

# DLCV HW1 report

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P1:

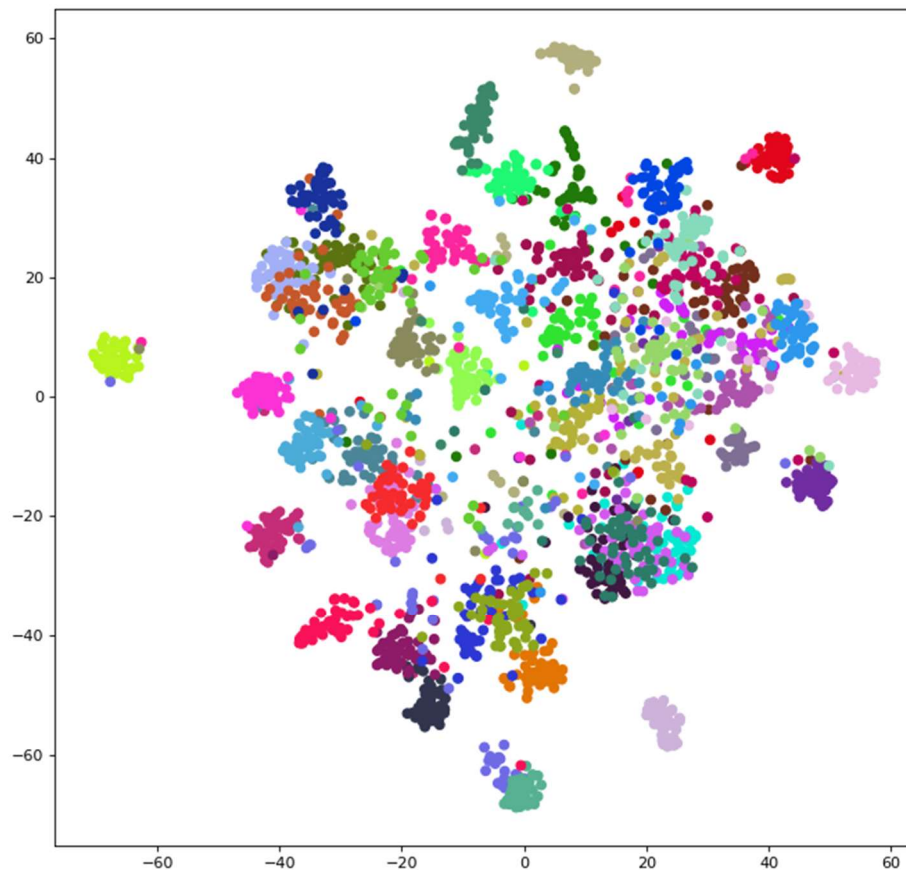
## 1. network architecture

我使用了四個 pretrained 的 densenet 的 model 做 ensemble: Densenet121, Densenet161, Densenet169, Densenet201

因為 Model 過長，附於 report 的最後(1~4)

2. accuracy=0.81171

3.



每一個不同的顏色代表著一個 `class`，可以看到，多數的 `class` 已經大致區分開了，但還是有一些混雜在一起，這是因為我的 `model` 只有 0.81171 的準確率，還不夠完美

※我是拿四個 model 倒數第二個 layer 的輸出相加除四後繪成的圖

P2:

1. model 過長，附於 report 最後(5)
2. 我用了兩個 resnet50deeplabv3，兩個 resnet101deeplabv3，一個 resnet50fcn 以及一個 resnet101fcn 做 ensemble，model 過長，附於 report 最後(6~9)
3. mIoU=0.63197
4. 沒有記錄到前期和中期，這是 train 完的結果

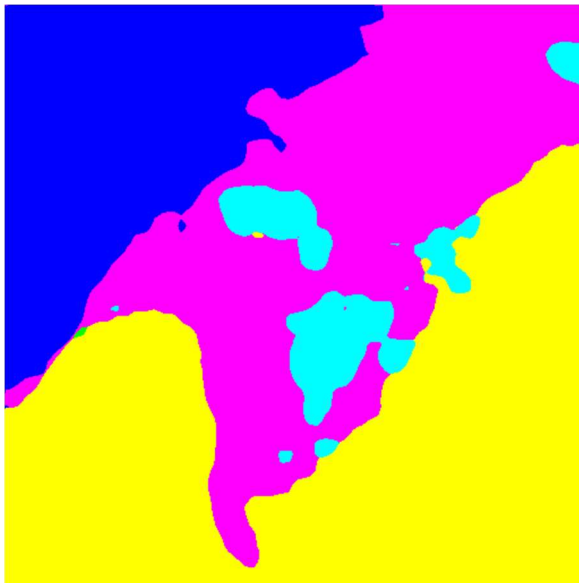
0010\_mask.png



0097\_mask.png



0107\_mask.png



附:

## 1.densenet121

```
d121m(
  (net): Sequential(
    (0): DenseNet(
      (features): Sequential(
        (conv0): Conv2d(3, 64, kernel_size=(7, 7), stride=(2, 2),
padding=(3, 3), bias=False)
        (norm0): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu0): ReLU(inplace=True)
        (pool0): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
        (denseblock1): _DenseBlock(
          (denselayer1): _DenseLayer(
            (norm1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)
            (conv1): Conv2d(64, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu2): ReLU(inplace=True)
            (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          )
          (denselayer2): _DenseLayer(
            (norm1): BatchNorm2d(96, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)
            (conv1): Conv2d(96, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu2): ReLU(inplace=True)
            (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
```

```

    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(128, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(160, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(192, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(

```

```

        (norm1): BatchNorm2d(224, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(224, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition1): _Transition(
    (norm): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(256, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock2): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(128, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

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        (conv1): Conv2d(160, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(192, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(224, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(224, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(256, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

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        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(288, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(320, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(320, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(352, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(352, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

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        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(384, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(416, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(416, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(448, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(448, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

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        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(480, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition2): _Transition(
    (norm): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(512, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock3): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(256, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(

```

```

        (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(288, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(320, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(320, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(352, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(352, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(384, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(416, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(416, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(448, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(448, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(480, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(512, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(544, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(544, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(576, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(576, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(608, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(608, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer13): _DenseLayer(
        (norm1): BatchNorm2d(640, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(640, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer14): _DenseLayer(
        (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(672, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer15): _DenseLayer(
        (norm1): BatchNorm2d(704, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(704, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer16): _DenseLayer(
        (norm1): BatchNorm2d(736, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(736, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer17): _DenseLayer(
        (norm1): BatchNorm2d(768, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(768, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer18): _DenseLayer(
        (norm1): BatchNorm2d(800, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(800, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer19): _DenseLayer(
        (norm1): BatchNorm2d(832, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(832, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer20): _DenseLayer(
        (norm1): BatchNorm2d(864, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(864, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer21): _DenseLayer(
        (norm1): BatchNorm2d(896, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(896, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer22): _DenseLayer(
        (norm1): BatchNorm2d(928, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(928, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer23): _DenseLayer(
        (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(960, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer24): _DenseLayer(

```



```

        (norm1): BatchNorm2d(992, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(992, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition3): _Transition(
    (norm): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(1024, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock4): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(512, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(544, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(544, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(576, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(576, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(608, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(608, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(640, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(640, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(672, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(704, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(704, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(736, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(736, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(768, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(768, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(800, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(800, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(832, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(832, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(864, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(864, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer13): _DenseLayer(
        (norm1): BatchNorm2d(896, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(896, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer14): _DenseLayer(
        (norm1): BatchNorm2d(928, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(928, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer15): _DenseLayer(
        (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(960, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer16): _DenseLayer(
        (norm1): BatchNorm2d(992, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(992, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    )
    (norm5): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
    (classifier): Linear(in_features=1024, out_features=1000,
bias=True)
    )
    (1): Linear(in_features=1000, out_features=50, bias=True)
    )
)

