Advanced Deep Learning 2024
Assignment 1

Your name

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1 Sobel filter

You can add code like this

```python
c = conv(x)
c = torch.square(c)
```

For combining the filter outputs, you can use `torch.sum`, but you have to set the `axis` argument properly.

Figure 1: Every figure and table has a caption and is referred to in the text body.

2 Convolutional neural networks

no problem if you do or do not see the activation function when you output of the architecture

2.1 Basic CNN definition

2.2 Activation function before or after pooling?

2.3 Data augmentation

2.4 Batch normalization

2.5 Experimental architecture comparison

3 Fully convolutional neural networks

3.1 Receptive field and double convolution

	$d = 1$	$d = 2$	$d = 3$	general d
number of trainable parameters	n	n^2	n^3	n^d
receptive field size	n	n^2	n^3	n^d