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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 11:46:46.158295: 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 11:46:46.158396: 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 <class 'pandas.core.frame.DataFrame'>
19 Int64Index: 4860 entries, 0 to 5109
20 Data columns (total 10 columns):
21 #   Column                Non-Null Count  Dtype
22 ---  -
23 0    gender                4860 non-null  float64
24 1    age                   4860 non-null  float64
25 2    hypertension          4860 non-null

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25 float64
26 3    heart_disease      4860 non-null
   float64
27 4    ever_married      4860 non-null
   float64
28 5    work_type         4860 non-null
   float64
29 6    Residence_type    4860 non-null
   float64
30 7    avg_glucose_level 4860 non-null
   float64
31 8    bmi               4860 non-null
   float64
32 9    smoking_status    4860 non-null
   float64
33 dtypes: float64(10)
34 memory usage: 417.7 KB
35 None
36 C:\Users\vince\anaconda3\lib\site-packages\
   pandas\core\indexing.py:1736:
   SettingWithCopyWarning:
37 A value is trying to be set on a copy of a
   slice from a DataFrame.
38 Try using .loc[row_indexer,col_indexer] =
   value instead
39
40 See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/
   user\_guide/indexing.html#returning-a-view-
   versus-a-copy
41     isetter(loc, value[:, i].tolist())
42
43 Auto-encodeurs linéaires incomplets à 2
   couches avec dropout de 0.1
44 La couche 1 possède 2 unités
45 2021-04-06 11:46:48.032084: 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 11:46:48.032581: I tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:49] Successfully opened dynamic library
    nvcuda.dll
47 2021-04-06 11:46:48.052898: 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 11:46:48.053598: 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 11:46:48.054122: 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 11:46:48.054667: 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 11:46:48.055185: 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 11:46:48.055707: 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 11:46:48.056223: 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 11:46:48.056745: 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 11:46:48.057260: 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 11:46:48.057350: 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 11:46:48.057910: 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 11:46:48.058577: 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 11:46:48.058670: I tensorflow/
    core/common_runtime/gpu/gpu_device.cc:1267
    ]
64 2021-04-06 11:46:48.058723: I tensorflow/
    compiler/jit/xla_gpu_device.cc:99] Not
    creating XLA devices,
    tf_xla_enable_xla_devices not set
65 2021-04-06 11:46:48.119935: I tensorflow/
    compiler/mlir/mlir_graph_optimization_pass.
    cc:116] None of the MLIR optimization passes
    are enabled (registered 2)
66 23/23 [=====] - 0s
    364us/step
67 23/23 [=====] - 0s
    318us/step
68 23/23 [=====] - 0s
    318us/step
69 23/23 [=====] - 0s
    318us/step
70 23/23 [=====] - 0s
    364us/step
71 23/23 [=====] - 0s
    318us/step
72 23/23 [=====] - 0s
    318us/step
73 23/23 [=====] - 0s
    364us/step
74 23/23 [=====] - 0s
    318us/step
75 23/23 [=====] - 0s
    318us/step
76 La couche 1 possède 3 unités
77 23/23 [=====] - 0s
    273us/step
78 23/23 [=====] - 0s
    318us/step
79 23/23 [=====] - 0s
    7ms/step
```

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80 23/23 [=====] - 0s
    318us/step
81 23/23 [=====] - 0s
    364us/step
82 23/23 [=====] - 0s
    318us/step
83 23/23 [=====] - 0s
    318us/step
84 23/23 [=====] - 0s
    318us/step
85 23/23 [=====] - 0s
    364us/step
86 23/23 [=====] - 0s
    364us/step
87 La couche 1 possède 4 unités
88 23/23 [=====] - 0s
    273us/step
89 23/23 [=====] - 0s
    318us/step
90 23/23 [=====] - 0s
    318us/step
91 23/23 [=====] - 0s
    273us/step
92 23/23 [=====] - 0s
    318us/step
93 23/23 [=====] - 0s
    318us/step
94 23/23 [=====] - 0s
    318us/step
95 23/23 [=====] - 0s
    364us/step
96 23/23 [=====] - 0s
    8ms/step
97 23/23 [=====] - 0s
    318us/step
98 La couche 1 possède 5 unités
99 23/23 [=====] - 0s
    318us/step
```

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100 23/23 [=====] - 0s
    318us/step
101 23/23 [=====] - 0s
    318us/step
102 23/23 [=====] - 0s
    318us/step
103 23/23 [=====] - 0s
    273us/step
104 23/23 [=====] - 0s
    318us/step
105 23/23 [=====] - 0s
    318us/step
106 23/23 [=====] - 0s
    273us/step
107 23/23 [=====] - 0s
    318us/step
108 23/23 [=====] - 0s
    318us/step
109 La couche 1 possède 6 unités
110 23/23 [=====] - 0s
    318us/step
111 23/23 [=====] - 0s
    318us/step
112 23/23 [=====] - 0s
    318us/step
113 23/23 [=====] - 0s
    318us/step
114 23/23 [=====] - 0s
    364us/step
115 23/23 [=====] - 0s
    318us/step
116 23/23 [=====] - 0s
    364us/step
117 23/23 [=====] - 0s
    318us/step
118 23/23 [=====] - 0s
    318us/step
119 23/23 [=====] - 0s
```

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119 318us/step
120 La couche 1 possède 7 unités
121 23/23 [=====] - 0s
    364us/step
122 23/23 [=====] - 0s
    273us/step
123 23/23 [=====] - 0s
    273us/step
124 23/23 [=====] - 0s
    318us/step
125 23/23 [=====] - 0s
    364us/step
126 23/23 [=====] - 0s
    318us/step
127 23/23 [=====] - 0s
    318us/step
128 23/23 [=====] - 0s
    318us/step
129 23/23 [=====] - 0s
    318us/step
130 23/23 [=====] - 0s
    364us/step
131 La couche 1 possède 8 unités
132 23/23 [=====] - 0s
    318us/step
133 23/23 [=====] - 0s
    318us/step
134 23/23 [=====] - 0s
    364us/step
135 23/23 [=====] - 0s
    318us/step
136 23/23 [=====] - 0s
    318us/step
137 23/23 [=====] - 0s
    318us/step
138 23/23 [=====] - 0s
    318us/step
139 23/23 [=====] - 0s
```



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139 273us/step
140 23/23 [=====] - 0s
    273us/step
141 23/23 [=====] - 0s
    318us/step
142 Scores moyens(précision moyenne et écart-
    type) pour les auto-encodeurs linéaires
    incomplets à 2 couches avec dropout de 0.1:
143 {2: (0.18656286835042368, 0.1056), 3: (0.
    16481809976496303, 0.1384), 4: (0.
    17708103662651933, 0.1815), 5: (0.
    16283808581470877, 0.3113), 6: (0.
    18451000141433518, 0.2427), 7: (0.
    15851889320346307, 0.2729), 8: (0.
    14765122968328526, 0.4469)}
144
145 Process finished with exit code 0
146
```