```

## 2.densenet161

```
d161m(
  (net): Sequential(
    (0): DenseNet(
      (features): Sequential(
        (conv0): Conv2d(3, 96, kernel_size=(7, 7), stride=(2, 2),
padding=(3, 3), bias=False)
        (norm0): BatchNorm2d(96, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu0): ReLU(inplace=True)
        (pool0): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
        (denseblock1): _DenseBlock(
          (denselayer1): _DenseLayer(
            (norm1): BatchNorm2d(96, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)
            (conv1): Conv2d(96, 192, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu2): ReLU(inplace=True)
            (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          )
          (denselayer2): _DenseLayer(
            (norm1): BatchNorm2d(144, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)
            (conv1): Conv2d(144, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
            (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu2): ReLU(inplace=True)
            (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          )
          (denselayer3): _DenseLayer(
```

```

        (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(192, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(240, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(240, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(288, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(336, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```



```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(336, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition1): _Transition(
    (norm): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(384, 192, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock2): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(192, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(240, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(240, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(288, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(336, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(336, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(384, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(432, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(432, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(480, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(528, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(528, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(576, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(576, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(624, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(624, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(672, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(720, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(720, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition2): _Transition(
    (norm): BatchNorm2d(768, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(768, 384, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock3): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(384, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(432, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(432, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(480, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(528, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(528, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(576, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(576, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(624, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(624, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(672, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(720, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(720, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(768, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(768, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(816, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(816, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(864, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(864, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```



```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(912, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(912, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer13): _DenseLayer(
        (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(960, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer14): _DenseLayer(
        (norm1): BatchNorm2d(1008, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1008, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer15): _DenseLayer(
        (norm1): BatchNorm2d(1056, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1056, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer16): _DenseLayer(
        (norm1): BatchNorm2d(1104, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1104, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer17): _DenseLayer(
        (norm1): BatchNorm2d(1152, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1152, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer18): _DenseLayer(
        (norm1): BatchNorm2d(1200, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1200, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer19): _DenseLayer(
        (norm1): BatchNorm2d(1248, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1248, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer20): _DenseLayer(
        (norm1): BatchNorm2d(1296, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1296, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer21): _DenseLayer(

```

```

        (norm1): BatchNorm2d(1344, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1344, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer22): _DenseLayer(
        (norm1): BatchNorm2d(1392, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1392, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer23): _DenseLayer(
        (norm1): BatchNorm2d(1440, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1440, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer24): _DenseLayer(
        (norm1): BatchNorm2d(1488, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1488, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer25): _DenseLayer(
        (norm1): BatchNorm2d(1536, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1536, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer26): _DenseLayer(
        (norm1): BatchNorm2d(1584, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1584, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer27): _DenseLayer(
        (norm1): BatchNorm2d(1632, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(1632, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer28): _DenseLayer(
        (norm1): BatchNorm2d(1680, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1680, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer29): _DenseLayer(
        (norm1): BatchNorm2d(1728, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1728, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer30): _DenseLayer(
        (norm1): BatchNorm2d(1776, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1776, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer31): _DenseLayer(
        (norm1): BatchNorm2d(1824, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1824, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer32): _DenseLayer(
        (norm1): BatchNorm2d(1872, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1872, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer33): _DenseLayer(
        (norm1): BatchNorm2d(1920, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1920, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer34): _DenseLayer(
        (norm1): BatchNorm2d(1968, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1968, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer35): _DenseLayer(
        (norm1): BatchNorm2d(2016, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(2016, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer36): _DenseLayer(
        (norm1): BatchNorm2d(2064, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(2064, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```



```

        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition3): _Transition(
    (norm): BatchNorm2d(2112, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(2112, 1056, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock4): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(1056, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1056, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(1104, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1104, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(

```

```

        (norm1): BatchNorm2d(1152, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1152, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(1200, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1200, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(1248, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1248, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(1296, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1296, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(1344, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1344, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(1392, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1392, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(1440, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(1440, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(1488, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1488, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(1536, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1536, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(1584, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1584, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer13): _DenseLayer(
        (norm1): BatchNorm2d(1632, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1632, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer14): _DenseLayer(
        (norm1): BatchNorm2d(1680, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1680, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer15): _DenseLayer(
        (norm1): BatchNorm2d(1728, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1728, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer16): _DenseLayer(
        (norm1): BatchNorm2d(1776, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1776, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer17): _DenseLayer(
        (norm1): BatchNorm2d(1824, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1824, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer18): _DenseLayer(
        (norm1): BatchNorm2d(1872, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1872, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer19): _DenseLayer(
        (norm1): BatchNorm2d(1920, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1920, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer20): _DenseLayer(
        (norm1): BatchNorm2d(1968, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1968, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer21): _DenseLayer(
        (norm1): BatchNorm2d(2016, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(2016, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer22): _DenseLayer(
        (norm1): BatchNorm2d(2064, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(2064, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer23): _DenseLayer(
        (norm1): BatchNorm2d(2112, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(2112, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer24): _DenseLayer(
        (norm1): BatchNorm2d(2160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(2160, 192, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(192, 48, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)

```



```

        (norm5): BatchNorm2d(2208, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
    (classifier): Linear(in_features=2208, out_features=1000,
bias=True)
    )
    (1): Linear(in_features=1000, out_features=50, bias=True)
    )
)

```

**3. densenet169**

```

4. d169m(
5.     (net): Sequential(
6.         (0): DenseNet(
7.             (features): Sequential(
8.                 (conv0): Conv2d(3, 64, kernel_size=(7, 7), stride=(2,
2), padding=(3, 3), bias=False)
9.                 (norm0): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
10.                (relu0): ReLU(inplace=True)
11.                (pool0): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
12.                (denseblock1): _DenseBlock(
13.                    (denselayer1): _DenseLayer(
14.                        (norm1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
15.                        (relu1): ReLU(inplace=True)
16.                        (conv1): Conv2d(64, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
17.                        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
18.                        (relu2): ReLU(inplace=True)
19.                        (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
20.                    )
21.                    (denselayer2): _DenseLayer(
22.                        (norm1): BatchNorm2d(96, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
23.                        (relu1): ReLU(inplace=True)

```

```
24.         (conv1): Conv2d(96, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
25.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
26.         (relu2): ReLU(inplace=True)
27.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
28.     )
29.     (denselayer3): _DenseLayer(
30.         (norm1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
31.         (relu1): ReLU(inplace=True)
32.         (conv1): Conv2d(128, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
33.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
34.         (relu2): ReLU(inplace=True)
35.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
36.     )
37.     (denselayer4): _DenseLayer(
38.         (norm1): BatchNorm2d(160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
39.         (relu1): ReLU(inplace=True)
40.         (conv1): Conv2d(160, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
41.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
42.         (relu2): ReLU(inplace=True)
43.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
44.     )
45.     (denselayer5): _DenseLayer(
46.         (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
47.         (relu1): ReLU(inplace=True)
48.         (conv1): Conv2d(192, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
```

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49.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
50.         (relu2): ReLU(inplace=True)
51.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
52.     )
53.     (denselayer6): _DenseLayer(
54.         (norm1): BatchNorm2d(224, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
55.         (relu1): ReLU(inplace=True)
56.         (conv1): Conv2d(224, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
57.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
58.         (relu2): ReLU(inplace=True)
59.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
60.     )
61. )
62. (transition1): _Transition(
63.     (norm): BatchNorm2d(256, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
64.     (relu): ReLU(inplace=True)
65.     (conv): Conv2d(256, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
66.     (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
67. )
68. (denseblock2): _DenseBlock(
69.     (denselayer1): _DenseLayer(
70.         (norm1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
71.         (relu1): ReLU(inplace=True)
72.         (conv1): Conv2d(128, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
73.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
74.         (relu2): ReLU(inplace=True)
```

