6, Padding and Stride

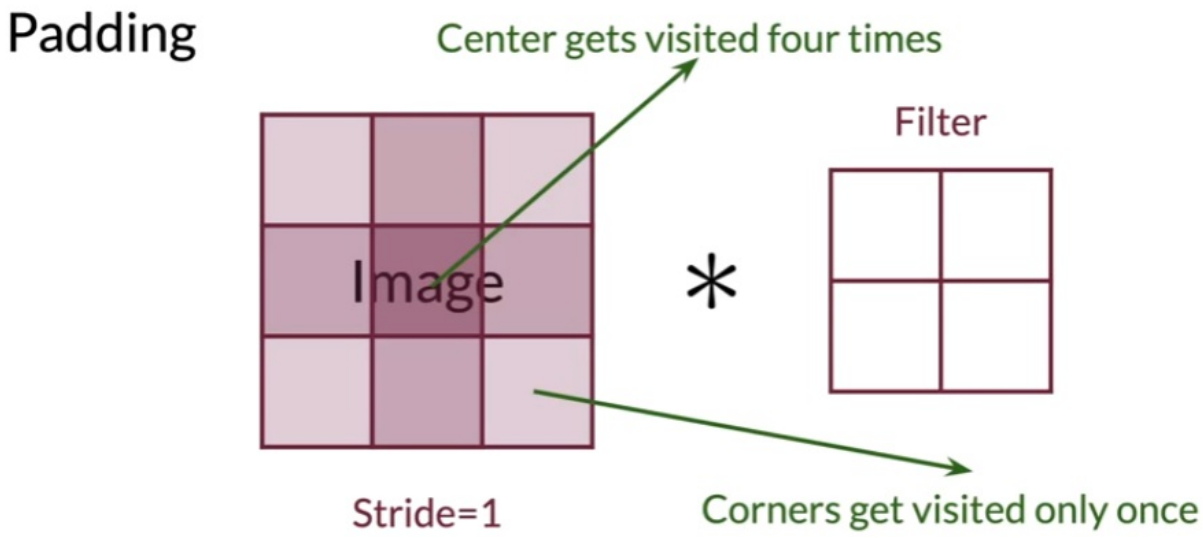
□ Outline of this video

□Notes

▼ the purpose of padding

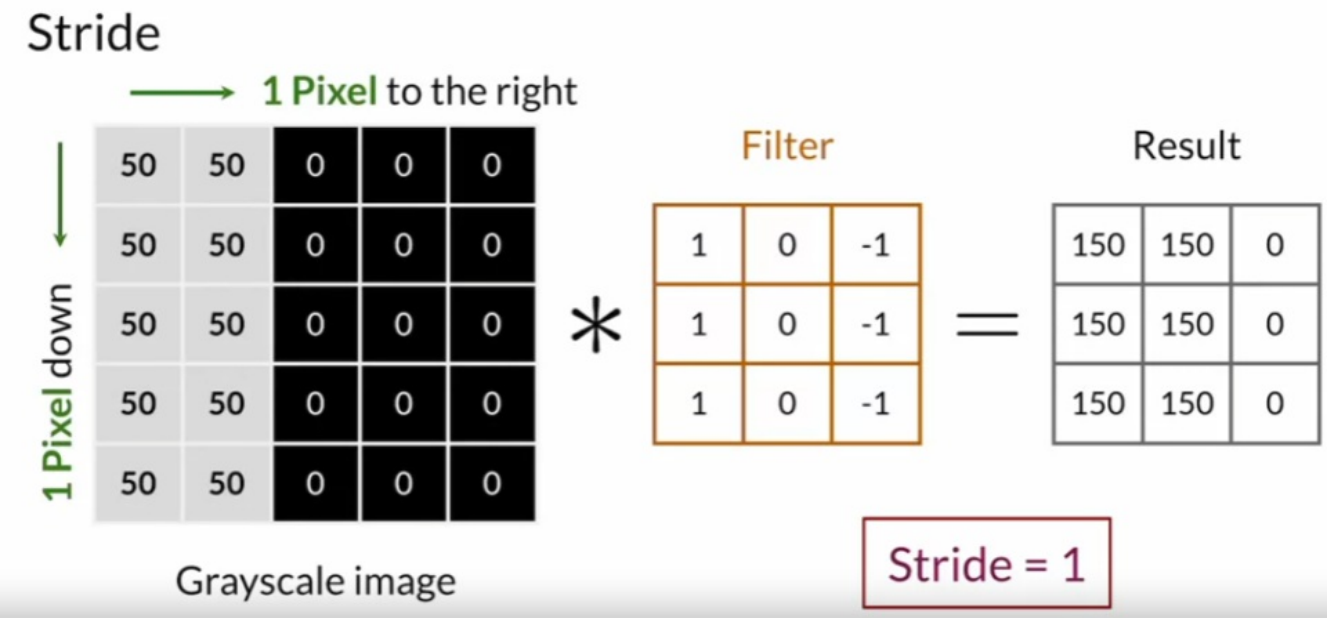
1. is to maintain the original photo size, bcz before that, the convolution layer had mde the imge size become smaller

