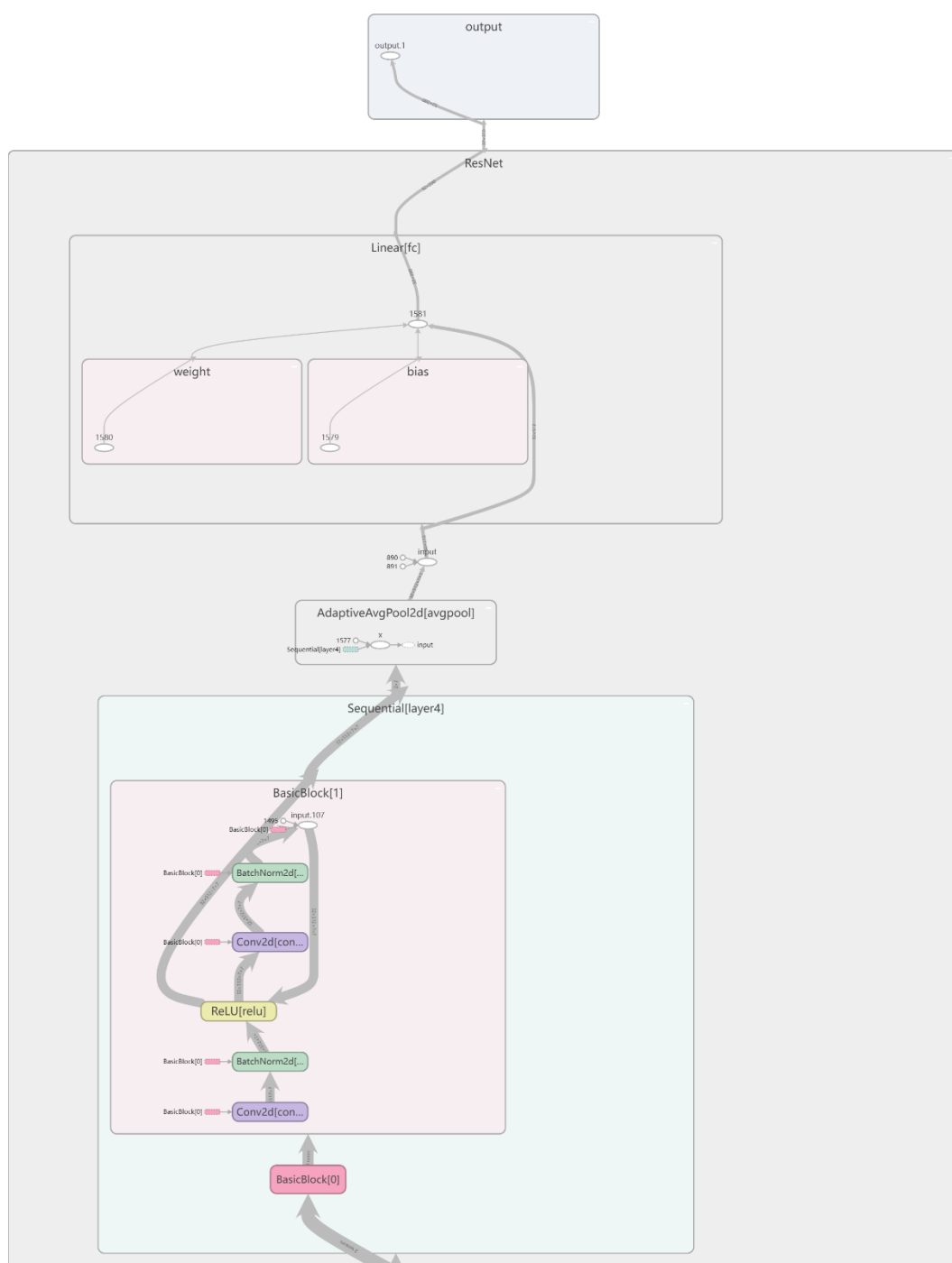