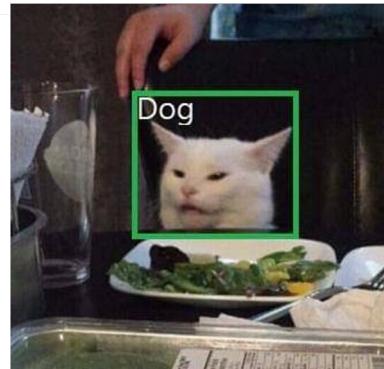
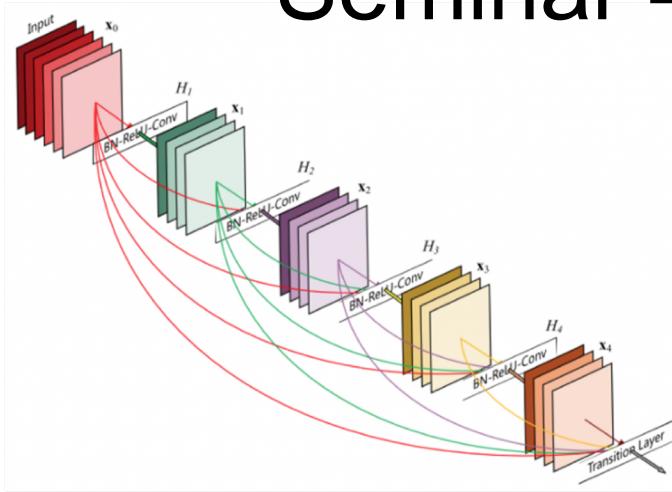
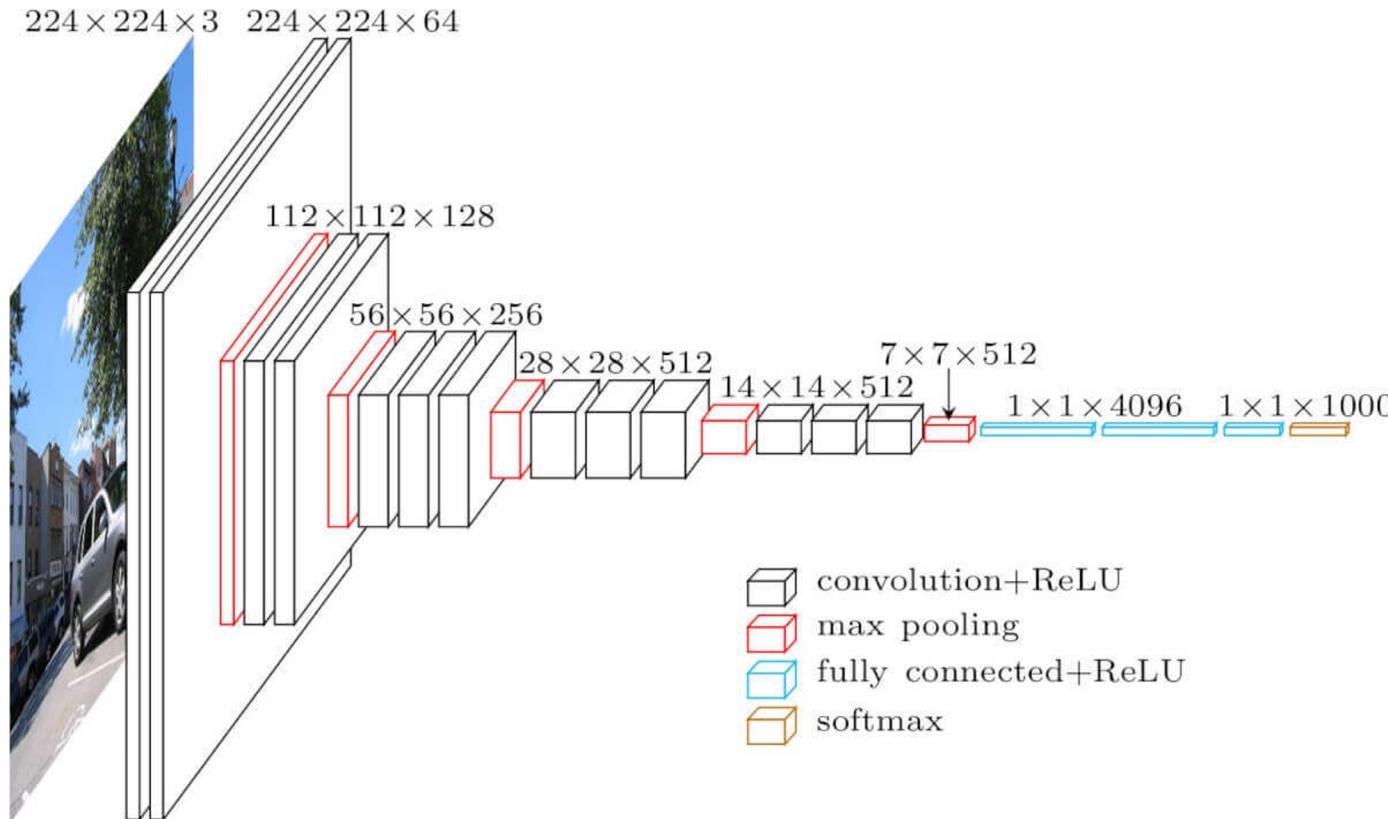


