

# Convolutional Neural Networks + Assignment 7, 8

(Neural Networks Implementation and Application Tutorial)

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# Overview

- Assignment 7
- Content
- Assignment 8

# Assignment 8

- What was the hardest part?

Emoji check 🤔🔍😞

# Questions

- What is convolution?
- What is a *kernel*?
- What is *stride* and *padding*?
- What is *pooling*?

# AlexNet - How many parameters?

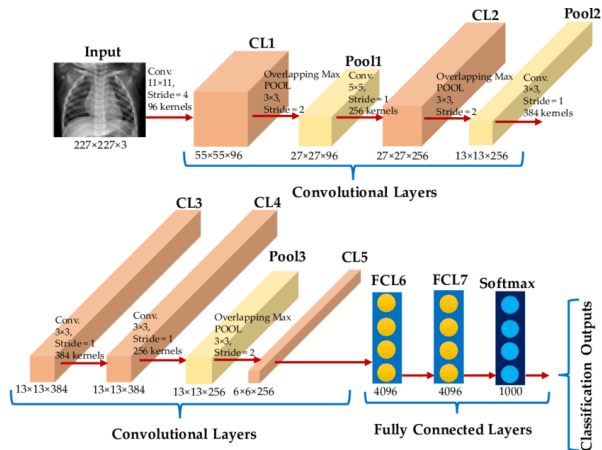


Figure 1: AlexNet [1]

# AlexNet - How many parameters?

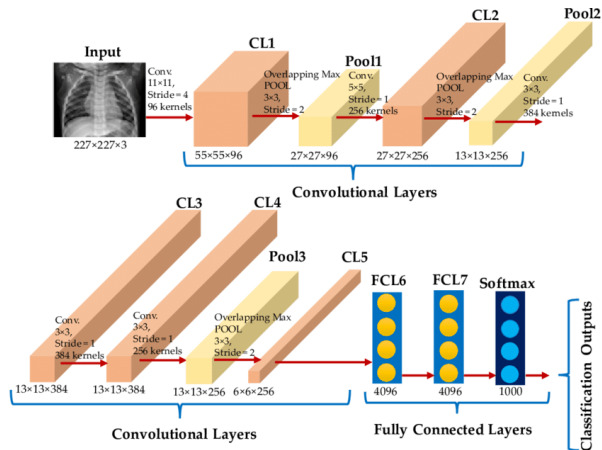


Figure 1: AlexNet [1]

layer	weights	biases
conv1	$96 \cdot 11 \cdot 11 \cdot 3$	96
conv2	$256 \cdot 5 \cdot 5 \cdot 96$	256
conv3	$384 \cdot 3 \cdot 3 \cdot 256$	384
conv4	$256 \cdot 3 \cdot 3 \cdot 384$	256
fc1	$6 \cdot 6 \cdot 256 \cdot 4096$	4096
fc2	$4096 \cdot 4096$	4096
fc3	$4096 \cdot 1000$	1000

In total 62378344

# Assignment 9

Any questions?

# Resources

- [1] AlexNet image [researchgate.net/figure/AlexNet-Structure-11-41\\_fig3\\_340644618](https://researchgate.net/figure/AlexNet-Structure-11-41_fig3_340644618)