



rbgirshick bug fix in receptive field size calculations

43a3f95 on 2 Apr 2014

1 contributor

74 lines (56 sloc) 2.26 KB

```

1  function receptive_field_sizes()
2
3  % compute input size from a given output size
4  f = @(output_size, ksize, stride) (output_size - 1) * stride + ksize;
5
6  % fix the pool5 output size to 1 and derive the receptive field in the input
7  out = ...
8  f(f(f(f(f(f(1, 3, 2), ... % conv5 -> pool5
9      3, 1), ... % conv4 -> conv5
10     3, 1), ... % conv3 -> conv4
11     3, 1), ... % pool2 -> conv3
12     3, 2), ... % conv2 -> pool2
13     5, 1), ... % pool1 -> conv2
14     3, 2), ... % conv1 -> pool1
15     11, 4); % input -> conv1
16
17  fprintf('pool5 receptive field size: %d\n', out);
18
19  out = ...
20  f(f(f(f(f(f(1, 3, 1), ... % conv4 -> conv5
21      3, 1), ... % conv3 -> conv4
22      3, 1), ... % pool2 -> conv3
23      3, 2), ... % conv2 -> pool2
24      5, 1), ... % pool1 -> conv2
25      3, 2), ... % conv1 -> pool1
26      11, 4); % input -> conv1
27
28  fprintf('conv5 receptive field size: %d\n', out);
29
30  out = ...
31  f(f(f(f(f(1, 3, 1), ... % conv3 -> conv4
32      3, 1), ... % pool2 -> conv3
33      3, 2), ... % conv2 -> pool2
34      5, 1), ... % pool1 -> conv2
35      3, 2), ... % conv1 -> pool1
36      11, 4); % input -> conv1
37
38  fprintf('conv4 receptive field size: %d\n', out);
39
40  out = ...
41  f(f(f(f(1, 3, 1), ... % pool2 -> conv3
42      3, 2), ... % conv2 -> pool2
43      5, 1), ... % pool1 -> conv2
44      3, 2), ... % conv1 -> pool1
45      11, 4); % input -> conv1
46
47  fprintf('conv3 receptive field size: %d\n', out);
48
49  out = ...
50  f(f(f(1, 3, 2), ... % conv2 -> pool2
51      5, 1), ... % pool1 -> conv2
52      3, 2), ... % conv1 -> pool1
53      11, 4); % input -> conv1
54
55  fprintf('pool2 receptive field size: %d\n', out);
56
57  out = ...
58  f(f(1, 5, 1), ... % pool1 -> conv2
59      3, 2), ... % conv1 -> pool1
60      11, 4); % input -> conv1
61
62  fprintf('conv2 receptive field size: %d\n', out);

```

```
63
64 out = ...
65 f(f(1, 3, 2), ... % conv1 -> pool1
66     11, 4);      % input -> conv1
67
68 fprintf('pool1 receptive field size: %d\n', out);
69
70 out = ...
71 f(1, 11, 4);      % input -> conv1
72
73 fprintf('conv1 receptive field size: %d\n', out);
```