Seminar 4: Deep CNN

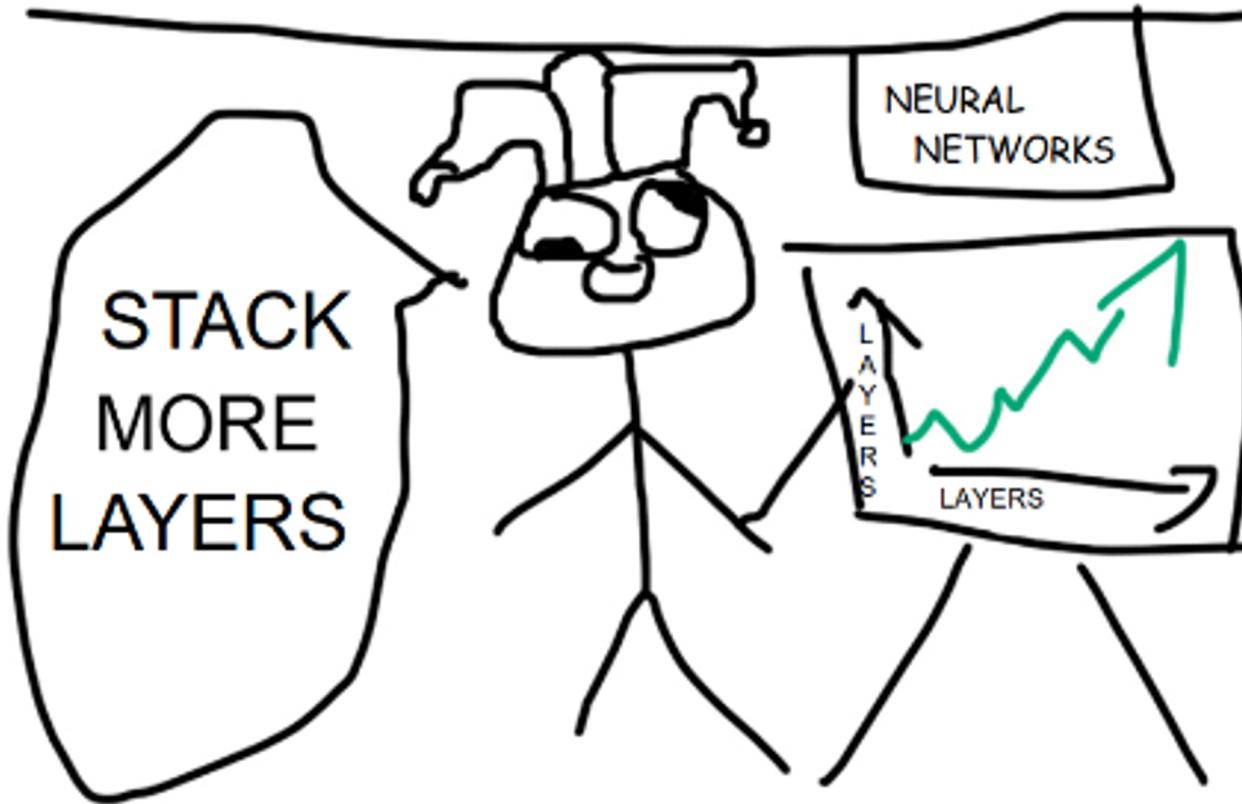


VGG