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75.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
76.     )
77.     (denselayer2): _DenseLayer(
78.         (norm1): BatchNorm2d(160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
79.         (relu1): ReLU(inplace=True)
80.         (conv1): Conv2d(160, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
81.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
82.         (relu2): ReLU(inplace=True)
83.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
84.     )
85.     (denselayer3): _DenseLayer(
86.         (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
87.         (relu1): ReLU(inplace=True)
88.         (conv1): Conv2d(192, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
89.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
90.         (relu2): ReLU(inplace=True)
91.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
92.     )
93.     (denselayer4): _DenseLayer(
94.         (norm1): BatchNorm2d(224, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
95.         (relu1): ReLU(inplace=True)
96.         (conv1): Conv2d(224, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
97.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
98.         (relu2): ReLU(inplace=True)
99.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
```

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100.         )
101.         (denselayer5): _DenseLayer(
102.             (norm1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
103.             (relu1): ReLU(inplace=True)
104.             (conv1): Conv2d(256, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
105.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
106.             (relu2): ReLU(inplace=True)
107.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
108.         )
109.         (denselayer6): _DenseLayer(
110.             (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
111.             (relu1): ReLU(inplace=True)
112.             (conv1): Conv2d(288, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
113.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
114.             (relu2): ReLU(inplace=True)
115.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
116.         )
117.         (denselayer7): _DenseLayer(
118.             (norm1): BatchNorm2d(320, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
119.             (relu1): ReLU(inplace=True)
120.             (conv1): Conv2d(320, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
121.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
122.             (relu2): ReLU(inplace=True)
123.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
124.         )
125.         (denselayer8): DenseLayer(

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126.         (norm1): BatchNorm2d(352, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
127.         (relu1): ReLU(inplace=True)
128.         (conv1): Conv2d(352, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
129.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
130.         (relu2): ReLU(inplace=True)
131.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
132.     )
133.     (denselayer9): _DenseLayer(
134.         (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
135.         (relu1): ReLU(inplace=True)
136.         (conv1): Conv2d(384, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
137.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
138.         (relu2): ReLU(inplace=True)
139.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
140.     )
141.     (denselayer10): _DenseLayer(
142.         (norm1): BatchNorm2d(416, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
143.         (relu1): ReLU(inplace=True)
144.         (conv1): Conv2d(416, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
145.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
146.         (relu2): ReLU(inplace=True)
147.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
148.     )
149.     (denselayer11): _DenseLayer(
150.         (norm1): BatchNorm2d(448, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)

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151.         (relu1): ReLU(inplace=True)
152.         (conv1): Conv2d(448, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
153.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
154.         (relu2): ReLU(inplace=True)
155.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
156.     )
157.     (denselayer12): _DenseLayer(
158.         (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
159.         (relu1): ReLU(inplace=True)
160.         (conv1): Conv2d(480, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
161.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
162.         (relu2): ReLU(inplace=True)
163.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
164.     )
165. )
166. (transition2): _Transition(
167.     (norm): BatchNorm2d(512, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
168.     (relu): ReLU(inplace=True)
169.     (conv): Conv2d(512, 256, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
170.     (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
171. )
172. (denseblock3): _DenseBlock(
173.     (denselayer1): _DenseLayer(
174.         (norm1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
175.         (relu1): ReLU(inplace=True)
176.         (conv1): Conv2d(256, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
```

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177.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
178.         (relu2): ReLU(inplace=True)
179.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
180.     )
181.     (denselayer2): _DenseLayer(
182.         (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
183.         (relu1): ReLU(inplace=True)
184.         (conv1): Conv2d(288, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
185.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
186.         (relu2): ReLU(inplace=True)
187.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
188.     )
189.     (denselayer3): _DenseLayer(
190.         (norm1): BatchNorm2d(320, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
191.         (relu1): ReLU(inplace=True)
192.         (conv1): Conv2d(320, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
193.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
194.         (relu2): ReLU(inplace=True)
195.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
196.     )
197.     (denselayer4): _DenseLayer(
198.         (norm1): BatchNorm2d(352, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
199.         (relu1): ReLU(inplace=True)
200.         (conv1): Conv2d(352, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
201.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
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202.         (relu2): ReLU(inplace=True)
203.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
204.     )
205.     (denselayer5): _DenseLayer(
206.         (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
207.         (relu1): ReLU(inplace=True)
208.         (conv1): Conv2d(384, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
209.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
210.         (relu2): ReLU(inplace=True)
211.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
212.     )
213.     (denselayer6): _DenseLayer(
214.         (norm1): BatchNorm2d(416, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
215.         (relu1): ReLU(inplace=True)
216.         (conv1): Conv2d(416, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
217.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
218.         (relu2): ReLU(inplace=True)
219.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
220.     )
221.     (denselayer7): _DenseLayer(
222.         (norm1): BatchNorm2d(448, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
223.         (relu1): ReLU(inplace=True)
224.         (conv1): Conv2d(448, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
225.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
226.         (relu2): ReLU(inplace=True)
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227.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
228.     )
229.     (denselayer8): _DenseLayer(
230.         (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
231.         (relu1): ReLU(inplace=True)
232.         (conv1): Conv2d(480, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
233.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
234.         (relu2): ReLU(inplace=True)
235.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
236.     )
237.     (denselayer9): _DenseLayer(
238.         (norm1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
239.         (relu1): ReLU(inplace=True)
240.         (conv1): Conv2d(512, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
241.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
242.         (relu2): ReLU(inplace=True)
243.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
244.     )
245.     (denselayer10): _DenseLayer(
246.         (norm1): BatchNorm2d(544, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
247.         (relu1): ReLU(inplace=True)
248.         (conv1): Conv2d(544, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
249.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
250.         (relu2): ReLU(inplace=True)
251.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
```

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252.         )
253.         (denselayer11): _DenseLayer(
254.             (norm1): BatchNorm2d(576, eps=1e-05, momentum=0.1,
                affine=True, track_running_stats=True)
255.             (relu1): ReLU(inplace=True)
256.             (conv1): Conv2d(576, 128, kernel_size=(1, 1),
                stride=(1, 1), bias=False)
257.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
                affine=True, track_running_stats=True)
258.             (relu2): ReLU(inplace=True)
259.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
                stride=(1, 1), padding=(1, 1), bias=False)
260.         )
261.         (denselayer12): _DenseLayer(
262.             (norm1): BatchNorm2d(608, eps=1e-05, momentum=0.1,
                affine=True, track_running_stats=True)
263.             (relu1): ReLU(inplace=True)
264.             (conv1): Conv2d(608, 128, kernel_size=(1, 1),
                stride=(1, 1), bias=False)
265.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
                affine=True, track_running_stats=True)
266.             (relu2): ReLU(inplace=True)
267.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
                stride=(1, 1), padding=(1, 1), bias=False)
268.         )
269.         (denselayer13): _DenseLayer(
270.             (norm1): BatchNorm2d(640, eps=1e-05, momentum=0.1,
                affine=True, track_running_stats=True)
271.             (relu1): ReLU(inplace=True)
272.             (conv1): Conv2d(640, 128, kernel_size=(1, 1),
                stride=(1, 1), bias=False)
273.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
                affine=True, track_running_stats=True)
274.             (relu2): ReLU(inplace=True)
275.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
                stride=(1, 1), padding=(1, 1), bias=False)
276.         )
277.         (denselayer14): _DenseLayer(
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278.         (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
279.         (relu1): ReLU(inplace=True)
280.         (conv1): Conv2d(672, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
281.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
282.         (relu2): ReLU(inplace=True)
283.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
284.     )
285.     (denselayer15): _DenseLayer(
286.         (norm1): BatchNorm2d(704, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
287.         (relu1): ReLU(inplace=True)
288.         (conv1): Conv2d(704, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
289.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
290.         (relu2): ReLU(inplace=True)
291.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
292.     )
293.     (denselayer16): _DenseLayer(
294.         (norm1): BatchNorm2d(736, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
295.         (relu1): ReLU(inplace=True)
296.         (conv1): Conv2d(736, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
297.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
298.         (relu2): ReLU(inplace=True)
299.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
300.     )
301.     (denselayer17): _DenseLayer(
302.         (norm1): BatchNorm2d(768, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
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303.         (relu1): ReLU(inplace=True)
304.         (conv1): Conv2d(768, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
305.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
306.         (relu2): ReLU(inplace=True)
307.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
308.     )
309.     (denselayer18): _DenseLayer(
310.         (norm1): BatchNorm2d(800, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
311.         (relu1): ReLU(inplace=True)
312.         (conv1): Conv2d(800, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
313.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
314.         (relu2): ReLU(inplace=True)
315.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
316.     )
317.     (denselayer19): _DenseLayer(
318.         (norm1): BatchNorm2d(832, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
319.         (relu1): ReLU(inplace=True)
320.         (conv1): Conv2d(832, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
321.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
322.         (relu2): ReLU(inplace=True)
323.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
324.     )
325.     (denselayer20): _DenseLayer(
326.         (norm1): BatchNorm2d(864, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
327.         (relu1): ReLU(inplace=True)
```

```
328.         (conv1): Conv2d(864, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
329.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
330.         (relu2): ReLU(inplace=True)
331.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
332.     )
333.     (denselayer21): _DenseLayer(
334.         (norm1): BatchNorm2d(896, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
335.         (relu1): ReLU(inplace=True)
336.         (conv1): Conv2d(896, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
337.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
338.         (relu2): ReLU(inplace=True)
339.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
340.     )
341.     (denselayer22): _DenseLayer(
342.         (norm1): BatchNorm2d(928, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
343.         (relu1): ReLU(inplace=True)
344.         (conv1): Conv2d(928, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
345.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
346.         (relu2): ReLU(inplace=True)
347.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
348.     )
349.     (denselayer23): _DenseLayer(
350.         (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
351.         (relu1): ReLU(inplace=True)
352.         (conv1): Conv2d(960, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
```

```
353.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
354.         (relu2): ReLU(inplace=True)
355.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
356.     )
357.     (denselayer24): _DenseLayer(
358.         (norm1): BatchNorm2d(992, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
359.         (relu1): ReLU(inplace=True)
360.         (conv1): Conv2d(992, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
361.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
362.         (relu2): ReLU(inplace=True)
363.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
364.     )
365.     (denselayer25): _DenseLayer(
366.         (norm1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
367.         (relu1): ReLU(inplace=True)
368.         (conv1): Conv2d(1024, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
369.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
370.         (relu2): ReLU(inplace=True)
371.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
372.     )
373.     (denselayer26): _DenseLayer(
374.         (norm1): BatchNorm2d(1056, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
375.         (relu1): ReLU(inplace=True)
376.         (conv1): Conv2d(1056, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
377.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
```

```
378.         (relu2): ReLU(inplace=True)
379.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
380.     )
381.     (denselayer27): _DenseLayer(
382.         (norm1): BatchNorm2d(1088, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
383.         (relu1): ReLU(inplace=True)
384.         (conv1): Conv2d(1088, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
385.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
386.         (relu2): ReLU(inplace=True)
387.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
388.     )
389.     (denselayer28): _DenseLayer(
390.         (norm1): BatchNorm2d(1120, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
391.         (relu1): ReLU(inplace=True)
392.         (conv1): Conv2d(1120, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
393.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
394.         (relu2): ReLU(inplace=True)
395.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
396.     )
397.     (denselayer29): _DenseLayer(
398.         (norm1): BatchNorm2d(1152, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
399.         (relu1): ReLU(inplace=True)
400.         (conv1): Conv2d(1152, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
401.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
402.         (relu2): ReLU(inplace=True)
```