▼ 2, to make sure your filter puts equal emphasis across the entire image.

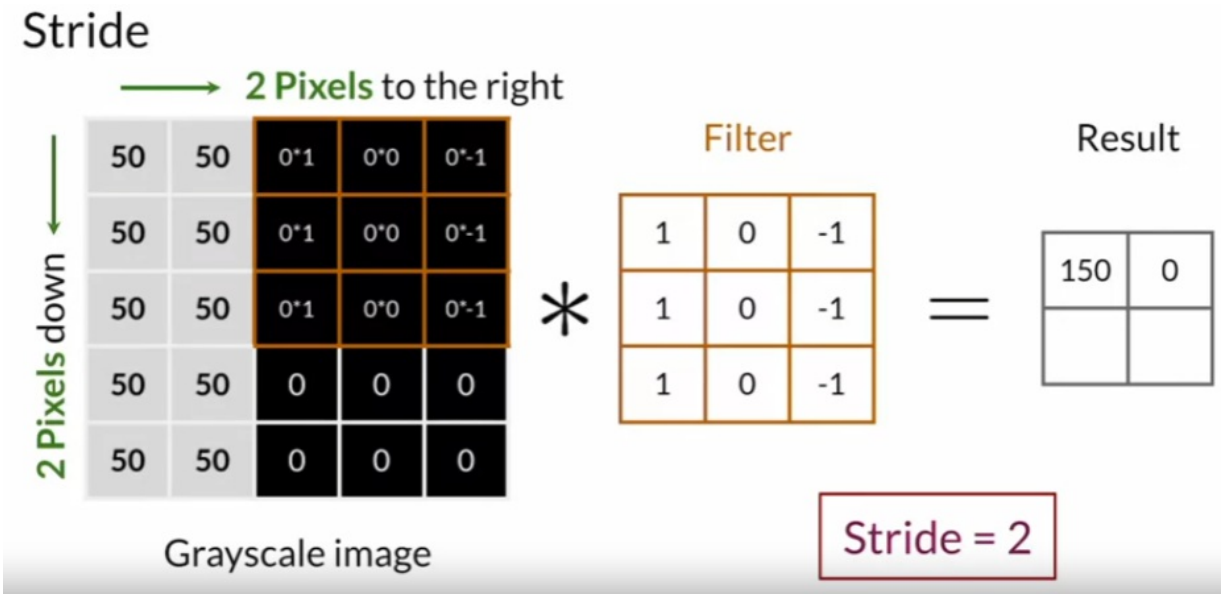


> So this means that the information kept in the center, gets more attention than the information on the edges typically. This is a problem if you have, let's say features on the edges that you care about. For example, it could be an entire dog in this pixel over here, or it could be part of a dog like its nose or something being up here, and that's useful information and you want to make sure your filter puts equal emphasis across the entire image.