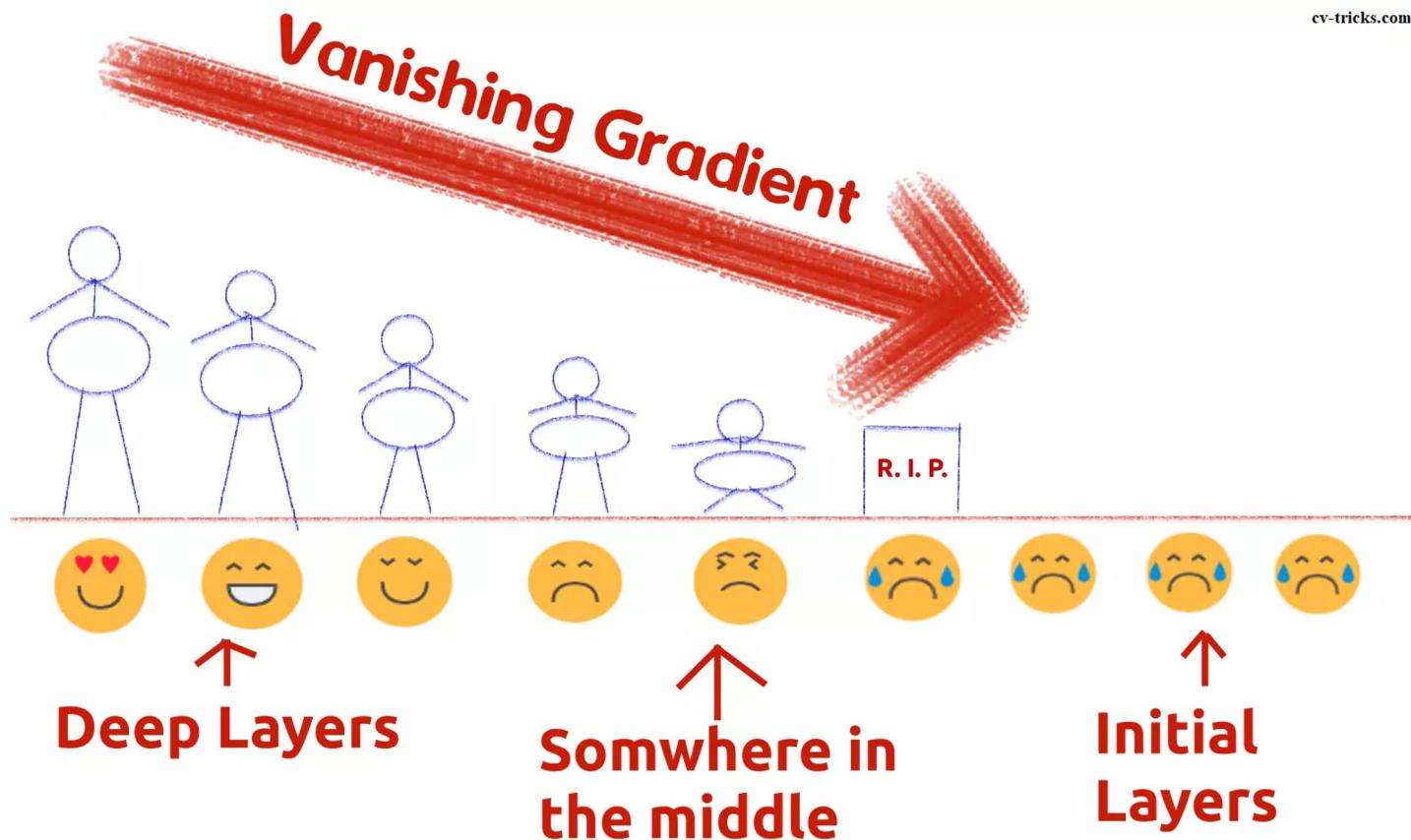
<https://arxiv.org/pdf/1409.1556.pdf> (2014)

ok?