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403.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
404.     )
405.     (denselayer30): _DenseLayer(
406.         (norm1): BatchNorm2d(1184, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
407.         (relu1): ReLU(inplace=True)
408.         (conv1): Conv2d(1184, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
409.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
410.         (relu2): ReLU(inplace=True)
411.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
412.     )
413.     (denselayer31): _DenseLayer(
414.         (norm1): BatchNorm2d(1216, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
415.         (relu1): ReLU(inplace=True)
416.         (conv1): Conv2d(1216, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
417.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
418.         (relu2): ReLU(inplace=True)
419.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
420.     )
421.     (denselayer32): _DenseLayer(
422.         (norm1): BatchNorm2d(1248, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
423.         (relu1): ReLU(inplace=True)
424.         (conv1): Conv2d(1248, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
425.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
426.         (relu2): ReLU(inplace=True)
427.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
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428.         )
429.     )
430.     (transition3): _Transition(
431.         (norm): BatchNorm2d(1280, eps=1e-05, momentum=0.1,
         affine=True, track_running_stats=True)
432.         (relu): ReLU(inplace=True)
433.         (conv): Conv2d(1280, 640, kernel_size=(1, 1),
         stride=(1, 1), bias=False)
434.         (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
435.     )
436.     (denseblock4): _DenseBlock(
437.         (denselayer1): _DenseLayer(
438.             (norm1): BatchNorm2d(640, eps=1e-05, momentum=0.1,
             affine=True, track_running_stats=True)
439.             (relu1): ReLU(inplace=True)
440.             (conv1): Conv2d(640, 128, kernel_size=(1, 1),
             stride=(1, 1), bias=False)
441.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
             affine=True, track_running_stats=True)
442.             (relu2): ReLU(inplace=True)
443.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
             stride=(1, 1), padding=(1, 1), bias=False)
444.         )
445.         (denselayer2): _DenseLayer(
446.             (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
             affine=True, track_running_stats=True)
447.             (relu1): ReLU(inplace=True)
448.             (conv1): Conv2d(672, 128, kernel_size=(1, 1),
             stride=(1, 1), bias=False)
449.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
             affine=True, track_running_stats=True)
450.             (relu2): ReLU(inplace=True)
451.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
             stride=(1, 1), padding=(1, 1), bias=False)
452.         )
453.         (denselayer3): _DenseLayer(
454.             (norm1): BatchNorm2d(704, eps=1e-05, momentum=0.1,
             affine=True, track_running_stats=True)

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455.         (relu1): ReLU(inplace=True)
456.         (conv1): Conv2d(704, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
457.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
458.         (relu2): ReLU(inplace=True)
459.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
460.     )
461.     (denselayer4): _DenseLayer(
462.         (norm1): BatchNorm2d(736, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
463.         (relu1): ReLU(inplace=True)
464.         (conv1): Conv2d(736, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
465.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
466.         (relu2): ReLU(inplace=True)
467.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
468.     )
469.     (denselayer5): _DenseLayer(
470.         (norm1): BatchNorm2d(768, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
471.         (relu1): ReLU(inplace=True)
472.         (conv1): Conv2d(768, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
473.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
474.         (relu2): ReLU(inplace=True)
475.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
476.     )
477.     (denselayer6): _DenseLayer(
478.         (norm1): BatchNorm2d(800, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
479.         (relu1): ReLU(inplace=True)
```

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480.         (conv1): Conv2d(800, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
481.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
482.         (relu2): ReLU(inplace=True)
483.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
484.     )
485.     (denselayer7): _DenseLayer(
486.         (norm1): BatchNorm2d(832, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
487.         (relu1): ReLU(inplace=True)
488.         (conv1): Conv2d(832, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
489.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
490.         (relu2): ReLU(inplace=True)
491.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
492.     )
493.     (denselayer8): _DenseLayer(
494.         (norm1): BatchNorm2d(864, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
495.         (relu1): ReLU(inplace=True)
496.         (conv1): Conv2d(864, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
497.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
498.         (relu2): ReLU(inplace=True)
499.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
500.     )
501.     (denselayer9): _DenseLayer(
502.         (norm1): BatchNorm2d(896, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
503.         (relu1): ReLU(inplace=True)
504.         (conv1): Conv2d(896, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
```

