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1 /Users/snehamishra/PycharmProjects/Test/venv/bin/python /
  Users/snehamishra/Desktop/UMKC/Fall2018/Python/Python-
  DeepLearning_Fall2018/Mod2_ICP7/Source/
  DeepLearning_SourceCode7/autoencoder_sparcity.py
2 Using TensorFlow backend.
3 Train on 60000 samples, validate on 10000 samples
4 2018-12-10 18:28:25.546537: I tensorflow/core/platform/
  cpu_feature_guard.cc:141] Your CPU supports instructions
  that this TensorFlow binary was not compiled to use: AVX2
  FMA
5 Epoch 1/5
6
7   256/60000 [.....] - ETA: 42s -
  loss: 0.7964
8  2048/60000 [>.....] - ETA: 6s -
  loss: 0.7307
9  4096/60000 [=>.....] - ETA: 3s -
  loss: 0.7138
10 6400/60000 [==>.....] - ETA: 2s -
  loss: 0.7059
11 8448/60000 [===>.....] - ETA: 2s -
  loss: 0.7018
12 10752/60000 [====>.....] - ETA: 2s -
  loss: 0.6986
13 12544/60000 [=====>.....] - ETA: 1s -
  loss: 0.6967
14 14848/60000 [=====>.....] - ETA: 1s -
  loss: 0.6946
15 16896/60000 [=====>.....] - ETA: 1s -
  loss: 0.6930
16 18944/60000 [=====>.....] - ETA: 1s -
  loss: 0.6916
17 21248/60000 [=====>.....] - ETA: 1s -
  loss: 0.6901
18 23552/60000 [=====>.....] - ETA: 1s -
  loss: 0.6888
19 25856/60000 [=====>.....] - ETA: 1s -
  loss: 0.6875
20 28160/60000 [=====>.....] - ETA: 1s -
  loss: 0.6863
21 30464/60000 [=====>.....] - ETA: 0s -
  loss: 0.6852
22 32768/60000 [=====>.....] - ETA: 0s -
  loss: 0.6841
23 34816/60000 [=====>.....] - ETA: 0s -
  loss: 0.6831
24 36608/60000 [=====>.....] - ETA: 0s -
  loss: 0.6823
25 38912/60000 [=====>.....] - ETA: 0s -
  loss: 0.6812

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26 41216/60000 [=====>.....] - ETA: 0s -
    loss: 0.6802
27 43520/60000 [=====>.....] - ETA: 0s -
    loss: 0.6792
28 45568/60000 [=====>.....] - ETA: 0s -
    loss: 0.6784
29 47616/60000 [=====>.....] - ETA: 0s -
    loss: 0.6775
30 49408/60000 [=====>.....] - ETA: 0s -
    loss: 0.6767
31 51456/60000 [=====>.....] - ETA: 0s -
    loss: 0.6759
32 53248/60000 [=====>....] - ETA: 0s -
    loss: 0.6752
33 55296/60000 [=====>...] - ETA: 0s -
    loss: 0.6743
34 57600/60000 [=====>..] - ETA: 0s -
    loss: 0.6734
35 59648/60000 [=====>.] - ETA: 0s -
    loss: 0.6726
36 60000/60000 [=====] - 2s 31us/step
    - loss: 0.6724 - val_loss: 0.6484
37 Epoch 2/5
38
39   256/60000 [.....] - ETA: 2s -
    loss: 0.6486
40  2304/60000 [>.....] - ETA: 1s -
    loss: 0.6477
41  3840/60000 [>.....] - ETA: 1s -
    loss: 0.6473
42  5120/60000 [=>.....] - ETA: 2s -
    loss: 0.6468
43  6656/60000 [==>.....] - ETA: 1s -
    loss: 0.6463
44  8448/60000 [==>.....] - ETA: 1s -
    loss: 0.6456
45 10496/60000 [===>.....] - ETA: 1s -
    loss: 0.6449
46 12544/60000 [===>.....] - ETA: 1s -
    loss: 0.6442
47 14848/60000 [===>.....] - ETA: 1s -
    loss: 0.6434
48 16896/60000 [===>.....] - ETA: 1s -
    loss: 0.6427
49 18688/60000 [===>.....] - ETA: 1s -
    loss: 0.6421
50 20736/60000 [===>.....] - ETA: 1s -
    loss: 0.6414
51 22272/60000 [===>.....] - ETA: 1s -
    loss: 0.6409

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52 24320/60000 [=====>.....] - ETA: 1s -  
    loss: 0.6402  
53 26112/60000 [=====>.....] - ETA: 1s -  
    loss: 0.6395  
54 28160/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6388  
55 30464/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6381  
56 32768/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6373  
57 34816/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6366  
58 36864/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6359  