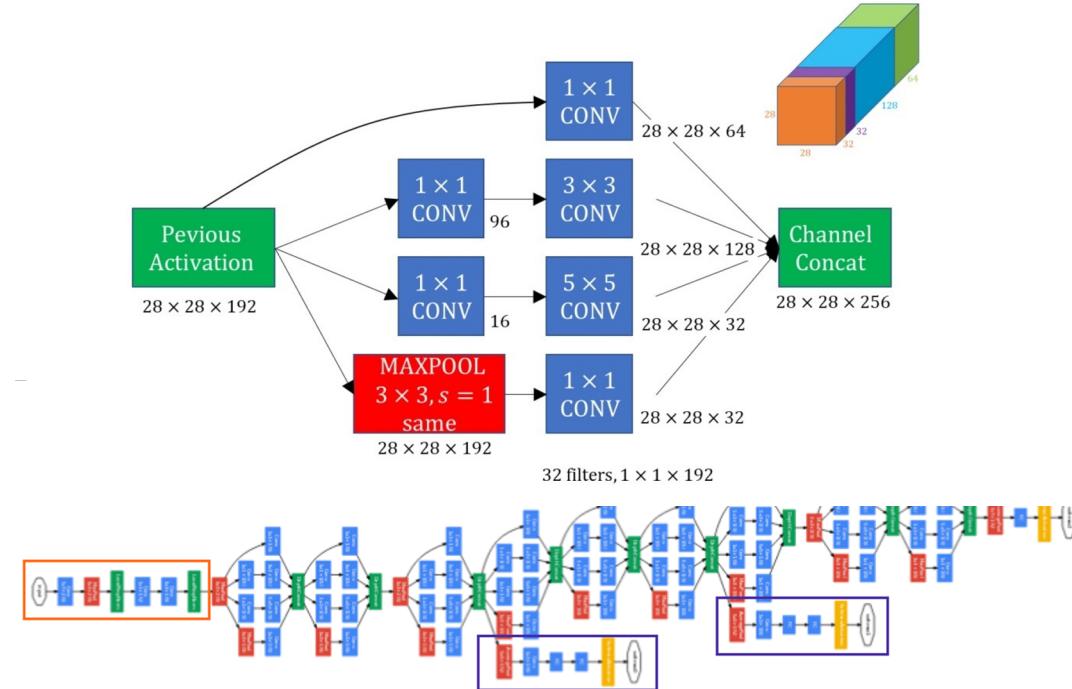
gradients vanishing

cv-tricks.com

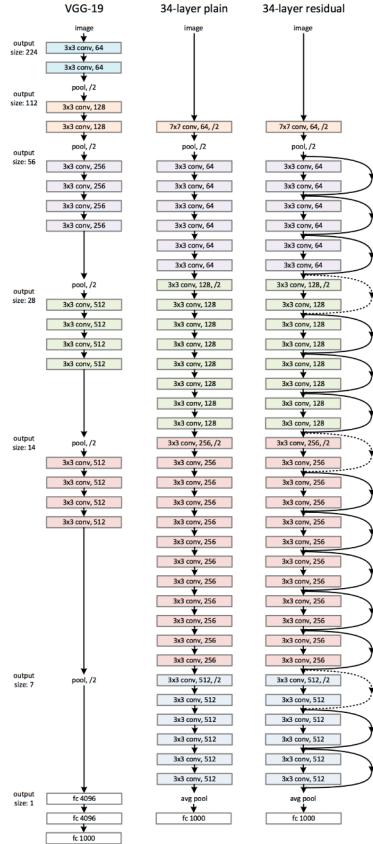


Inception