▼ what is stride =1?



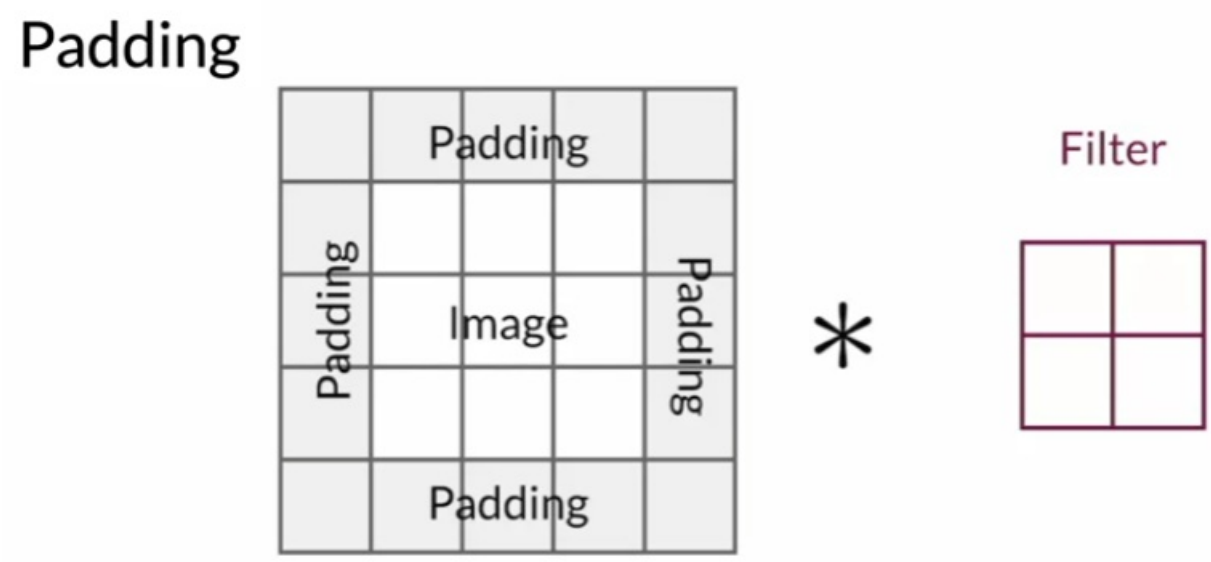
▼ what is stride =2?



▼ stride bigger is better?

> The larger your strides are, the less of your image you will have coverage of for your filter, but at the same time it will make the computation faster. It definitely is a trade off here.

▼ what is padding ("frame around image")



the padding can be set to be any values, but most of the time, it will use zero values (so called zero padding)

Vocabs

QOTD

Summary

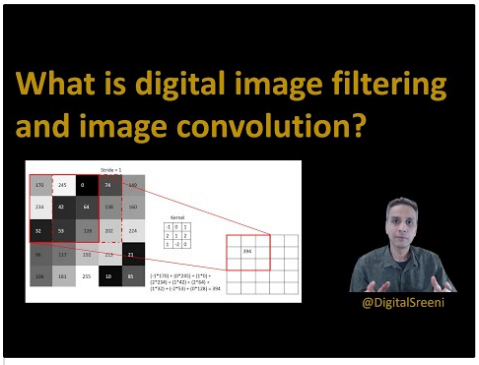
- Stride determines how the filter scans the image
- Padding is like a frame on the image
- Padding gives importance to the edges and the center

URL

95 - What is digital image filtering and image convolution?

Most digital image processing tasks involve the convolution of a kernel with the image. This tutorial explains the basics of the convolution operation by usi...

https://www.youtube.com/watch?v=1GUgD2SBl9A&t=466s



>> start watching at 6.32 for padding