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505.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
506.         (relu2): ReLU(inplace=True)
507.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
508.     )
509.     (denselayer10): _DenseLayer(
510.         (norm1): BatchNorm2d(928, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
511.         (relu1): ReLU(inplace=True)
512.         (conv1): Conv2d(928, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
513.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
514.         (relu2): ReLU(inplace=True)
515.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
516.     )
517.     (denselayer11): _DenseLayer(
518.         (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
519.         (relu1): ReLU(inplace=True)
520.         (conv1): Conv2d(960, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
521.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
522.         (relu2): ReLU(inplace=True)
523.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
524.     )
525.     (denselayer12): _DenseLayer(
526.         (norm1): BatchNorm2d(992, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
527.         (relu1): ReLU(inplace=True)
528.         (conv1): Conv2d(992, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
529.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
```

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530.         (relu2): ReLU(inplace=True)
531.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
532.     )
533.     (denselayer13): _DenseLayer(
534.         (norm1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
535.         (relu1): ReLU(inplace=True)
536.         (conv1): Conv2d(1024, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
537.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
538.         (relu2): ReLU(inplace=True)
539.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
540.     )
541.     (denselayer14): _DenseLayer(
542.         (norm1): BatchNorm2d(1056, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
543.         (relu1): ReLU(inplace=True)
544.         (conv1): Conv2d(1056, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
545.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
546.         (relu2): ReLU(inplace=True)
547.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
548.     )
549.     (denselayer15): _DenseLayer(
550.         (norm1): BatchNorm2d(1088, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
551.         (relu1): ReLU(inplace=True)
552.         (conv1): Conv2d(1088, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
553.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
554.         (relu2): ReLU(inplace=True)
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555.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
556.     )
557.     (denselayer16): _DenseLayer(
558.         (norm1): BatchNorm2d(1120, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
559.         (relu1): ReLU(inplace=True)
560.         (conv1): Conv2d(1120, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
561.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
562.         (relu2): ReLU(inplace=True)
563.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
564.     )
565.     (denselayer17): _DenseLayer(
566.         (norm1): BatchNorm2d(1152, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
567.         (relu1): ReLU(inplace=True)
568.         (conv1): Conv2d(1152, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
569.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
570.         (relu2): ReLU(inplace=True)
571.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
572.     )
573.     (denselayer18): _DenseLayer(
574.         (norm1): BatchNorm2d(1184, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
575.         (relu1): ReLU(inplace=True)
576.         (conv1): Conv2d(1184, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
577.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
578.         (relu2): ReLU(inplace=True)
579.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)

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580.         )
581.         (denselayer19): _DenseLayer(
582.             (norm1): BatchNorm2d(1216, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
583.             (relu1): ReLU(inplace=True)
584.             (conv1): Conv2d(1216, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
585.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
586.             (relu2): ReLU(inplace=True)
587.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
588.         )
589.         (denselayer20): _DenseLayer(
590.             (norm1): BatchNorm2d(1248, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
591.             (relu1): ReLU(inplace=True)
592.             (conv1): Conv2d(1248, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
593.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
594.             (relu2): ReLU(inplace=True)
595.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
596.         )
597.         (denselayer21): _DenseLayer(
598.             (norm1): BatchNorm2d(1280, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
599.             (relu1): ReLU(inplace=True)
600.             (conv1): Conv2d(1280, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
601.             (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
602.             (relu2): ReLU(inplace=True)
603.             (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
604.         )
605.         (denselayer22): _DenseLayer(

```



```

606.         (norm1): BatchNorm2d(1312, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)
607.         (relu1): ReLU(inplace=True)
608.         (conv1): Conv2d(1312, 128, kernel_size=(1, 1),
           stride=(1, 1), bias=False)
609.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)
610.         (relu2): ReLU(inplace=True)
611.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
           stride=(1, 1), padding=(1, 1), bias=False)
612.     )
613.     (denselayer23): _DenseLayer(
614.         (norm1): BatchNorm2d(1344, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)
615.         (relu1): ReLU(inplace=True)
616.         (conv1): Conv2d(1344, 128, kernel_size=(1, 1),
           stride=(1, 1), bias=False)
617.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)
618.         (relu2): ReLU(inplace=True)
619.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
           stride=(1, 1), padding=(1, 1), bias=False)
620.     )
621.     (denselayer24): _DenseLayer(
622.         (norm1): BatchNorm2d(1376, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)
623.         (relu1): ReLU(inplace=True)
624.         (conv1): Conv2d(1376, 128, kernel_size=(1, 1),
           stride=(1, 1), bias=False)
625.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)
626.         (relu2): ReLU(inplace=True)
627.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
           stride=(1, 1), padding=(1, 1), bias=False)
628.     )
629.     (denselayer25): _DenseLayer(
630.         (norm1): BatchNorm2d(1408, eps=1e-05, momentum=0.1,
           affine=True, track_running_stats=True)

```

```
631.         (relu1): ReLU(inplace=True)
632.         (conv1): Conv2d(1408, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
633.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
634.         (relu2): ReLU(inplace=True)
635.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
636.     )
637.     (denselayer26): _DenseLayer(
638.         (norm1): BatchNorm2d(1440, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
639.         (relu1): ReLU(inplace=True)
640.         (conv1): Conv2d(1440, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
641.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
642.         (relu2): ReLU(inplace=True)
643.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
644.     )
645.     (denselayer27): _DenseLayer(
646.         (norm1): BatchNorm2d(1472, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
647.         (relu1): ReLU(inplace=True)
648.         (conv1): Conv2d(1472, 128, kernel_size=(1, 1),
        stride=(1, 1), bias=False)
649.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
650.         (relu2): ReLU(inplace=True)
651.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
        stride=(1, 1), padding=(1, 1), bias=False)
652.     )
653.     (denselayer28): _DenseLayer(
654.         (norm1): BatchNorm2d(1504, eps=1e-05, momentum=0.1,
        affine=True, track_running_stats=True)
655.         (relu1): ReLU(inplace=True)
```

```

656.         (conv1): Conv2d(1504, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
657.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
658.         (relu2): ReLU(inplace=True)
659.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
660.     )
661.     (denselayer29): _DenseLayer(
662.         (norm1): BatchNorm2d(1536, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
663.         (relu1): ReLU(inplace=True)
664.         (conv1): Conv2d(1536, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
665.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
666.         (relu2): ReLU(inplace=True)
667.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
668.     )
669.     (denselayer30): _DenseLayer(
670.         (norm1): BatchNorm2d(1568, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
671.         (relu1): ReLU(inplace=True)
672.         (conv1): Conv2d(1568, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
673.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
674.         (relu2): ReLU(inplace=True)
675.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
stride=(1, 1), padding=(1, 1), bias=False)
676.     )
677.     (denselayer31): _DenseLayer(
678.         (norm1): BatchNorm2d(1600, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
679.         (relu1): ReLU(inplace=True)
680.         (conv1): Conv2d(1600, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

681.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
682.         (relu2): ReLU(inplace=True)
683.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
684.     )
685.     (denselayer32): _DenseLayer(
686.         (norm1): BatchNorm2d(1632, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
687.         (relu1): ReLU(inplace=True)
688.         (conv1): Conv2d(1632, 128, kernel_size=(1, 1),
    stride=(1, 1), bias=False)
689.         (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
690.         (relu2): ReLU(inplace=True)
691.         (conv2): Conv2d(128, 32, kernel_size=(3, 3),
    stride=(1, 1), padding=(1, 1), bias=False)
692.     )
693. )
694.     (norm5): BatchNorm2d(1664, eps=1e-05, momentum=0.1,
    affine=True, track_running_stats=True)
695. )
696.     (classifier): Linear(in_features=1664, out_features=1000,
    bias=True)
697. )
698. (1): Linear(in_features=1000, out_features=50, bias=True)
699. )
700. )

```

#### 4.densenet201

```

d201m(
    (net): Sequential(
      (0): DenseNet(
        (features): Sequential(
          (conv0): Conv2d(3, 64, kernel_size=(7, 7), stride=(2, 2),
padding=(3, 3), bias=False)
          (norm0): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
          (relu0): ReLU(inplace=True)

```

```

        (pool0): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
        (denseblock1): _DenseBlock(
            (denselayer1): _DenseLayer(
                (norm1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
                (relu1): ReLU(inplace=True)
                (conv1): Conv2d(64, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
                (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
                (relu2): ReLU(inplace=True)
                (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
            )
            (denselayer2): _DenseLayer(
                (norm1): BatchNorm2d(96, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
                (relu1): ReLU(inplace=True)
                (conv1): Conv2d(96, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
                (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
                (relu2): ReLU(inplace=True)
                (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
            )
            (denselayer3): _DenseLayer(
                (norm1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
                (relu1): ReLU(inplace=True)
                (conv1): Conv2d(128, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
                (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
                (relu2): ReLU(inplace=True)
                (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(160, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(192, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(224, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(224, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)

```

```

        (transition1): _Transition(
          (norm): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
          (relu): ReLU(inplace=True)
          (conv): Conv2d(256, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
          (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
        )
        (denseblock2): _DenseBlock(
          (denselayer1): _DenseLayer(
            (norm1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)
            (conv1): Conv2d(128, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
            (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu2): ReLU(inplace=True)
            (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          )
          (denselayer2): _DenseLayer(
            (norm1): BatchNorm2d(160, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)
            (conv1): Conv2d(160, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
            (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu2): ReLU(inplace=True)
            (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          )
          (denselayer3): _DenseLayer(
            (norm1): BatchNorm2d(192, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(192, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(224, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(224, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(256, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(288, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```