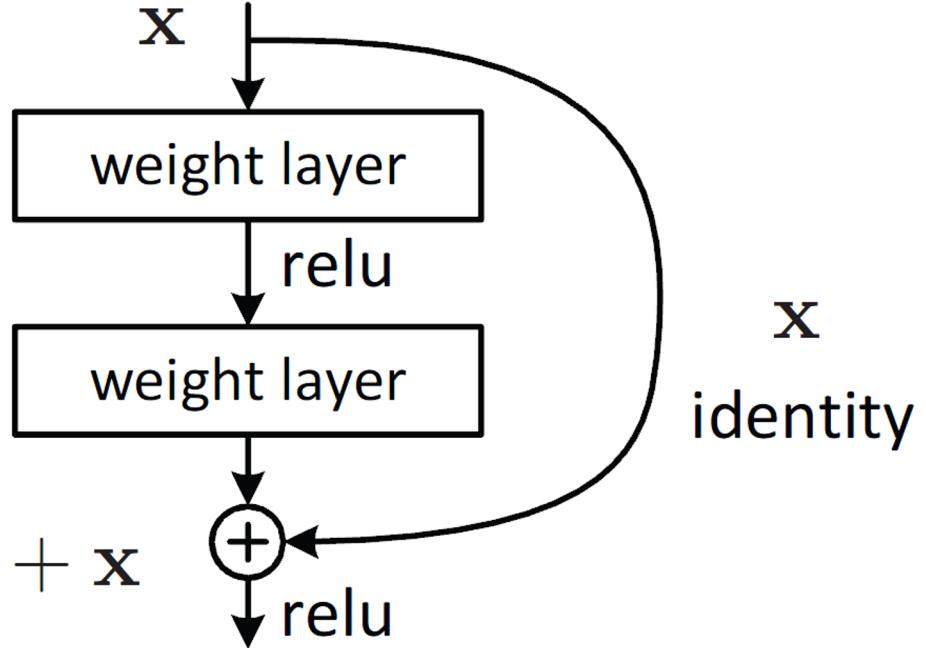
An example of an Inception module



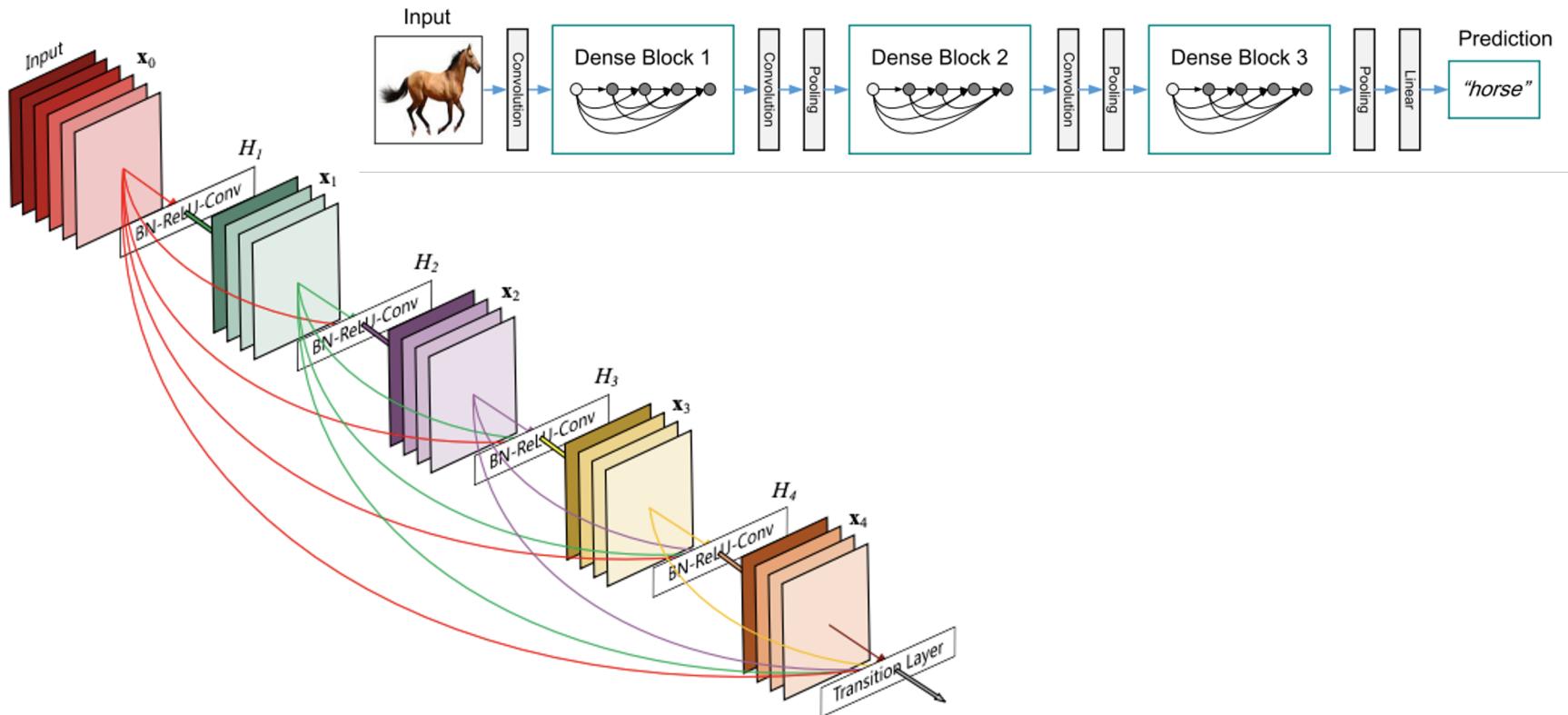
Res-Net



