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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 11:38:25.252205: 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 11:38:25.252304: 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
37 Auto-encodeurs linéaires incomplets à 2
   couches avec sparsity
38 La couche 1 possède 2 unités
39 C:\Users\vince\anaconda3\lib\site-packages\
   pandas\core\indexing.py:1736:
   SettingWithCopyWarning:
40 A value is trying to be set on a copy of a
   slice from a DataFrame.
41 Try using .loc[row_indexer,col_indexer] =
   value instead
42
43 See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/
   user\_guide/indexing.html#returning-a-view-
   versus-a-copy
44     isetter(loc, value[:, i].tolist())
45 2021-04-06 11:38:26.963194: 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 11:38:26.963641: I tensorflow/
    stream_executor/platform/default/dso_loader.
    cc:49] Successfully opened dynamic library
    nvcuda.dll
47 2021-04-06 11:38:26.983605: 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 11:38:26.984333: 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 11:38:26.984892: 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 11:38:26.985441: 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 11:38:26.985987: 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 11:38:26.986510: 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 11:38:26.987069: 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 11:38:26.987696: 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 11:38:26.988362: 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 11:38:26.988451: 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 11:38:26.989011: 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 11:38:26.989701: 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 11:38:26.989822: I tensorflow/
    core/common_runtime/gpu/gpu_device.cc:1267
    ]
64 2021-04-06 11:38:26.989900: I tensorflow/
    compiler/jit/xla_gpu_device.cc:99] Not
    creating XLA devices,
    tf_xla_enable_xla_devices not set
65 2021-04-06 11:38:27.051695: 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
    300us/step
69 31/31 [=====] - 0s
    300us/step
70 31/31 [=====] - 0s
    300us/step
71 31/31 [=====] - 0s
    300us/step
72 31/31 [=====] - 0s
    300us/step
73 31/31 [=====] - 0s
    300us/step
74 31/31 [=====] - 0s
    333us/step
75 31/31 [=====] - 0s
    267us/step
76 La couche 1 possède 3 unités
77 31/31 [=====] - 0s
    333us/step
78 31/31 [=====] - 0s
    333us/step
79 31/31 [=====] - 0s
    300us/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
    333us/step
84 31/31 [=====] - 0s
    333us/step
85 31/31 [=====] - 0s
    333us/step
86 31/31 [=====] - 0s
    367us/step
87 La couche 1 possède 4 unités
88 31/31 [=====] - 0s
    633us/step
89 31/31 [=====] - 0s
    333us/step
90 31/31 [=====] - 0s
    333us/step
91 31/31 [=====] - 0s
    333us/step
92 31/31 [=====] - 0s
    333us/step
93 31/31 [=====] - 0s
    300us/step
94 31/31 [=====] - 0s
    367us/step
95 31/31 [=====] - 0s
    400us/step
96 31/31 [=====] - 0s
    333us/step
97 31/31 [=====] - 0s
    300us/step
98 La couche 1 possède 5 unités
99 31/31 [=====] - 0s
    300us/step
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100 31/31 [=====] - 0s
    300us/step
101 31/31 [=====] - 0s
    300us/step
102 31/31 [=====] - 0s
    367us/step
103 31/31 [=====] - 0s
    300us/step
104 31/31 [=====] - 0s
    300us/step
105 31/31 [=====] - 0s
    300us/step
106 31/31 [=====] - 0s
    367us/step
107 31/31 [=====] - 0s
    333us/step
108 31/31 [=====] - 0s
    300us/step
109 La couche 1 possède 6 unités
110 31/31 [=====] - 0s
    333us/step
111 31/31 [=====] - 0s
    300us/step
112 31/31 [=====] - 0s
    367us/step
113 31/31 [=====] - 0s
    367us/step
114 31/31 [=====] - 0s
    333us/step
115 31/31 [=====] - 0s
    300us/step
116 31/31 [=====] - 0s
    267us/step
117 31/31 [=====] - 0s
    300us/step
118 31/31 [=====] - 0s
    367us/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
    367us/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
    333us/step
129 31/31 [=====] - 0s
    333us/step
130 31/31 [=====] - 0s
    333us/step
131 La couche 1 possède 8 unités
132 31/31 [=====] - 0s
    300us/step
133 31/31 [=====] - 0s
    333us/step
134 31/31 [=====] - 0s
    300us/step
135 31/31 [=====] - 0s
    300us/step
136 31/31 [=====] - 0s
    333us/step
137 31/31 [=====] - 0s
    333us/step
138 31/31 [=====] - 0s
    300us/step
139 31/31 [=====] - 0s
```



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139 333us/step
140 31/31 [=====] - 0s
    367us/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:
143 {2: (0.14826295409416976, 0.1038), 3: (0.
    14778908347052222, 0.1273), 4: (0.
    1385483659483003, 0.2096), 5: (0.
    12434766205299452, 0.1711), 6: (0.
    13591734229181904, 0.1948), 7: (0.
    13426582952396754, 0.2828), 8: (0.
    12069018391479687, 0.2743)}
144
145 Process finished with exit code 0
146
```