Міністерство освіти і науки України

ДНІПРОВСЬКИЙ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ імені Олеся Гончара

Факультет фізики, електроніки та комп’ютерних систем

Кафедра електронних обчислювальних машин

Звіт

з лабораторної роботи №3

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Керівник: Скуратовський І. А.

м. Дніпро

2024

Ілюстрації:

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Вівід в консолі:

2024-10-18 16:00:20.166643: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable `TF\_ENABLE\_ONEDNN\_OPTS=0`.

2024-10-18 16:00:21.145044: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable `TF\_ENABLE\_ONEDNN\_OPTS=0`.

2024-10-18 16:00:26.526344: I tensorflow/core/platform/cpu\_feature\_guard.cc:210] This TensorFlow binary is optimized to use available CPU instructions in performance-critical operations.

To enable the following instructions: AVX2 FMA, in other operations, rebuild TensorFlow with the appropriate compiler flags.

Epoch 1/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 4s 3ms/step - loss: 0.7908 - sparse\_categorical\_accuracy: 0.7982 - val\_loss: 0.1730 - val\_sparse\_categorical\_accuracy: 0.9495

Epoch 2/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.1511 - sparse\_categorical\_accuracy: 0.9550 - val\_loss: 0.1447 - val\_sparse\_categorical\_accuracy: 0.9581

Epoch 3/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.1057 - sparse\_categorical\_accuracy: 0.9672 - val\_loss: 0.1248 - val\_sparse\_categorical\_accuracy: 0.9634

Epoch 4/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0907 - sparse\_categorical\_accuracy: 0.9725 - val\_loss: 0.1212 - val\_sparse\_categorical\_accuracy: 0.9644

Epoch 5/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0740 - sparse\_categorical\_accuracy: 0.9776 - val\_loss: 0.1151 - val\_sparse\_categorical\_accuracy: 0.9672

Epoch 6/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0615 - sparse\_categorical\_accuracy: 0.9808 - val\_loss: 0.1115 - val\_sparse\_categorical\_accuracy: 0.9704

Epoch 7/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0593 - sparse\_categorical\_accuracy: 0.9813 - val\_loss: 0.1066 - val\_sparse\_categorical\_accuracy: 0.9705

Epoch 8/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0451 - sparse\_categorical\_accuracy: 0.9854 - val\_loss: 0.1240 - val\_sparse\_categorical\_accuracy: 0.9695

Epoch 9/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0446 - sparse\_categorical\_accuracy: 0.9851 - val\_loss: 0.1116 - val\_sparse\_categorical\_accuracy: 0.9713

Epoch 10/10

938/938 ━━━━━━━━━━━━━━━━━━━━ 2s 2ms/step - loss: 0.0373 - sparse\_categorical\_accuracy: 0.9883 - val\_loss: 0.1179 - val\_sparse\_categorical\_accuracy: 0.9705

313/313 ━━━━━━━━━━━━━━━━━━━━ 0s 1ms/step

Value 7 was predicted as 7

Value 2 was predicted as 2

Value 1 was predicted as 1

Value 0 was predicted as 0

Value 4 was predicted as 4

Process finished with exit code 0