1 C:\Users\toivo\anaconda3\python.exe "C:/Users/toivo/ OneDrive - TUNI.fi/Kurssimateriaalit/DATA.ML.200 Pattern Recognition and Machine Learning/Exercises/ Ex6/Ex6.pv" 2 2022-04-14 16:24:49.062900: W tensorflow/ stream executor/platform/default/dso loader.cc:641 Could not load dynamic library 'cudart64\_110.dll'; dlerror: cudart64\_110.dll not found 3 2022-04-14 16:24:49.063095: 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 2022-04-14 16:24:52.465561: W tensorflow/ stream\_executor/platform/default/dso\_loader.cc:64] Could not load dynamic library 'nvcuda.dll'; dlerror : nvcuda.dll not found 5 2022-04-14 16:24:52.465727: W tensorflow/ stream\_executor/cuda/cuda\_driver.cc:269] failed call to cuInit: UNKNOWN ERROR (303) 6 2022-04-14 16:24:52.468755: I tensorflow/ stream\_executor/cuda/cuda\_diagnostics.cc:169] retrieving CUDA diagnostic information for host: DESKTOP-LPPS6UM 7 2022-04-14 16:24:52.468955: I tensorflow/ stream\_executor/cuda/cuda\_diagnostics.cc:176] hostname: DESKTOP-LPPS6UM 8 2022-04-14 16:24:52.469406: I tensorflow/core/ platform/cpu\_feature\_quard.cc:151] This TensorFlow binary is optimized with oneAPI Deep Neural Network Library (oneDNN) to use the following CPU instructions in performance-critical operations: AVX AVX2 9 To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags. 10 Model: "sequential" 11 12 Layer (type) Output Shape Param # ========= 14 conv2d (Conv2D) (None, 31, 31, 10 ) 280 15

```
15
16 max_pooling2d (MaxPooling2D (None, 15, 15, 10
 )
17 )
18
19 conv2d_1 (Conv2D)
                  (None, 7, 7, 10
          910
20
21 max_pooling2d_1 (MaxPooling (None, 3, 3, 10
22 2D
  )
23
24 flatten (Flatten)
                        (None, 90
25
                        (None, 2
26 dense (Dense)
               182
27
=========
29 Total params: 1,372
30 Trainable params: 1,372
31 Non-trainable params: 0
32 _____
33 Epoch 1/20
34 14/14 [============== ] - Os 7ms/step
  - loss: 0.7420 - accuracy: 0.6123
35 Epoch 2/20
- loss: 0.7095 - accuracy: 0.6123
37 Epoch 3/20
38 14/14 [============= ] - Os 7ms/step
  - loss: 0.6986 - accuracy: 0.6052
39 Epoch 4/20
40 14/14 [============= ] - Os 6ms/step
```

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- loss: 0.6906 - accuracy: 0.5863
41 Epoch 5/20
42 14/14 [============ ] - Os 6ms/step
   - loss: 0.6843 - accuracy: 0.5981
43 Epoch 6/20
- loss: 0.6775 - accuracy: 0.6052
45 Epoch 7/20
46 14/14 [============ ] - Os 6ms/step
   - loss: 0.6712 - accuracy: 0.6478
47 Epoch 8/20
48 14/14 [=============== ] - Os 6ms/step
   - loss: 0.6656 - accuracy: 0.7139
49 Epoch 9/20
50 14/14 [============ ] - Os 6ms/step
   - loss: 0.6592 - accuracy: 0.6832
51 Epoch 10/20
52 14/14 [============ ] - Os 7ms/step
   - loss: 0.6521 - accuracy: 0.6927
53 Epoch 11/20
54 14/14 [============= ] - Os 6ms/step
   - loss: 0.6449 - accuracy: 0.7281
55 Epoch 12/20
56 14/14 [============= ] - Os 6ms/step
   - loss: 0.6382 - accuracy: 0.7187
57 Epoch 13/20
58 14/14 [============== ] - Os 6ms/step
   - loss: 0.6306 - accuracy: 0.7281
59 Epoch 14/20
60 14/14 [============= ] - Os 6ms/step
   - loss: 0.6227 - accuracy: 0.7683
61 Epoch 15/20
62 14/14 [============ ] - Os 7ms/step
   - loss: 0.6155 - accuracy: 0.7376
63 Epoch 16/20
64 14/14 [============ ] - Os 6ms/step
   - loss: 0.6077 - accuracy: 0.8487
65 Epoch 17/20
66 14/14 [============= ] - Os 6ms/step
   - loss: 0.5986 - accuracy: 0.8156
67 Epoch 18/20
68 14/14 [============= ] - Os 6ms/step
   - loss: 0.5899 - accuracy: 0.7541
69 Epoch 19/20
```

```
- loss: 0.5812 - accuracy: 0.8511
71 Epoch 20/20
72 14/14 [=========== ] - Os 6ms/step
  - loss: 0.5718 - accuracy: 0.7825
73 Training done
74 4/4 - 0s - loss: 0.5580 - accuracy: 0.8962 - 121ms/
  epoch - 30ms/step
75
76 Process finished with exit code 0
77
```