59 37888/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6356  
60 38912/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6352  
61 40448/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6347  
62 41984/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6342  
63 43520/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6337  
64 44800/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6333  
65 46080/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6329  
66 47616/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6324  
67 49408/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6318  
68 51200/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6312  
69 51968/60000 [=====>.....] - ETA: 0s -  
    loss: 0.6310  
70 52992/60000 [=====>....] - ETA: 0s -  
    loss: 0.6306  
71 54528/60000 [=====>...] - ETA: 0s -  
    loss: 0.6301  
72 55808/60000 [=====>...] - ETA: 0s -  
    loss: 0.6297  
73 57088/60000 [=====>..] - ETA: 0s -  
    loss: 0.6293  
74 58880/60000 [=====>.] - ETA: 0s -  
    loss: 0.6287  
75 60000/60000 [=====] - 2s 35us/  
    step - loss: 0.6284 - val_loss: 0.6090  
76 Epoch 3/5  
77
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78 256/60000 [.....] - ETA: 1s -  
    loss: 0.6094  
79 2560/60000 [>.....] - ETA: 1s -  
    loss: 0.6083  
80 4864/60000 [=>.....] - ETA: 1s -  
    loss: 0.6075  
81 7168/60000 [==>.....] - ETA: 1s -  
    loss: 0.6069  
82 9216/60000 [===>.....] - ETA: 1s -  
    loss: 0.6063  
83 10752/60000 [====>.....] - ETA: 1s -  
    loss: 0.6058  
84 12544/60000 [=====>.....] - ETA: 1s -  
    loss: 0.6053  
85 14592/60000 [=====>.....] - ETA: 1s -  
    loss: 0.6047  
86 16384/60000 [======>.....] - ETA: 1s -  
    loss: 0.6041  
87 18432/60000 [======>.....] - ETA: 1s -  
    loss: 0.6035  
88 20736/60000 [======>.....] - ETA: 1s -  
    loss: 0.6028  
89 23040/60000 [======>.....] - ETA: 0s -  
    loss: 0.6021  
90 24832/60000 [======>.....] - ETA: 0s -  
    loss: 0.6016  
91 27136/60000 [======>.....] - ETA: 0s -  
    loss: 0.6010  
92 29440/60000 [======>.....] - ETA: 0s -  
    loss: 0.6003  
93 31744/60000 [======>.....] - ETA: 0s -  
    loss: 0.5996  
94 33792/60000 [======>.....] - ETA: 0s -  
    loss: 0.5990  
95 35840/60000 [======>.....] - ETA: 0s -  
    loss: 0.5984  
96 38144/60000 [======>.....] - ETA: 0s -  
    loss: 0.5977  
97 40448/60000 [======>.....] - ETA: 0s -  
    loss: 0.5971  
98 42496/60000 [======>.....] - ETA: 0s -  
    loss: 0.5965  
99 44288/60000 [======>.....] - ETA: 0s -  
    loss: 0.5960  
100 46592/60000 [======>.....] - ETA: 0s -  
    loss: 0.5953  
101 48896/60000 [======>.....] - ETA: 0s -  
    loss: 0.5947  
102 51200/60000 [======>.....] - ETA: 0s -  
    loss: 0.5940
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103 53248/60000 [=====>....] - ETA: 0s -
    loss: 0.5935
104 55296/60000 [=====>...] - ETA: 0s -
    loss: 0.5929
105 57600/60000 [=====>..] - ETA: 0s -
    loss: 0.5923
106 59904/60000 [=====>.] - ETA: 0s -
    loss: 0.5916
107 60000/60000 [=====] - 2s 27us/
    step - loss: 0.5916 - val_loss: 0.5749
108 Epoch 4/5
109
110 256/60000 [.....] - ETA: 2s -
    loss: 0.5743
111 2304/60000 [>.....] - ETA: 1s -
    loss: 0.5741
112 4096/60000 [=>.....] - ETA: 1s -
    loss: 0.5737
113 5888/60000 [=>.....] - ETA: 1s -
    loss: 0.5733
114 7680/60000 [==>.....] - ETA: 1s -
    loss: 0.5728
115 9984/60000 [===>.....] - ETA: 1s -
    loss: 0.5723
116 12032/60000 [====>.....] - ETA: 1s -
    loss: 0.5718
117 14080/60000 [=====>.....] - ETA: 1s -
    loss: 0.5713