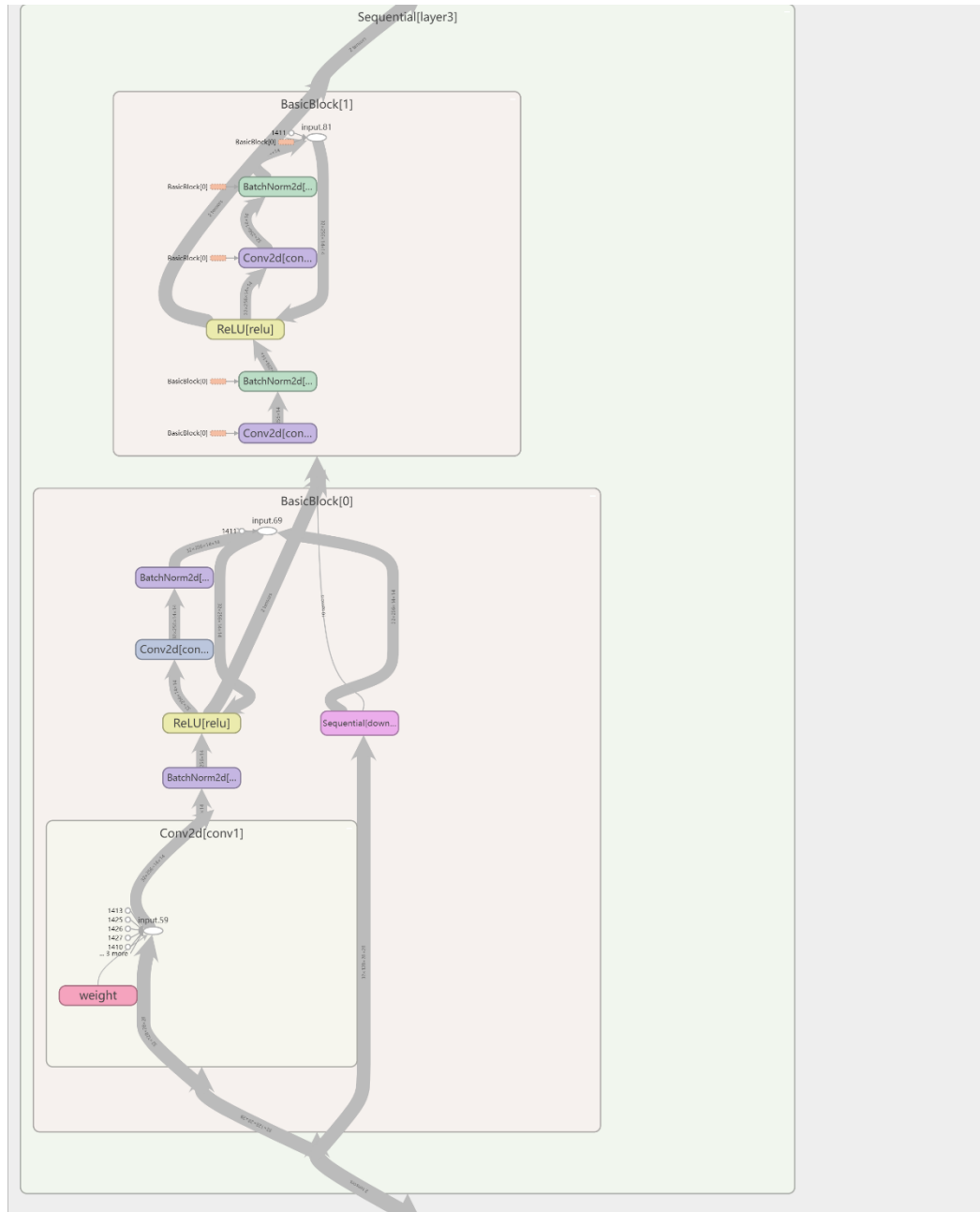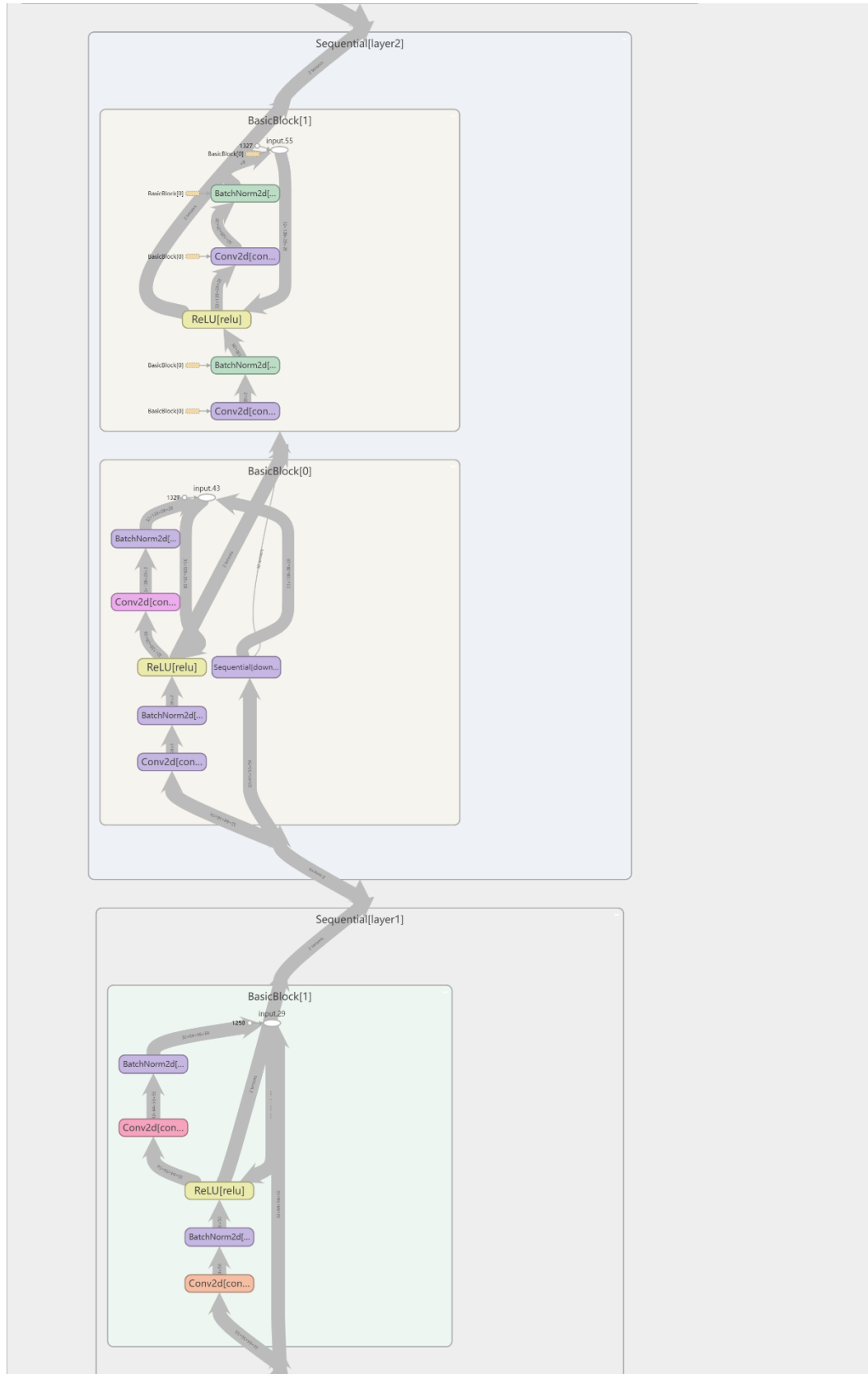