```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(320, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(320, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(352, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(352, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(384, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(416, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(416, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(448, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(448, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(480, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition2): _Transition(
    (norm): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(512, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock3): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(256, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(288, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(288, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(

```

```

        (norm1): BatchNorm2d(320, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(320, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(352, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(352, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(384, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(384, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(416, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(416, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(448, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(448, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(480, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(480, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(512, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(544, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(544, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(576, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(576, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(608, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(608, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer13): _DenseLayer(
        (norm1): BatchNorm2d(640, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(640, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer14): _DenseLayer(
        (norm1): BatchNorm2d(672, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(672, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer15): _DenseLayer(
        (norm1): BatchNorm2d(704, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(704, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer16): _DenseLayer(
        (norm1): BatchNorm2d(736, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(736, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer17): _DenseLayer(
        (norm1): BatchNorm2d(768, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(768, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer18): _DenseLayer(
        (norm1): BatchNorm2d(800, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(800, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```



```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer19): _DenseLayer(
        (norm1): BatchNorm2d(832, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(832, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer20): _DenseLayer(
        (norm1): BatchNorm2d(864, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(864, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer21): _DenseLayer(
        (norm1): BatchNorm2d(896, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(896, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer22): _DenseLayer(
        (norm1): BatchNorm2d(928, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(928, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer23): _DenseLayer(
        (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(960, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer24): _DenseLayer(
        (norm1): BatchNorm2d(992, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(992, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer25): _DenseLayer(

```

```

        (norm1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1024, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer26): _DenseLayer(
        (norm1): BatchNorm2d(1056, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1056, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer27): _DenseLayer(
        (norm1): BatchNorm2d(1088, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1088, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer28): _DenseLayer(
        (norm1): BatchNorm2d(1120, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1120, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer29): _DenseLayer(
        (norm1): BatchNorm2d(1152, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1152, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer30): _DenseLayer(
        (norm1): BatchNorm2d(1184, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1184, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer31): _DenseLayer(
        (norm1): BatchNorm2d(1216, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(1216, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer32): _DenseLayer(
        (norm1): BatchNorm2d(1248, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1248, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer33): _DenseLayer(
        (norm1): BatchNorm2d(1280, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1280, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer34): _DenseLayer(
        (norm1): BatchNorm2d(1312, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1312, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer35): _DenseLayer(
        (norm1): BatchNorm2d(1344, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1344, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer36): _DenseLayer(
        (norm1): BatchNorm2d(1376, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1376, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer37): _DenseLayer(
        (norm1): BatchNorm2d(1408, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1408, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer38): _DenseLayer(
        (norm1): BatchNorm2d(1440, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1440, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer39): _DenseLayer(
        (norm1): BatchNorm2d(1472, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1472, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer40): _DenseLayer(
        (norm1): BatchNorm2d(1504, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1504, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer41): _DenseLayer(
        (norm1): BatchNorm2d(1536, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1536, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer42): _DenseLayer(
        (norm1): BatchNorm2d(1568, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1568, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer43): _DenseLayer(
        (norm1): BatchNorm2d(1600, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1600, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```



```

    )
    (denselayer44): _DenseLayer(
        (norm1): BatchNorm2d(1632, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1632, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer45): _DenseLayer(
        (norm1): BatchNorm2d(1664, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1664, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer46): _DenseLayer(
        (norm1): BatchNorm2d(1696, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1696, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer47): _DenseLayer(

```

```

        (norm1): BatchNorm2d(1728, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1728, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer48): _DenseLayer(
        (norm1): BatchNorm2d(1760, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1760, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
)
(transition3): _Transition(
    (norm): BatchNorm2d(1792, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (conv): Conv2d(1792, 896, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (pool): AvgPool2d(kernel_size=2, stride=2, padding=0)
)
(denseblock4): _DenseBlock(
    (denselayer1): _DenseLayer(
        (norm1): BatchNorm2d(896, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(896, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer2): _DenseLayer(
        (norm1): BatchNorm2d(928, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(928, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer3): _DenseLayer(
        (norm1): BatchNorm2d(960, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(960, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer4): _DenseLayer(
        (norm1): BatchNorm2d(992, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(992, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer5): _DenseLayer(
        (norm1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1024, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer6): _DenseLayer(
        (norm1): BatchNorm2d(1056, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1056, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer7): _DenseLayer(
        (norm1): BatchNorm2d(1088, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1088, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer8): _DenseLayer(
        (norm1): BatchNorm2d(1120, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1120, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer9): _DenseLayer(
        (norm1): BatchNorm2d(1152, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1152, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer10): _DenseLayer(
        (norm1): BatchNorm2d(1184, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1184, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer11): _DenseLayer(
        (norm1): BatchNorm2d(1216, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1216, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer12): _DenseLayer(
        (norm1): BatchNorm2d(1248, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1248, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer13): _DenseLayer(
        (norm1): BatchNorm2d(1280, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1280, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

    )
    (denselayer14): _DenseLayer(
        (norm1): BatchNorm2d(1312, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1312, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer15): _DenseLayer(
        (norm1): BatchNorm2d(1344, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1344, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer16): _DenseLayer(
        (norm1): BatchNorm2d(1376, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1376, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer17): _DenseLayer(

```

```

        (norm1): BatchNorm2d(1408, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1408, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer18): _DenseLayer(
        (norm1): BatchNorm2d(1440, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1440, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer19): _DenseLayer(
        (norm1): BatchNorm2d(1472, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1472, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer20): _DenseLayer(
        (norm1): BatchNorm2d(1504, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```



```

        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1504, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer21): _DenseLayer(
        (norm1): BatchNorm2d(1536, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1536, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer22): _DenseLayer(
        (norm1): BatchNorm2d(1568, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1568, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer23): _DenseLayer(
        (norm1): BatchNorm2d(1600, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)

```

```

        (conv1): Conv2d(1600, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer24): _DenseLayer(
        (norm1): BatchNorm2d(1632, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1632, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer25): _DenseLayer(
        (norm1): BatchNorm2d(1664, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1664, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer26): _DenseLayer(
        (norm1): BatchNorm2d(1696, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1696, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)

```

```

        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer27): _DenseLayer(
        (norm1): BatchNorm2d(1728, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1728, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer28): _DenseLayer(
        (norm1): BatchNorm2d(1760, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1760, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer29): _DenseLayer(
        (norm1): BatchNorm2d(1792, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1792, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer30): _DenseLayer(
        (norm1): BatchNorm2d(1824, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1824, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer31): _DenseLayer(
        (norm1): BatchNorm2d(1856, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1856, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)
        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    (denselayer32): _DenseLayer(
        (norm1): BatchNorm2d(1888, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu1): ReLU(inplace=True)
        (conv1): Conv2d(1888, 128, kernel_size=(1, 1),
stride=(1, 1), bias=False)
        (norm2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu2): ReLU(inplace=True)

```

```

        (conv2): Conv2d(128, 32, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    )
    )
    (norm5): BatchNorm2d(1920, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
    (classifier): Linear(in_features=1920, out_features=1000,
bias=True)
    )
    (1): Linear(in_features=1000, out_features=50, bias=True)
    )
    )

```

## 5. Vgg16FCN32

```

6. FCN32(
7.   (vgg): Sequential(
8.     (0): Conv2d(3, 64, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
9.     (1): ReLU(inplace=True)
10.    (2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
11.    (3): ReLU(inplace=True)
12.    (4): MaxPool2d(kernel_size=2, stride=2, padding=0,
dilation=1, ceil_mode=False)
13.    (5): Conv2d(64, 128, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
14.    (6): ReLU(inplace=True)
15.    (7): Conv2d(128, 128, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
16.    (8): ReLU(inplace=True)
17.    (9): MaxPool2d(kernel_size=2, stride=2, padding=0,
dilation=1, ceil_mode=False)
18.    (10): Conv2d(128, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
19.    (11): ReLU(inplace=True)
20.    (12): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))

