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\* FCN Paper \*\* Abstract:

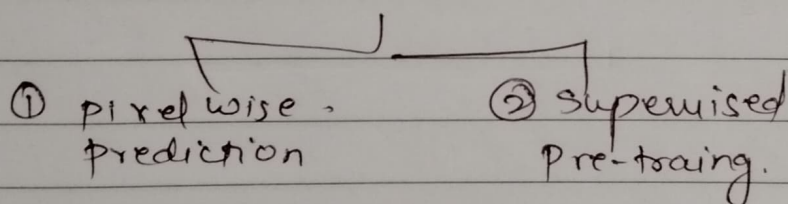
take inputs of arbitrary size. & produce correspondingly - sized o/p. with efficient inference & learning.

# Fine tune image classification networks ~~into~~ with F.C.N

\* Introduction:

Prior approach  $\Rightarrow$  each pixel is label with the class of its enclosing object or region.

\* First Network to be trained on.



Combine many networks trained together for same task.

transposed  
↓  
convolution.

\* Upsampling layers enable pixelwise prediction & learning in nets. with subsampled pooling.  
pixelwise pooling.

\* transfer recent success in classification to dense prediction by re interpreting nets as FCN & fine tuning.

# # Deconvolution / Transposed Convolutions.

$$\begin{array}{|c|c|} \hline 1 & 4 \\ \hline 0 & 2 \\ \hline \end{array} * \begin{array}{|c|c|} \hline 2 & 2 \\ \hline 1 & 1 \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline 1 \times 2 & 1 \times 2 + 4 \times 2 & 4 \times 2 \\ \hline 1 \times 1 & 1 \times 1 + 4 \times 1 & 4 \times 1 \\ \hline \end{array}$$

i/p                      filter

learning the filters by backpropagation

## Convolutional layers:

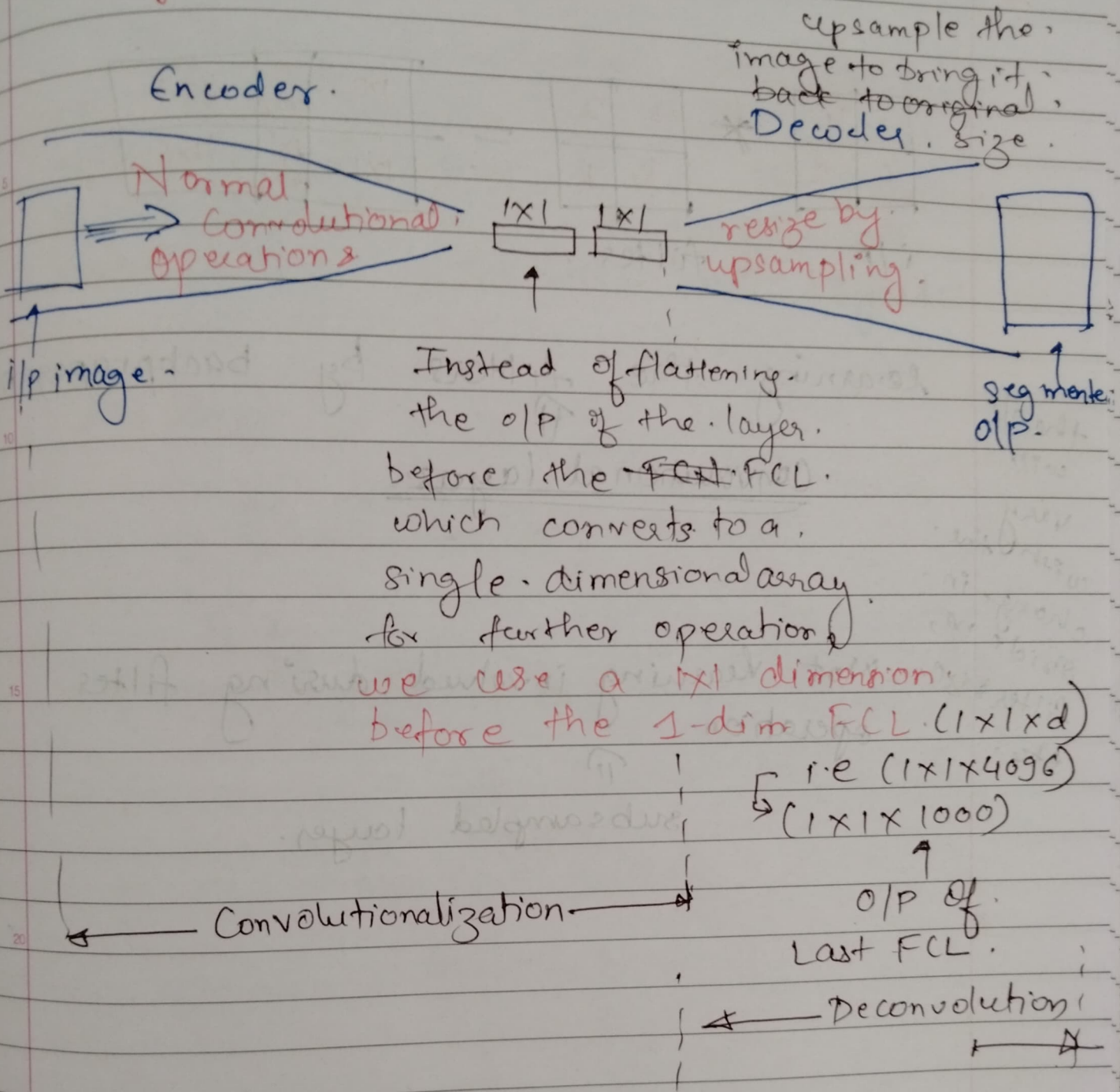
Not learning involved during filter operation

subsampled layers.

the ops will vary with the change in stride, filter size, etc.



# # Fully Convolutional Network



When ~~at~~ convolutional operation is performed, some data is lost. To cope up with, perform this issue.

Add the info from every layers with its respective layers from encoder.

from the decoder side. Via skip connections.

Alien effect