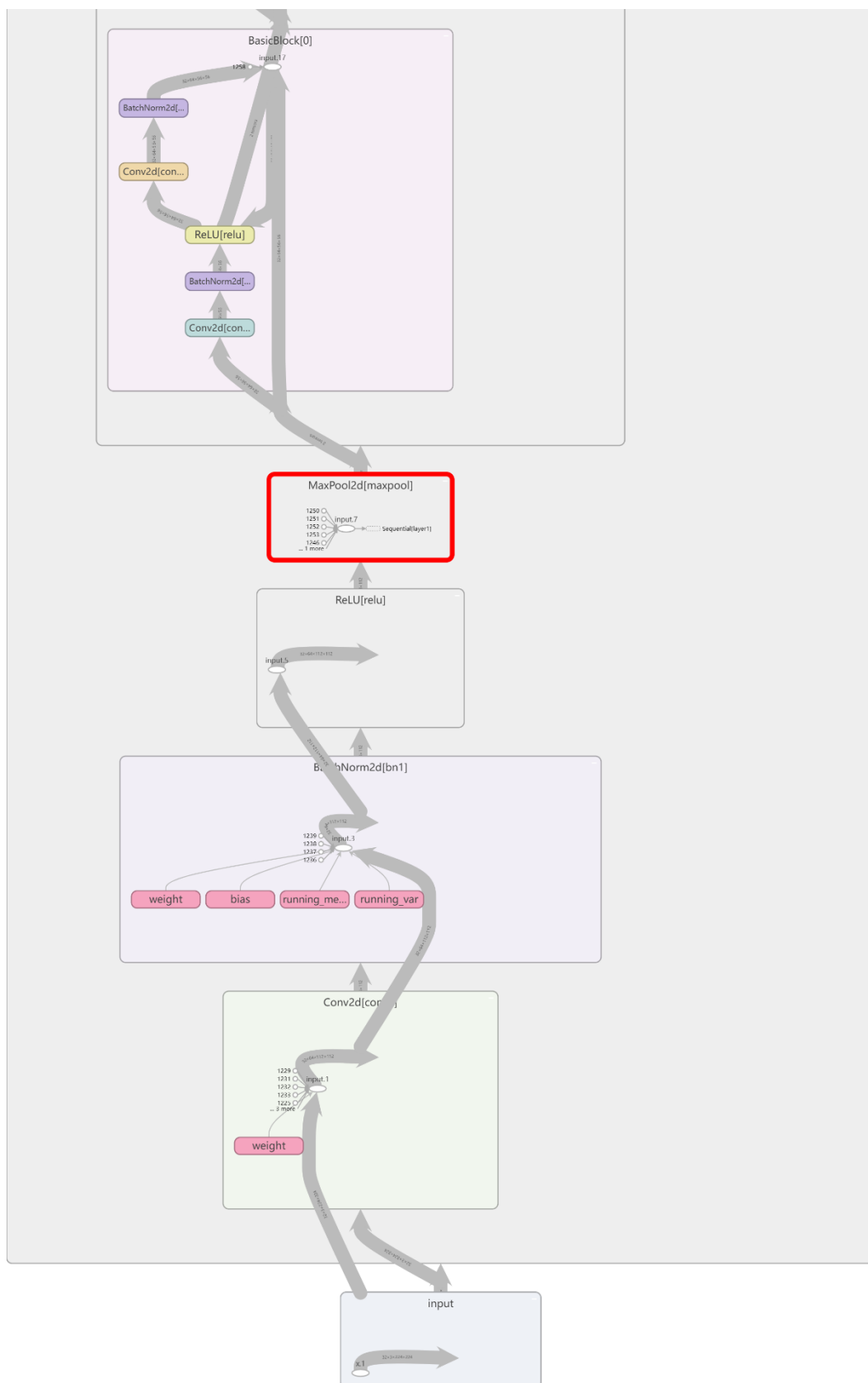# 潘宇镭第二次大作业报告