```

```
21.     (13): ReLU(inplace=True)
22.     (14): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
23.     (15): ReLU(inplace=True)
24.     (16): MaxPool2d(kernel_size=2, stride=2, padding=0,
dilation=1, ceil_mode=False)
25.     (17): Conv2d(256, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
26.     (18): ReLU(inplace=True)
27.     (19): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
28.     (20): ReLU(inplace=True)
29.     (21): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
30.     (22): ReLU(inplace=True)
31.     (23): MaxPool2d(kernel_size=2, stride=2, padding=0,
dilation=1, ceil_mode=False)
32.     (24): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
33.     (25): ReLU(inplace=True)
34.     (26): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
35.     (27): ReLU(inplace=True)
36.     (28): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
37.     (29): ReLU(inplace=True)
38.     (30): MaxPool2d(kernel_size=2, stride=2, padding=0,
dilation=1, ceil_mode=False)
39. )
40. (avgpool): AdaptiveAvgPool2d(output_size=(8, 8))
41. (conv): Sequential(
42.   (0): ConvTranspose2d(512, 512, kernel_size=(4, 4),
stride=(2, 2), padding=(1, 1))
43.   (1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
44.   (2): ReLU()
45.   (3): ConvTranspose2d(512, 512, kernel_size=(4, 4),
stride=(2, 2), padding=(1, 1))
```

```

46.     (4): BatchNorm2d(512, eps=1e-05, momentum=0.1,
      affine=True, track_running_stats=True)
47.     (5): ReLU()
48.     (6): ConvTranspose2d(512, 256, kernel_size=(4, 4),
      stride=(2, 2), padding=(1, 1))
49.     (7): BatchNorm2d(256, eps=1e-05, momentum=0.1,
      affine=True, track_running_stats=True)
50.     (8): ReLU()
51.     (9): ConvTranspose2d(256, 128, kernel_size=(4, 4),
      stride=(2, 2), padding=(1, 1))
52.    (10): BatchNorm2d(128, eps=1e-05, momentum=0.1,
      affine=True, track_running_stats=True)
53.    (11): ReLU()
54.    (12): ConvTranspose2d(128, 64, kernel_size=(4, 4),
      stride=(2, 2), padding=(1, 1))
55.    (13): BatchNorm2d(64, eps=1e-05, momentum=0.1,
      affine=True, track_running_stats=True)
56.    (14): ReLU()
57.    (15): ConvTranspose2d(64, 32, kernel_size=(4, 4),
      stride=(2, 2), padding=(1, 1))
58.    (16): BatchNorm2d(32, eps=1e-05, momentum=0.1,
      affine=True, track_running_stats=True)
59.    (17): ReLU()
60.    (18): ConvTranspose2d(32, 7, kernel_size=(3, 3),
      stride=(1, 1), padding=(1, 1))
61.  )
62. )

```

## 6.resnet101deeplabv3

```

deeplab(
  (dl): DeepLabV3(
    (backbone): IntermediateLayerGetter(
      (conv1): Conv2d(3, 64, kernel_size=(7, 7), stride=(2, 2),
padding=(3, 3), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
      (relu): ReLU(inplace=True)

```

```

        (maxpool): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
        (layer1): Sequential(
          (0): Bottleneck(
            (conv1): Conv2d(64, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
            (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu): ReLU(inplace=True)
            (downsample): Sequential(
              (0): Conv2d(64, 256, kernel_size=(1, 1), stride=(1, 1),
bias=False)
              (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            )
          )
          (1): Bottleneck(
            (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
            (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
            (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
            (relu): ReLU(inplace=True)

```



```

    )
    (2): Bottleneck(
      (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
  )
  (layer2): Sequential(
    (0): Bottleneck(
      (conv1): Conv2d(256, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(2,
2), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
      (downsample): Sequential(
        (0): Conv2d(256, 512, kernel_size=(1, 1), stride=(2,
2), bias=False)
        (1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      )
    )
  )

```

```

    )
    (1): Bottleneck(
      (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
      (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)

```

```

        (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer3): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(512, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(512, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
  )
)
  (1): Bottleneck(
    (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)

```

```

        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )

```

```

(4): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(5): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(6): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)

```

```

        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (7): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (8): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )

```

```

(9): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(10): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(11): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)

```

```

        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (12): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (13): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )

```



```

(14): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(15): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(16): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)

```

```

        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (17): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (18): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )

```

```

(19): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(20): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(21): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1, 1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)

```

```

        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (22): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer4): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(1024, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
    (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu): ReLU(inplace=True)
        (downsample): Sequential(
          (0): Conv2d(1024, 2048, kernel_size=(1, 1), stride=(1, 1), bias=False)
          (1): BatchNorm2d(2048, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
        )
      )
    (1): Bottleneck(
      (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1, 1), bias=False)
      (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
      (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1), padding=(4, 4), dilation=(4, 4), bias=False)
      (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
      (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1, 1), bias=False)
      (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1, 1), bias=False)
      (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
      (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1), padding=(4, 4), dilation=(4, 4), bias=False)
      (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
      (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1, 1), bias=False)
      (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
  )
)

```

```

    )
)
(classifier): DeepLabHead(
  (0): ASPP(
    (convs): ModuleList(
      (0): Sequential(
        (0): Conv2d(2048, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
      )
      (1): ASPPConv(
        (0): Conv2d(2048, 256, kernel_size=(3, 3), stride=(1,
1), padding=(12, 12), dilation=(12, 12), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
      )
      (2): ASPPConv(
        (0): Conv2d(2048, 256, kernel_size=(3, 3), stride=(1,
1), padding=(24, 24), dilation=(24, 24), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
      )
      (3): ASPPConv(
        (0): Conv2d(2048, 256, kernel_size=(3, 3), stride=(1,
1), padding=(36, 36), dilation=(36, 36), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
      )
      (4): ASPPPooling(
        (0): AdaptiveAvgPool2d(output_size=1)
        (1): Conv2d(2048, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (3): ReLU()
    )
)
(project): Sequential(
  (0): Conv2d(1280, 256, kernel_size=(1, 1), stride=(1, 1),
bias=False)
  (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (2): ReLU()
  (3): Dropout(p=0.5, inplace=False)
)
)
(1): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
(2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
(3): ReLU()
(4): Conv2d(256, 21, kernel_size=(1, 1), stride=(1, 1))
)
(aux_classifier): FCNHead(
  (0): Conv2d(1024, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
  (1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
  (2): ReLU()
  (3): Dropout(p=0.1, inplace=False)
  (4): Conv2d(256, 21, kernel_size=(1, 1), stride=(1, 1))
)
)
(conv): Sequential(
  (0): Conv2d(21, 7, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
)
)

```

## 7.resnet50deeplabv3

```
deeplab(  
    (dl): DeepLabV3(  
        (backbone): IntermediateLayerGetter(  
            (conv1): Conv2d(3, 64, kernel_size=(7, 7), stride=(2, 2),  
padding=(3, 3), bias=False)  
            (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1, affine=True,  
track_running_stats=True)  
            (relu): ReLU(inplace=True)  
            (maxpool): MaxPool2d(kernel_size=3, stride=2, padding=1,  
dilation=1, ceil_mode=False)  
            (layer1): Sequential(  
                (0): Bottleneck(  
                    (conv1): Conv2d(64, 64, kernel_size=(1, 1), stride=(1,  
1), bias=False)  
                    (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,  
affine=True, track_running_stats=True)  
                    (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,  
1), padding=(1, 1), bias=False)  
                    (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,  
affine=True, track_running_stats=True)  
                    (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,  
1), bias=False)  
                    (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,  
affine=True, track_running_stats=True)  
                    (relu): ReLU(inplace=True)  
                    (downsample): Sequential(  
                        (0): Conv2d(64, 256, kernel_size=(1, 1), stride=(1, 1),  
bias=False)  
                        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,  
affine=True, track_running_stats=True)  
                    )  
                )  
            )  
            (1): Bottleneck(  
                (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,  
1), bias=False)  
                (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,  
affine=True, track_running_stats=True)
```



```

        (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
        (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer2): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(256, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(2,
2), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
        (downsample): Sequential(
          (0): Conv2d(256, 512, kernel_size=(1, 1), stride=(2,
2), bias=False)
          (1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        )
      )
    (1): Bottleneck(
      (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
  (2): Bottleneck(
    (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
        (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer3): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(512, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(512, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

    )
)
(1): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(2): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
  (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
  (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (relu): ReLU(inplace=True)
)
(3): Bottleneck(
  (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
  (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (4): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (5): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (relu): ReLU(inplace=True)
    )
)
(layer4): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(1024, 512, kernel_size=(1, 1), stride=(1, 1), bias=False)
    (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
    (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1), padding=(2, 2), dilation=(2, 2), bias=False)
    (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
    (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1, 1), bias=False)
    (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(1024, 2048, kernel_size=(1, 1), stride=(1, 1), bias=False)
      (1): BatchNorm2d(2048, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
    )
  )
)
  (1): Bottleneck(
    (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1, 1), bias=False)
    (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
    (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1, 1), padding=(4, 4), dilation=(4, 4), bias=False)
    (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)
    (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1, 1), bias=False)
    (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1, affine=True, track_running_stats=True)

