMemoryBandwidth: 417.23GiB/s
50 2021-04-06 11:42:31.167007: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cudart64_110.dll'; dlerror: cudart64_110.dll
    not found
51 2021-04-06 11:42:31.167552: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cublas64_11.dll'; dlerror: cublas64_11.dll
    not found
52 2021-04-06 11:42:31.168088: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cublasLt64_11.dll'; dlerror: cublasLt64_11.
    dll not found
53 2021-04-06 11:42:31.168722: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cufft64_10.dll'; dlerror: cufft64_10.dll not
    found
54 2021-04-06 11:42:31.169327: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    curand64_10.dll'; dlerror: curand64_10.dll
    not found
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55 2021-04-06 11:42:31.169958: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cusolver64_10.dll'; dlerror: cusolver64_10.
    dll not found
56 2021-04-06 11:42:31.170483: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cusparse64_11.dll'; dlerror: cusparse64_11.
    dll not found
57 2021-04-06 11:42:31.171002: W tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:60] Could not load dynamic library '
    cudnn64_8.dll'; dlerror: cudnn64_8.dll not
    found
58 2021-04-06 11:42:31.171093: W tensorflow/core
    /common_runtime/gpu/gpu_device.cc:1757]
    Cannot dlopen some GPU libraries. Please make
    sure the missing libraries mentioned above
    are installed properly if you would like to
    use GPU. Follow the guide at https://www.
    tensorflow.org/install/gpu for how to
    download and setup the required libraries for
    your platform.
59 Skipping registering GPU devices...
60 2021-04-06 11:42:31.171661: I tensorflow/core
    /platform/cpu_feature_guard.cc:142] This
    TensorFlow binary is optimized with oneAPI
    Deep Neural Network Library (oneDNN) to use
    the following CPU instructions in performance
    -critical operations:  AVX2
61 To enable them in other operations, rebuild
    TensorFlow with the appropriate compiler
    flags.
62 2021-04-06 11:42:31.172319: I tensorflow/core
    /common_runtime/gpu/gpu_device.cc:1261]
    Device interconnect StreamExecutor with
    strength 1 edge matrix:
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63 2021-04-06 11:42:31.172395: I tensorflow/
    core/common_runtime/gpu/gpu_device.cc:1267
    ]
64 2021-04-06 11:42:31.172451: I tensorflow/
    compiler/jit/xla_gpu_device.cc:99] Not
    creating XLA devices,
    tf_xla_enable_xla_devices not set
65 2021-04-06 11:42:31.236274: I tensorflow/
    compiler/mlir/mlir_graph_optimization_pass.
    cc:116] None of the MLIR optimization passes
    are enabled (registered 2)
66 31/31 [=====] - 0s
    300us/step
67 31/31 [=====] - 0s
    300us/step
68 31/31 [=====] - 0s
    367us/step
69 31/31 [=====] - 0s
    300us/step
70 31/31 [=====] - 0s
    300us/step
71 31/31 [=====] - 0s
    300us/step
72 31/31 [=====] - 0s
    333us/step
73 31/31 [=====] - 0s
    333us/step
74 31/31 [=====] - 0s
    333us/step
75 31/31 [=====] - 0s
    333us/step
76 La couche 1 possède 3 unités
77 31/31 [=====] - 0s
    300us/step
78 31/31 [=====] - 0s
    333us/step
79 31/31 [=====] - 0s
    333us/step
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80 31/31 [=====] - 0s
    333us/step
81 31/31 [=====] - 0s
    333us/step
82 31/31 [=====] - 0s
    300us/step
83 31/31 [=====] - 0s
    300us/step
84 31/31 [=====] - 0s
    300us/step
85 31/31 [=====] - 0s
    333us/step
86 31/31 [=====] - 0s
    300us/step
87 La couche 1 possède 4 unités
88 31/31 [=====] - 0s
    300us/step
89 31/31 [=====] - 0s
    333us/step
90 31/31 [=====] - 0s
    300us/step
91 31/31 [=====] - 0s
    367us/step
92 31/31 [=====] - 0s
    367us/step
93 31/31 [=====] - 0s
    367us/step
94 31/31 [=====] - 0s
    333us/step
95 31/31 [=====] - 0s
    333us/step
96 31/31 [=====] - 0s
    367us/step
97 31/31 [=====] - 0s
    300us/step
98 La couche 1 possède 5 unités
99 31/31 [=====] - 0s
    333us/step
```

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100 31/31 [=====] - 0s
    300us/step
101 31/31 [=====] - 0s
    300us/step
102 31/31 [=====] - 0s
    267us/step
103 31/31 [=====] - 0s
    333us/step
104 31/31 [=====] - 0s
    300us/step
105 31/31 [=====] - 0s
    333us/step
106 31/31 [=====] - 0s
    300us/step
107 31/31 [=====] - 0s
    300us/step
108 31/31 [=====] - 0s
    300us/step
109 La couche 1 possède 6 unités
110 31/31 [=====] - 0s
    333us/step
111 31/31 [=====] - 0s
    333us/step
112 31/31 [=====] - 0s
    333us/step
113 31/31 [=====] - 0s
    300us/step
114 31/31 [=====] - 0s
    333us/step
115 31/31 [=====] - 0s
    300us/step
116 31/31 [=====] - 0s
    333us/step
117 31/31 [=====] - 0s
    333us/step
118 31/31 [=====] - 0s
    333us/step
119 31/31 [=====] - 0s
```

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119 333us/step
120 La couche 1 possède 7 unités
121 31/31 [=====] - 0s
    300us/step
122 31/31 [=====] - 0s
    333us/step
123 31/31 [=====] - 0s
    333us/step
124 31/31 [=====] - 0s
    300us/step
125 31/31 [=====] - 0s
    333us/step
126 31/31 [=====] - 0s
    333us/step
127 31/31 [=====] - 0s
    333us/step
128 31/31 [=====] - 0s
    300us/step
129 31/31 [=====] - 0s
    333us/step
130 31/31 [=====] - 0s
    300us/step
131 La couche 1 possède 8 unités
132 31/31 [=====] - 0s
    333us/step
133 31/31 [=====] - 0s
    333us/step
134 31/31 [=====] - 0s
    300us/step
135 31/31 [=====] - 0s
    300us/step
136 31/31 [=====] - 0s
    300us/step
137 31/31 [=====] - 0s
    300us/step
138 31/31 [=====] - 0s
    300us/step
139 31/31 [=====] - 0s
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139 333us/step
140 31/31 [=====] - 0s
    333us/step
141 31/31 [=====] - 0s
    333us/step
142 Scores moyens(précision moyenne et écart-
    type) pour les auto-encodeurs linéaires
    incomplets à 2 couches avec sparsity et
    dropout de 0.05:
143 {2: (0.14584858018486727, 0.158), 3: (0.
    14000919164393105, 0.1506), 4: (0.
    15573154216725446, 0.1271), 5: (0.
    13574518066710467, 0.1588), 6: (0.
    1377006302062995, 0.221), 7: (0.
    149331480196415, 0.21), 8: (0.
    12690790805904784, 0.2991)}
144
145 Process finished with exit code 0
146
```