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CSE 190

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Programing Assignment 3 Part I

1. Filter

Filtered Inputs

Output Feature Map

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
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|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X | X | X | X | X |
| X | 2 | 2 | 0 | X |
| X | -2 | 2 | 2 | X |
| X | 0 | 1 | 3 | X |
| X | X | X | X | X |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
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|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X | X | X | X | X |
| X | -2 | -2 | 0 | X |
| X | 2 | 3 | 2 | X |
| X | 2 | 2 | 3 | X |
| X | X | X | X | X |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X | X | X | X | X |
| X | 4 | 4 | 3 | X |
| X | -4 | -1 | 0 | X |
| X | -2 | -1 | 0 | X |
| X | X | X | X | X |

2. Maximally Activating Patch

Maximally Activating Patch

|  |  |  |
| --- | --- | --- |
| -1 | -1 | -1 |
| 0 | 0 | 0 |
| 1 | 1 | 1 |

|  |  |  |
| --- | --- | --- |
| 1 | 0 | -1 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

3. Spatial Pooling

Max Pooled Output

|  |  |
| --- | --- |
| 2 | 2 |
| 2 | 2 |

4. Number of Learnable parameters

(i) The number of input channels to conv1: 1 channel

(ii) The number of input channels to conv2: 12 channels

(iii) The number of input channels to conv3: 10 channels

(iv)