```

```

        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(4, 4), dilation=(4, 4), bias=False)
      (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
  )
)
(classifier): DeepLabHead(
  (0): ASPP(
    (convs): ModuleList(
      (0): Sequential(
        (0): Conv2d(2048, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
      )
      (1): ASPPConv(
        (0): Conv2d(2048, 256, kernel_size=(3, 3), stride=(1,
1), padding=(12, 12), dilation=(12, 12), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
      )
      (2): ASPPConv(

```

```

        (0): Conv2d(2048, 256, kernel_size=(3, 3), stride=(1,
1), padding=(24, 24), dilation=(24, 24), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
    )
    (3): ASPPConv(
        (0): Conv2d(2048, 256, kernel_size=(3, 3), stride=(1,
1), padding=(36, 36), dilation=(36, 36), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (2): ReLU()
    )
    (4): ASPPPooling(
        (0): AdaptiveAvgPool2d(output_size=1)
        (1): Conv2d(2048, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (3): ReLU()
    )
)
(project): Sequential(
  (0): Conv2d(1280, 256, kernel_size=(1, 1), stride=(1, 1),
bias=False)
  (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
  (2): ReLU()
  (3): Dropout(p=0.5, inplace=False)
)
)
  (1): Conv2d(256, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
  (2): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
  (3): ReLU()
  (4): Conv2d(256, 21, kernel_size=(1, 1), stride=(1, 1))
)

```



```

        (aux_classifier): FCNHead(
          (0): Conv2d(1024, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
          (1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
          (2): ReLU()
          (3): Dropout(p=0.1, inplace=False)
          (4): Conv2d(256, 21, kernel_size=(1, 1), stride=(1, 1))
        )
      )
    (conv): Sequential(
      (0): Conv2d(21, 7, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
    )
  )
)

```

## 8.resnet101FCN

```

resnet101FCN(
  (fcn): FCN(
    (backbone): IntermediateLayerGetter(
      (conv1): Conv2d(3, 64, kernel_size=(7, 7), stride=(2, 2),
padding=(3, 3), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
      (relu): ReLU(inplace=True)
      (maxpool): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
      (layer1): Sequential(
        (0): Bottleneck(
          (conv1): Conv2d(64, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
          (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
          (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```

```

        (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
        (downsample): Sequential(
          (0): Conv2d(64, 256, kernel_size=(1, 1), stride=(1, 1),
bias=False)
          (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        )
      )
    (1): Bottleneck(
      (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer2): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(256, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(2,
2), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(256, 512, kernel_size=(1, 1), stride=(2,
2), bias=False)
      (1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
  )
  (1): Bottleneck(
    (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
        (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
        (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer3): Sequential(
  (0): Bottleneck(

```

```

        (conv1): Conv2d(512, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
        (downsample): Sequential(
          (0): Conv2d(512, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
          (1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        )
      )
    (1): Bottleneck(
      (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
      (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (4): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (5): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (6): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (7): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (8): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (9): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)

```



```

        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (10): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (11): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (12): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (13): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (14): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (15): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (16): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (17): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (18): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (19): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (20): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (21): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (22): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer4): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(1024, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
    (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(1024, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (1): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
  )
)
  (1): Bottleneck(
    (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(4, 4), dilation=(4, 4), bias=False)
        (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
        (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(4, 4), dilation=(4, 4), bias=False)
        (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
)
(classifier): FCNHead(
    (0): Conv2d(2048, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
    (1): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
    (2): ReLU()
    (3): Dropout(p=0.1, inplace=False)
    (4): Conv2d(512, 21, kernel_size=(1, 1), stride=(1, 1))
)

```

```

        (aux_classifier): FCNHead(
          (0): Conv2d(1024, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
          (1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
          (2): ReLU()
          (3): Dropout(p=0.1, inplace=False)
          (4): Conv2d(256, 21, kernel_size=(1, 1), stride=(1, 1))
        )
      )
    (conv): Sequential(
      (0): Conv2d(21, 7, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
    )
  )
)

```

## 9.resnet50FCN

```

Resnet50FCN(
  (fcn): FCN(
    (backbone): IntermediateLayerGetter(
      (conv1): Conv2d(3, 64, kernel_size=(7, 7), stride=(2, 2),
padding=(3, 3), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
      (relu): ReLU(inplace=True)
      (maxpool): MaxPool2d(kernel_size=3, stride=2, padding=1,
dilation=1, ceil_mode=False)
      (layer1): Sequential(
        (0): Bottleneck(
          (conv1): Conv2d(64, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
          (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
          (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
          (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)

```



```

        (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
        (downsample): Sequential(
          (0): Conv2d(64, 256, kernel_size=(1, 1), stride=(1, 1),
bias=False)
          (1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        )
      )
    (1): Bottleneck(
      (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(256, 64, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(64, 64, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
      (bn2): BatchNorm2d(64, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(64, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer2): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(256, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(2,
2), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(256, 512, kernel_size=(1, 1), stride=(2,
2), bias=False)
      (1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
  )
)
  (1): Bottleneck(
    (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
    (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
        (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
        (conv1): Conv2d(512, 128, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(128, 128, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(128, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(128, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    )
    (layer3): Sequential(
        (0): Bottleneck(

```

```

        (conv1): Conv2d(512, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(1, 1), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
        (downsample): Sequential(
          (0): Conv2d(512, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
          (1): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        )
      )
    (1): Bottleneck(
      (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
      (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
      (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
      (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
      (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (3): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (4): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (5): Bottleneck(
        (conv1): Conv2d(1024, 256, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(256, 256, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
        (bn2): BatchNorm2d(256, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(256, 1024, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(1024, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
(layer4): Sequential(
  (0): Bottleneck(
    (conv1): Conv2d(1024, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(2, 2), dilation=(2, 2), bias=False)
    (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
    (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    (relu): ReLU(inplace=True)
    (downsample): Sequential(
      (0): Conv2d(1024, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)

```

```

        (1): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
    )
)
    (1): Bottleneck(
        (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(4, 4), dilation=(4, 4), bias=False)
        (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
    (2): Bottleneck(
        (conv1): Conv2d(2048, 512, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn1): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv2): Conv2d(512, 512, kernel_size=(3, 3), stride=(1,
1), padding=(4, 4), dilation=(4, 4), bias=False)
        (bn2): BatchNorm2d(512, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (conv3): Conv2d(512, 2048, kernel_size=(1, 1), stride=(1,
1), bias=False)
        (bn3): BatchNorm2d(2048, eps=1e-05, momentum=0.1,
affine=True, track_running_stats=True)
        (relu): ReLU(inplace=True)
    )
)
)
(classifier): FCNHead(

```

```

        (0): Conv2d(2048, 512, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
        (1): BatchNorm2d(512, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
        (2): ReLU()
        (3): Dropout(p=0.1, inplace=False)
        (4): Conv2d(512, 21, kernel_size=(1, 1), stride=(1, 1))
    )
    (aux_classifier): FCNHead(
        (0): Conv2d(1024, 256, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1), bias=False)
        (1): BatchNorm2d(256, eps=1e-05, momentum=0.1, affine=True,
track_running_stats=True)
        (2): ReLU()
        (3): Dropout(p=0.1, inplace=False)
        (4): Conv2d(256, 21, kernel_size=(1, 1), stride=(1, 1))
    )
)
(conv): Sequential(
  (0): Conv2d(21, 7, kernel_size=(3, 3), stride=(1, 1),
padding=(1, 1))
)
)

```