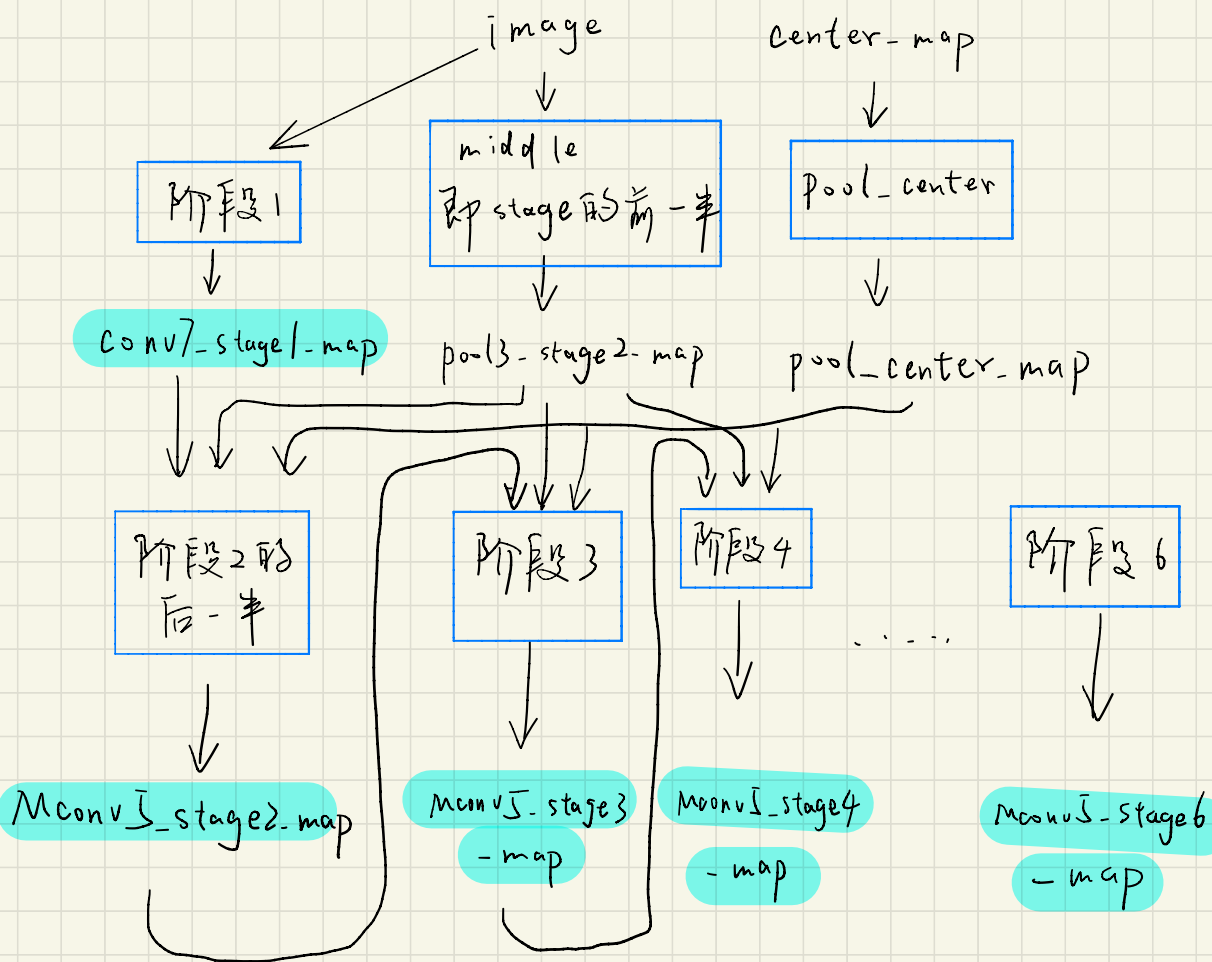


整体结构



1. 被高亮的就是每个阶段的 heatmap
被传出去用于 intermedia supervise

2. 每个阶段都会用到中心和上一阶段的输出

但只有第一阶段会用原图. 之后都共用第二阶段前一半抽取的 46.46.128 的原图特征.

17.5:

center-map



Avg Pool



pool_center-map

368×368

$9 \times 9, s=8, p=1$

$$\frac{(368+2-9)}{8} + 1 = 46$$

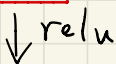
$46 \cdot 46$

阶段一:

