Recitation: MLP and Conv Net

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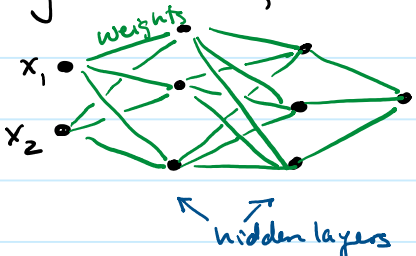
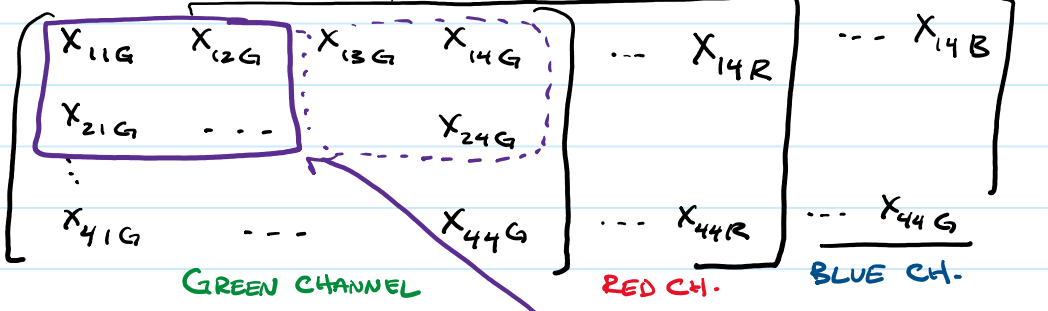
Recommended online resources:
d2l.ai (ch.7)
3blue1brown (youtube channel)

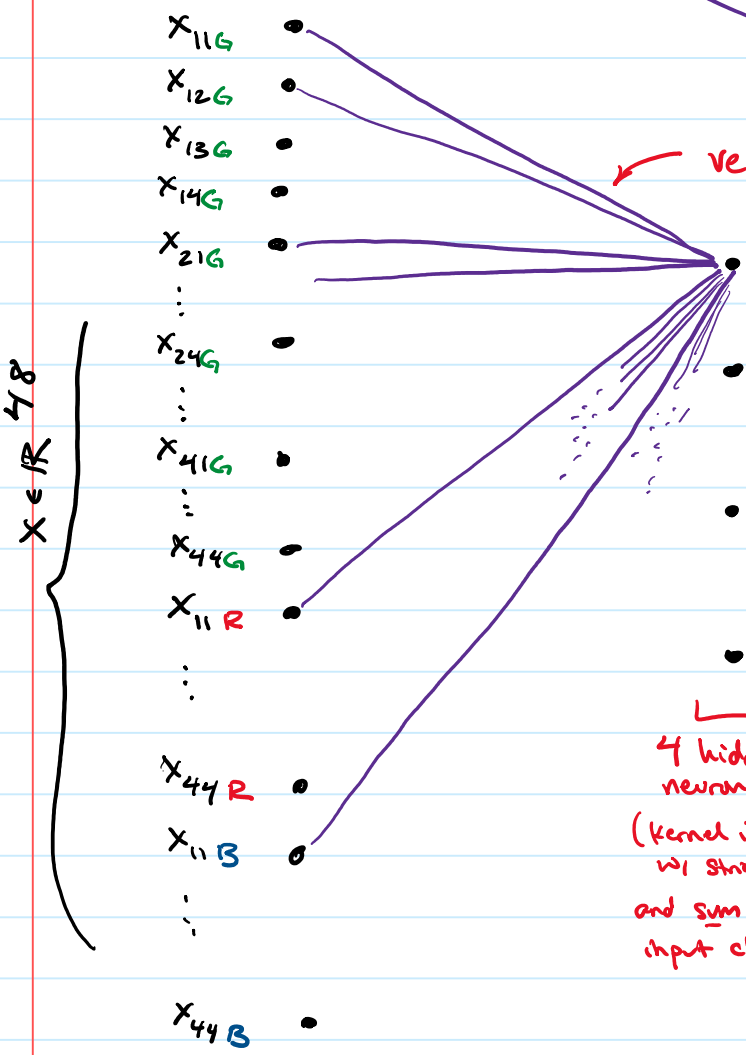
MLP (fully connected), ex: input $x \in \mathbb{R}^2$, output $\hat{y} \in \mathbb{R}^1$ $x = (x_1, x_2)$



Conv Net ex: input $x \in \mathbb{R}^{4\times4\times3}$ i.e. 4×4 color image = 3 channel



Apply a single 2×2 2D convolution, Stride = (2,2)



← very sparse, structured connection pattern

4 hidden neurons (kernel is 2×2 w/ stride 2, and sum over input channels)

If Stride > (1,1) and/or (max)pooling is performed, (and not too many output channels) then sizes get smaller

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eventually we can flatten and do a fully connected layer.