118 16384/60000 [=====>.....] - ETA: 1s -
    loss: 0.5707
119 18688/60000 [=====>.....] - ETA: 1s -
    loss: 0.5701
120 20480/60000 [=====>.....] - ETA: 1s -
    loss: 0.5696
121 22528/60000 [=====>.....] - ETA: 1s -
    loss: 0.5692
122 24576/60000 [=====>.....] - ETA: 0s -
    loss: 0.5686
123 26880/60000 [=====>.....] - ETA: 0s -
    loss: 0.5680
124 28928/60000 [=====>.....] - ETA: 0s -
    loss: 0.5675
125 30976/60000 [=====>.....] - ETA: 0s -
    loss: 0.5670
126 33024/60000 [=====>.....] - ETA: 0s -
    loss: 0.5664
127 35328/60000 [=====>.....] - ETA: 0s -
    loss: 0.5658
128 37376/60000 [=====>.....] - ETA: 0s -
    loss: 0.5653

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129 39168/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5649  
130 41216/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5644  
131 43520/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5638  
132 45568/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5633  
133 47872/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5628  
134 49920/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5623  
135 52224/60000 [=====>....] - ETA: 0s -  
    loss: 0.5617  
136 54272/60000 [=====>...] - ETA: 0s -  
    loss: 0.5612  
137 55808/60000 [=====>...] - ETA: 0s -  
    loss: 0.5608  
138 57856/60000 [=====>..] - ETA: 0s -  
    loss: 0.5604  
139 60000/60000 [=====] - 2s 28us/  
    step - loss: 0.5598 - val_loss: 0.5454  
140 Epoch 5/5  
141  
142 256/60000 [.....] - ETA: 1s -  
    loss: 0.5438  
143 2560/60000 [>.....] - ETA: 1s -  
    loss: 0.5450  
144 4864/60000 [=>.....] - ETA: 1s -  
    loss: 0.5442  
145 7168/60000 [==>.....] - ETA: 1s -  
    loss: 0.5436  
146 9216/60000 [===>.....] - ETA: 1s -  
    loss: 0.5431  
147 11008/60000 [====>.....] - ETA: 1s -  
    loss: 0.5428  
148 12800/60000 [=====>.....] - ETA: 1s -  
    loss: 0.5424  
149 14848/60000 [=====>.....] - ETA: 1s -  
    loss: 0.5420  
150 16896/60000 [=====>.....] - ETA: 1s -  
    loss: 0.5415  
151 18944/60000 [=====>.....] - ETA: 1s -  
    loss: 0.5411  
152 20992/60000 [=====>.....] - ETA: 1s -  
    loss: 0.5406  
153 23296/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5401  
154 25344/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5397
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155 27392/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5392  
156 29696/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5387  
157 31744/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5383  
158 33792/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5378  
159 35840/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5374  
160 38144/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5369  
161 40448/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5364  
162 42752/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5359  
163 44800/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5355  
164 46848/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5351  
165 49152/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5346  
166 51200/60000 [=====>.....] - ETA: 0s -  
    loss: 0.5342  
167 53248/60000 [=====>....] - ETA: 0s -  
    loss: 0.5337  
168 55296/60000 [=====>...] - ETA: 0s -  
    loss: 0.5333  
169 57600/60000 [=====>..] - ETA: 0s -  
    loss: 0.5328  
170 59904/60000 [=====>.] - ETA: 0s -  
    loss: 0.5323  
171 60000/60000 [=====] - 2s 27us/  
    step - loss: 0.5323 - val_loss: 0.5198  
172  
173 Process finished with exit code 0  
174
```