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C:\Users\adity\PycharmProjects\crux_round_3\venv\
Scripts\python.exe C:/Users/adity/PycharmProjects/
crux_round_3/hyperparameter_evolution.py
Initialization started at Fri Mar  3 13:22:56 2023
2023-03-03 13:22:56.063822: I tensorflow/core/platform/
cpu_feature_guard.cc:193] This TensorFlow binary is
optimized with oneAPI Deep Neural Network Library (
oneDNN) to use the following CPU instructions in
performance-critical operations:  AVX AVX2
To enable them in other operations, rebuild TensorFlow
with the appropriate compiler flags.
Fri Mar  3 14:01:24 2023
GENERATION 0
Average accuracy: 0.337 || Best Accuracy: 0.66
0.66 0.653 0.584 0.446 0.424 0.347 0.272 0.264 0.1 0.1
0.1 0.099
Fri Mar  3 14:37:12 2023
GENERATION 1
Average accuracy: 0.518 || Best Accuracy: 0.674
0.674 0.66 0.653 0.641 0.631 0.584 0.446 0.445 0.424 0.
359 0.347 0.347

Fri Mar  3 15:21:06 2023
GENERATION 2
Average accuracy: 0.64 || Best Accuracy: 0.674
0.674 0.66 0.658 0.653 0.653 0.649 0.641 0.637 0.631 0.
626 0.617 0.584

Fri Mar  3 16:13:59 2023
GENERATION 3
Average accuracy: 0.631 || Best Accuracy: 0.684
0.684 0.674 0.668 0.664 0.66 0.66 0.658 0.653 0.653 0.
649 0.562 0.391

Fri Mar  3 17:09:48 2023
GENERATION 4
Average accuracy: 0.658 || Best Accuracy: 0.713
0.713 0.684 0.679 0.674 0.668 0.664 0.66 0.66 0.66 0.
656 0.653 0.518

Fri Mar  3 18:12:35 2023
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GENERATION 5

Average accuracy: 0.679 || Best Accuracy: 0.713
0.713 0.71 0.684 0.681 0.679 0.679 0.675 0.674 0.668 0.
665 0.664 0.66

Fri Mar 3 19:17:13 2023

GENERATION 6

Average accuracy: 0.688 || Best Accuracy: 0.713
0.713 0.71 0.702 0.701 0.69 0.684 0.681 0.679 0.679 0.
675 0.669 0.668

Fri Mar 3 20:07:57 2023

GENERATION 7

Average accuracy: 0.7 || Best Accuracy: 0.723
0.723 0.72 0.716 0.713 0.71 0.702 0.701 0.695 0.69 0.
684 0.675 0.672

Fri Mar 3 20:38:21 2023

GENERATION 8

Average accuracy: 0.712 || Best Accuracy: 0.723
0.723 0.72 0.719 0.718 0.716 0.714 0.713 0.71 0.709 0.
706 0.702 0.691

Fri Mar 3 21:12:54 2023

GENERATION 9

Average accuracy: 0.716 || Best Accuracy: 0.723
0.723 0.723 0.722 0.72 0.719 0.719 0.718 0.716 0.715 0.
714 0.708 0.699

Fri Mar 3 21:49:51 2023

GENERATION 10

Average accuracy: 0.718 || Best Accuracy: 0.723
0.723 0.723 0.722 0.72 0.719 0.719 0.718 0.717 0.716 0.
715 0.713 0.707

Best-performing architectures:

0

Model: "sequential_60"

| Layer (type) | Output Shape |
|-----------------------------|--------------------|
| Param # | |
| ===== | |
| ===== | |
| conv2d_113 (Conv2D) | (None, 32, 32, 32) |
| 416 | |
| conv2d_114 (Conv2D) | (None, 32, 32, 32) |
| 9248 | |
| max_pooling2d_71 (MaxPoolin | (None, 8, 8, 32) |
| 0 | |
| g2D | |
|) | |
| flatten_60 (Flatten) | (None, 2048) |
| 0 | |
| dense_155 (Dense) | (None, 256) |
| 524544 | |
| dense_156 (Dense) | (None, 512) |
| 131584 | |
| dense_157 (Dense) | (None, 10) |
| 5130 | |
| ===== | |
| ===== | |
| Total params: 670,922 | |
| Trainable params: 670,922 | |
| Non-trainable params: 0 | |
| ----- | |