1. 各层的名称及输出的大小：

```
print('打印模型结构')
dataiter = iter(train_loader)
images, labels = dataiter.next()
images = images.to('cuda')
writer.add_graph(model, images)
print('打印完成')
```

Sequential[layer3]

BasicBlock[1]

input.81

BasicBlock[0]

BasicBlock[0] → BatchNorm2d[...

BasicBlock[0] → Conv2d[con...

ReLU[relu]

BasicBlock[0] → BatchNorm2d[...

BasicBlock[0] → Conv2d[con...

BasicBlock[0]

input.69

BatchNorm2d[...

Conv2d[con...

ReLU[relu]

Sequential[down...

BatchNorm2d[...

Conv2d[conv1]

input.59

weight

Sequential[layer2]

BasicBlock[1]

1327   input.55
BasicBlock[0]

BasicBlock[0]   BatchNorm2d[...]

BasicBlock[0]   Conv2d[con...]

ReLU[relu]

BasicBlock[0]   BatchNorm2d[...]

BasicBlock[0]   Conv2d[con...]

BasicBlock[0]

1327   input.43

BatchNorm2d[...]

Conv2d[con...]

ReLU[relu]   Sequential[down...]

BatchNorm2d[...]

Conv2d[con...]

Sequential[layer1]

BasicBlock[1]

1258   input.29

BatchNorm2d[...]

Conv2d[con...]

ReLU[relu]

BatchNorm2d[...]

Conv2d[con...]

2. 修改 output 维数

增加参数 num_classes = 200

```python
if args.pretrained:
print("=> using pre-trained model
'{}'".format(args.arch))
model = models.__dict__[args.arch](pretrained=True)
else:
print("=> creating model '{}'".format(args.arch))
model = models.__dict__[args.arch](num_classes = 200)
```

3.修改数据集

在代码中增加 torch.utils.tensorboard 的代码，以能在 TensorBoard 中观察训练集 Loss、训练集精度、验证集 Loss、验证集精度的变化。

思路：

1. 从 val_annotations.txt 中获取编号和种类
2. 从 images 文件夹中读取文件，对应 val_annotations.txt 创建文件夹并移入
3. 删除多余文件

```python
import io
import pandas as pd
import glob
import os
from shutil import move
from os.path import join
from os import listdir, rmdir
target_folder = './tiny-imagenet-200/val/'
val_dict = {}


with open(target_folder + 'val_annotations.txt', 'r') as f:
for line in f.readlines():
split_line = line.split('\t')
val_dict[split_line[0]] = split_line[1]
paths = glob.glob(target_folder + 'images/*')
for path in paths:
file = path.split('/')[-1].split('\\')[-1]
folder = val_dict[file]
if not os.path.exists(target_folder + str(folder)):
os.mkdir(target_folder + str(folder))
for path in paths:
file = path.split('/')[-1].split('\\')[-1]
folder = val_dict[file]
dest = target_folder + str(folder) + '/' + str(file)
move(path, dest)
os.remove('./tiny-imagenet-200/val/val_annotations.txt')
rmdir('./tiny-imagenet-200/val/images')
print('over')
```