image



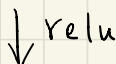
cnn1



Maxpool1



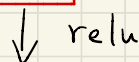
cnn2



Maxpool2



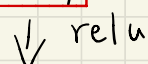
cnn3



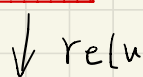
Maxpool3



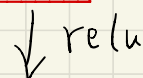
cnn4



cnn5



cnn6



cnn7



con7-stage1-map

$$368 \cdot 368 \cdot 3$$

$$3 \cdot 9 \cdot 9 \cdot 128, s=1, p=4$$

$$\frac{(368-9+8)}{1} + 1 = 368$$

$$368 \cdot 368 \cdot 128$$

$$3 \cdot 3, s=2, p=1$$

$$\frac{(368-3+2)}{2} + 1 = 184$$

$$184 \cdot 184 \cdot 128$$

$$128 \cdot 9 \cdot 9 \cdot 128, s=1, p=4$$

$$184 \cdot 184 \cdot 128$$

$$3 \cdot 3, s=2, p=1$$

$$92 \cdot 92 \cdot 128$$

$$128 \cdot 9 \cdot 9 \cdot 128, s=1, p=4$$

$$92 \cdot 92 \cdot 128$$

$$3 \cdot 3, s=2, p=1$$

$$46 \cdot 46 \cdot 128$$

$$128 \cdot 5 \cdot 5 \cdot 32, s=1, p=1$$

$$\frac{(46-5+4)}{1} + 1 = 46$$

$$46 \cdot 46 \cdot 32$$

$$32 \cdot 9 \cdot 9 \cdot 512, s=1, p=4$$

$$\frac{(46-9+8)}{1} + 1 = 46$$

$$46 \cdot 46 \cdot 512$$

$$512 \cdot 1 \cdot 1 \cdot 512, s=1, p=0$$

$$\frac{(46-1)}{2} + 1 = 46$$

$$46 \cdot 46 \cdot 512$$

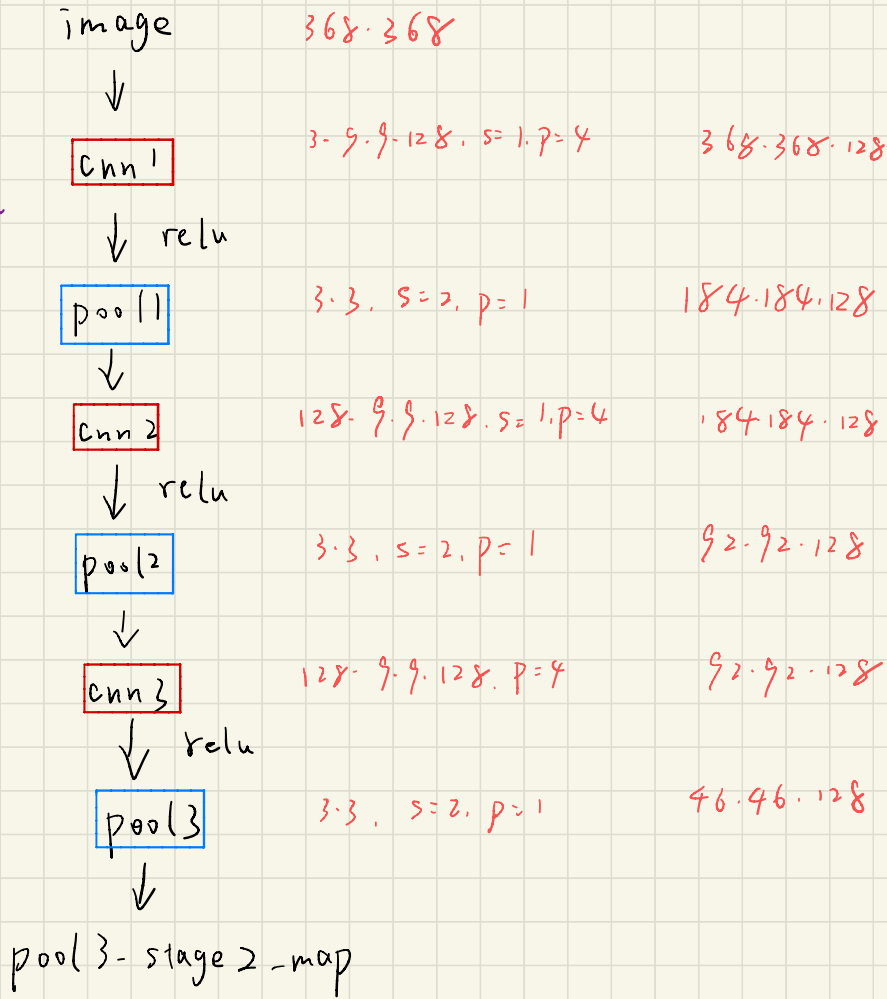
$$512 \cdot 1 \cdot 1 \cdot (K+1), s=1, p=0$$

$$46 \cdot 46 \cdot (K+1)$$

此处K为
采样的步数

中间层
middle

即 = 阶段前一半



第=阶段后一半和之后所有阶段都类似:

pool3-stage2-map $46 \cdot 46 \cdot 128$



cnn

$$128 \cdot 5 \cdot 5 \cdot 32, s=1, p=2$$

$$\frac{46-5+4}{2} + 1 = 46$$

$$46 \cdot 46 \cdot 32$$

↓ relu

× $46 \cdot 46 \cdot 32$

上-阶段map $46 \cdot 46 \cdot (K+1)$

pool-center-map $46 \cdot 46 \cdot 1$

按通道操作

$$46 \cdot 46 \cdot (32 + K + 2)$$

×

$$46 \cdot 46 \cdot 128$$

$$(32 + K + 2) \cdot 11 \cdot 11 \cdot 128, s=1, p=5$$

cnn 1

↓ relu

$$46 \cdot 46 \cdot 128$$

$$128 \cdot 11 \cdot 11 \cdot 128, s=1, p=5$$

cnn 2

↓ relu

$$46 \cdot 46 \cdot 128$$

$$128 \cdot 11 \cdot 11 \cdot 128, s=1, p=5$$

cnn 3

↓ relu

$$46 \cdot 46 \cdot 128$$

$$128 \cdot 1 \cdot 1 \cdot 128, s=1, p=0$$

cnn 4

↓ relu

$$46 \cdot 46 \cdot (K+1)$$

$$128 \cdot 1 \cdot 1 \cdot (K+1), s=1, p=0$$

cnn 5