None

Hyperparameters tuned: [8, [{'filters': 32, 'kernel_size': 2, 'strides': 1, 'activation': 'relu'}, {'filters': 32, 'kernel_size': 3, 'strides': 1, 'activation': 'relu'}], [{'pool_size': 4}], [{'n_nodes': 256, 'activation': 'sigmoid'}, {'n_nodes': 512, 'activation': 'sigmoid'}], 'adam']

1

Model: "sequential_49"

| Layer (type) | Output Shape |
|---------------------------------|--------------------|
| Param # | |
| conv2d_91 (Conv2D) | (None, 32, 32, 32) |
| 416 | |
| conv2d_92 (Conv2D) | (None, 32, 32, 32) |
| 9248 | |
| max_pooling2d_60 (MaxPooling2D) | (None, 8, 8, 32) |
| 0 | |
| g2D | |
|) | |
| flatten_49 (Flatten) | (None, 2048) |
| 0 | |
| dense_123 (Dense) | (None, 256) |
| 524544 | |
| dense_124 (Dense) | (None, 512) |

131584

dense_125 (Dense) (None, 10)
5130

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Total params: 670,922
Trainable params: 670,922
Non-trainable params: 0

None
Hyperparameters tuned: [8, [{'filters': 32, 'kernel_size': 2, 'strides': 1, 'activation': 'relu'}, {'filters': 32, 'kernel_size': 3, 'strides': 1, 'activation': 'relu'}], [{'pool_size': 4}], [{'n_nodes': 256, 'activation': 'sigmoid'}, {'n_nodes': 512, 'activation': 'sigmoid'}], 'adam']

2

Model: "sequential_62"

| Layer (type) | Output Shape |
|--------------|--------------|
| Param # | |

=====
=====

| | |
|---------------------|--------------------|
| conv2d_117 (Conv2D) | (None, 32, 32, 32) |
|---------------------|--------------------|

416

| | |
|---------------------|--------------------|
| conv2d_118 (Conv2D) | (None, 32, 32, 32) |
|---------------------|--------------------|

9248

| | |
|-----------------------------|------------------|
| max_pooling2d_73 (MaxPoolin | (None, 8, 8, 32) |
|-----------------------------|------------------|

0
g2D

)

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flatten_62 (Flatten)      (None, 2048)
0

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dense_161 (Dense)        (None, 256)
524544

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dense_162 (Dense)        (None, 512)
131584

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dense_163 (Dense)        (None, 10)
5130

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=====
Total params: 670,922
Trainable params: 670,922
Non-trainable params: 0

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None
Hyperparameters tuned: [8, [{'filters': 32, '
kernel_size': 2, 'strides': 1, 'activation': 'relu
'}, {'filters': 32, 'kernel_size': 3, 'strides': 1, '
activation': 'relu'}], [{'pool_size': 4}], [{'n_nodes
': 256, 'activation': 'sigmoid'}, {'n_nodes': 512, '
activation': 'sigmoid'}], 'adam']

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3
Model: "sequential_50"

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Layer (type)                Output Shape

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Param #
=====
=====
conv2d_93 (Conv2D)          (None, 32, 32, 32)
416

conv2d_94 (Conv2D)          (None, 32, 32, 32)
9248

max_pooling2d_61 (MaxPoolin (None, 8, 8, 32)
0
g2D
)

flatten_50 (Flatten)        (None, 2048)
0

dense_126 (Dense)           (None, 256)
524544

dense_127 (Dense)           (None, 512)
131584

dense_128 (Dense)           (None, 10)
5130

=====
=====
Total params: 670,922
Trainable params: 670,922
Non-trainable params: 0
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None

```
Hyperparameters tuned: [5, [{'filters': 32, 'kernel_size': 2, 'strides': 1, 'activation': 'relu'}, {'filters': 32, 'kernel_size': 3, 'strides': 1, 'activation': 'relu'}], [{'pool_size': 4}], [{'n_nodes': 256, 'activation': 'sigmoid'}, {'n_nodes': 512, 'activation': 'sigmoid'}], 'adam']
```

Ended at: Fri Mar 3 21:49:51 2023

Process finished with exit code 0