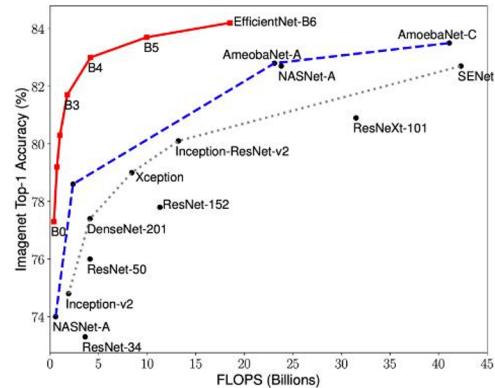
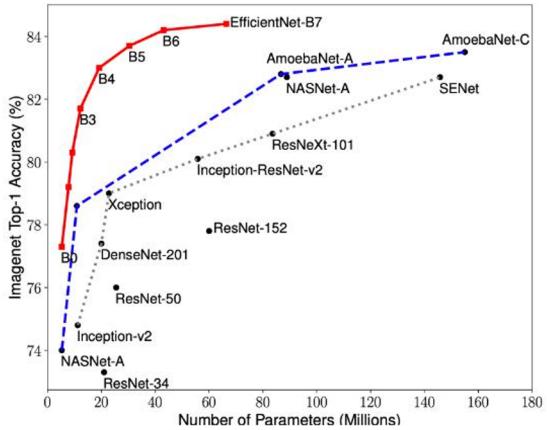
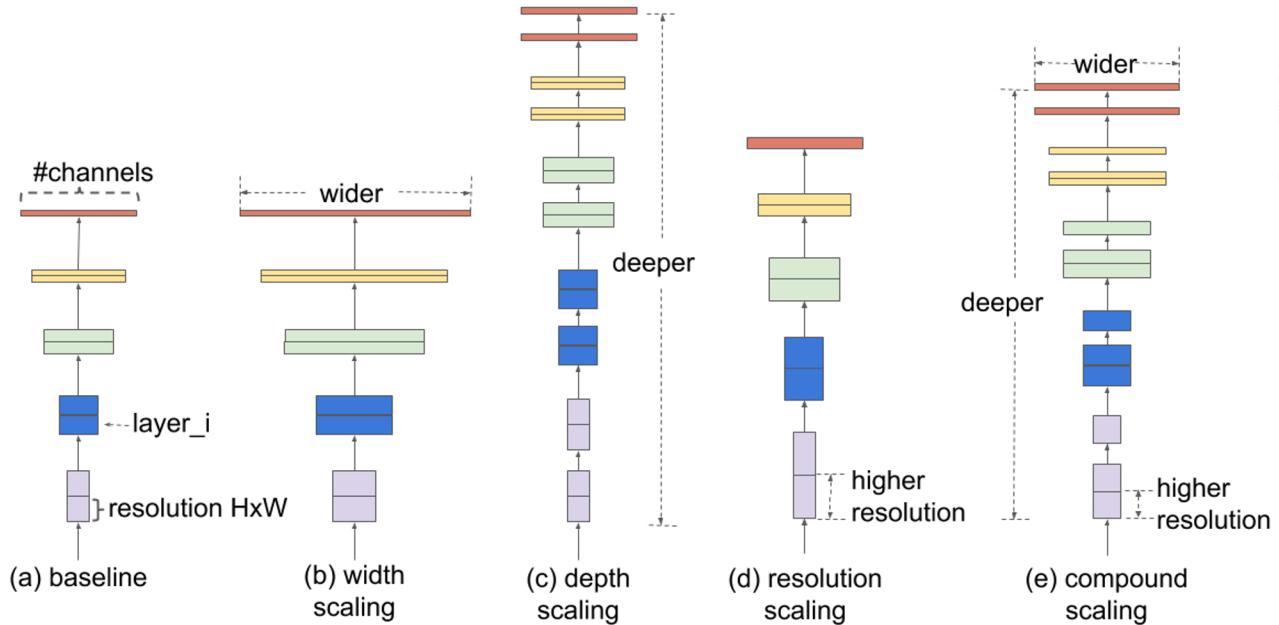
$$\mathcal{F}(x)$$



