

Lab Assignment 4

Convolutional Neural Networks

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2 Theory questions

1. The pooling layer serves to progressively reduce the spatial size of the representation, to reduce the number of parameters and amount of computation in the network, and hence to also control overfitting(CS231n lecture). In practice, its use is to downsample its input, reducing the amount of resources that the network needs in order to perform the computations by reducing the dimensions of the input using a filter, a stride and an elementwise activation function. Also, after the downsampling it is obvious that the network will have less parameters. As a result, it will be able to generalize better in new situations and avoid overfitting(small training set error, large error for new examples).
- 2.
- 3.