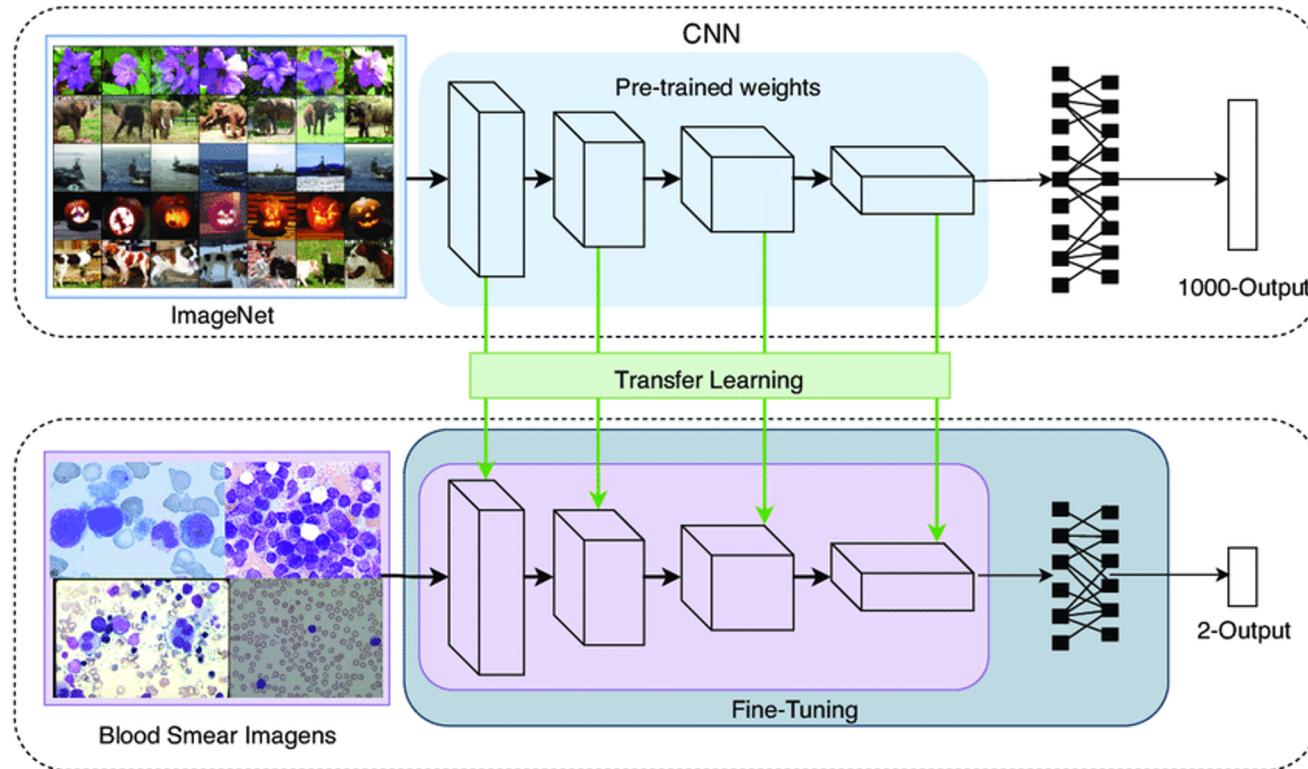
Dense-net



Efficient-net



Fine-tuning

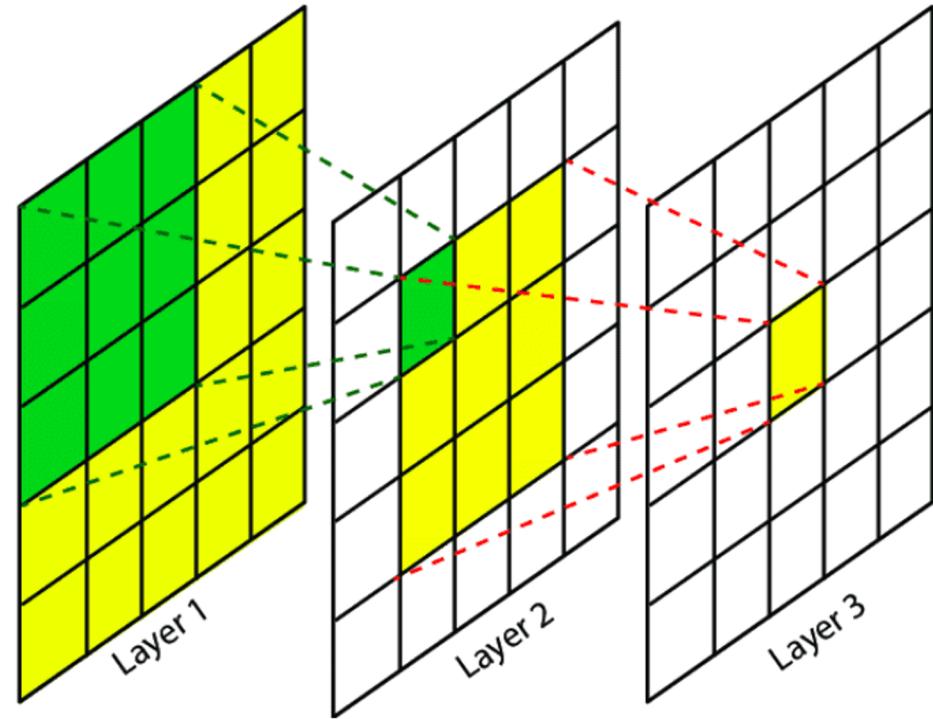


Calculate receptive field

<https://distill.pub/2019/computing-receptive-fields/>

<https://blog.mlreview.com/a-guide-to-receptive-field-arithmetic-for-convolutional-neural-networks-e0f514068807>

more info: <https://theaisummer.com/receptive-field/>



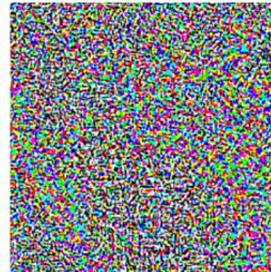
Adversarial



x

“panda”

57.7% confidence



+ .007 ×

$\text{sign}(\nabla_x J(\theta, x, y))$

“nematode”

8.2% confidence



$x + \epsilon \text{sign}(\nabla_x J(\theta, x, y))$

“gibbon”

99.3 % confidence

